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**Investigating the Effect of Asynchronous E-learning on EFL
Students' Grammar Achievement**
**(Case Study: 1st Year Students of the Department of
English at Batna 2 University).**

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in
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Dedication

First and foremost, I would like to praise and thank GOD, the almighty, who showered me with countless blessings, knowledge, and opportunity to achieving my goals. And surely without his assistance, this work could never be accomplished.

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Declaration of Originality

I, Amina BENHARA, a Ph.D. student, hereby confirm that this thesis entitled “Investigating the Effect of Asynchronous E-learning on EFL Students’ Grammar Achievement. (Case Study: 1st Year Students of English Department at Batna 2 University), submitted in partial fulfillment of the requirements of degree of Doctorate Third Cycle LMD in Applied Linguistics, is wholly a bonafide research work composed by myself under the leadership of my supervisor, Amor GHOUAR, a professor of English language and literature at the English department of Batna 2 University.

I also certify that, to the best of my knowledge, the current thesis has not been submitted for any degree of any university or institution, and the information reported in it is not duplicated from any other work, except where the credit of others’ work is explicitly indicated and acknowledged by referencing to do not breach any law of copyright.

I declare that this is a true final copy of my thesis after the revisions required, and as approved by my thesis review committee.

May, 2022

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Abstract

Mastering the English language grammar is a challenge for many EFL learners. This urges teachers to find out more effective and contemporary methods to help them overcome this problem. Accordingly, this study is designed to investigate the effect of asynchronous e-learning on EFL students' grammar achievement. Therefore, it is hypothesized that if teachers integrate an asynchronous e-learning program along with traditional grammar courses, EFL students will score better on their achievement tests compared to those who follow purely in-class courses. The study used a mixed-method approach to check empirically the extent to which this technology-based tool contributes to upgrading or degrading EFL students' performance in grammar tests. It was conducted at the English department of Batna 2 University during the academic year 2018/2019 with two 1st year classes assigned to a control group, that received a traditional grammar syllabus, and an experimental group that took equally the same syllabus assisted with extra asynchronous courses posted on a Google Classroom platform, with a sample size of 38 students in each. To attain the research requirements, a readiness questionnaire was emailed to the experimental group to check the students' preparedness to study through an AEL program. Its findings recall scheduling some computing sessions before starting the grammar classes so that students would be able to cope with the digital learning activities. The course of the study spanned over six months, distributed between three phases: pre-experimental, experimental, and post-experimental. To compare both groups' grammar achievements, a quasi-experimental design was adopted, made up of an in-class pre-test, progress, and a post-test. Following the post-test outcomes', a questionnaire has been given to the experimental group students to inspect their standpoints towards their grammar performance after the experience of the asynchronous program. The experiment was also backed by observation sessions through which the researcher collected information about students' performance in both groups all over the experiment course. The findings were descriptively and statistically analyzed. The final results showed that the experimental group scored better than the control group, and the score difference was statistically significant. Therefore, it could be

concluded that asynchronous e-learning is effective for improving learners' grammar achievement.

LIST OF ABBREVIATIONS AND ACRONYMS

A: Agree

AEL: Asynchronous E-Learning

Apps: Applications

ARPANET: Advanced Research Projects Agency Networks

CAI: Computer Aid Inc

ccTLD: Country Code Top Level Domain Internet

CD-ROM: Compact Disc – Read Only Memory

CG: Control Group

CMC: Computer-Mediated Communication

CMI: Computer Managed Instruction

CML: Computer Managed Learning

COVID- 19: CoronaVirus Disease appeared in 2019

DG: Discourse Grammar

DL: Distance Learning

DOC: Document

DSL: Digital Subscriber Line

DV: Dependent Variable

EFL: English as a Foreign Language

ESL: English as a Second Language

EG: Experimental Group

E-learning: Electronic learning

ELT: English Language Teaching

E-teaching: Electronic Teaching

FL: Foreign language

FLN: Flipped Learning Networks

FTC: Flipped the Classroom Approach

GAFE: Google Applications For Education

GCRP: Google Classroom Platform

GG : Generative Grammar

gTLDs: Generic Top Level Domains

HTTP: Hyper Text Transfer Protocol

ICT: Information and Communications Technology

iPAQ: International Physical Activity Questionnaire

IV: Independent Variable

LMS: Learning Management System. M-learning: Mobile Learning

L1: First language

L2: Second language

MOOC: Massive Open Online Courses

MOODLE: Modular Object-Oriented Dynamic Learning Environment

M-learning: Mobile Learning

MP3: MPEG-1 Audio Layer 3

N: Neutral

NESH: Network for Ecosystem Sustainability and Health

nTLDs: New Top Level Domains

OCDE : Organisation de Coopération et de Développement Économiques

PC: Personal computer

PDAs : Personal Digital Assistants

PDF : Portable Document Format

PPT : PowerPoint

Q: Question

RQ: Research Question

SA: Strongly Agree

SD: Strongly Disagree

SPSS: Statistical Package for the Social Sciences

TBI: Task-Based Instruction

TEFL: Teaching English as a Foreign Language.

TG: Transformational Grammar

TGG: Transformational Generative Grammar

TLD: Top Level Domain.

UG: Universal Grammar

VLE: Virtual Learning Environment

WWW: World Wide Web.

LIST OF STATISTICAL SYMBOLS

\bar{x}	Mean
d	Effect size (Eta squared)
Df	Degree of Freedom
DV	Difficulty value
F	Frequency
MD	Mean Difference
N	Number of subjects or Participants
p	Probability value
SD	Standard of Deviation
Sig	Significance
t	t-value
Var = S²	Variance
α	Cronbach Alpha
ΣX	Sum of scores

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CHAPTER ONE
GENERAL INTRODUCTION

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Background of the Study

In the modern world of globalization and internet, where the pace of technology is becoming more affordable and available than ever before, the field of education is dramatically changing. Thereupon, researchers are constantly striving to provide more flexible and convenient methods and techniques that keep pace with learners' needs and establish a potent learning environment through technology. They also devote many efforts creating modern technological devices aiming to refine the process of education in which teachers, learners, classrooms are concerned. Classrooms today look different from before; instead of books, chalk, and board, modern students and teachers use laptops, digital tablets, or smartphones. They also practise more learning activities related to writing, visualizing, imagining, and thinking skills than just listening and reciting. ("Traditional Education Vs. Modern Education," n.d.). Information in such mediums is accessed and transferred easier and faster; undoubtedly, the prominence of technology in the field cannot be ignored. Hence, the reliance on technology, which simply makes life an easy, smooth journey is completely unavoidable these days, especially in educational institutions like schools, colleges, and universities (Raja & Nagasubramani, 2018).

Technology in EFL contexts has also attracted the interest of many investigators who conducted multitudinous research papers about the effect of educational technologies to promote the English language learning-teaching process. As cited in Aslani and Tabrizi (2015), there is a great concern in using computers and technology in EFL classes (Albirini, 2006; Bartsch & Cobern, 2003; Connor & Wong, 2004; Lee, 2000; Timucin, 2006). In confronting this new invasion, it is necessary to consider the different changes that may occur in the educational sector in general and in EFL classrooms particularly.

Being an International language, English is used in technologically mediated contexts where technology offers new ways of practising language and assessing performance (Dudeney & Hockly, 2014). A large amount of research works has proved that technology successfully

contributes to the development of remote online learning services (Cannannon, Flynn, & Campbell, 2005; Hermans, Tondeur, Van Braak, & Valke, 2008). It also helps teachers to solve prevalent issues and improve students' language performance, proficiency, and academic achievement too. Accordingly, many organizations and educational institutions are interested in applying both in-class and online educational environments (Hrastinski, 2015).

One of the trends in educational technology is called "asynchronous e-learning". It is based mainly on delivering coursework to students via online web platforms, emails, and chat boards. In such an environment, students can actively participate in their learning, gain the opportunity to interact with their peers, provide peer feedback, and reflect on the status of their personal learning goals and outcomes (Er et al., 2009; Harris et al., 2009; Simonson et al., 2012). Many empirical studies have proposed a connection between asynchronous e-learning and foreign language learning demonstrating that this new method is practical and yields positive results that satisfy both instructors and students. By way of illustration, Shahabadia and Uplane (2015) acknowledged the effect of both synchronous and asynchronous e-learning styles on EFL learners' academic performance through progressing their English final exams' grades. Another experimental research by Ogbonna, Ibezim and Obi (2019) confirmed the interesting contribution of e-learning in teaching word processing for language learners where they improved their capacities in writing paragraphs. The ramification of online learning has extended to support also higher education where flexibility and convenience become a necessity to cope with the new settings of learning in universities (Delahunty, 2018). Commonly, to see whether the impact of online learning or teaching is positive or negative, students' outcomes are measured regularly (Al-Jarrah et al, 2019a). Thereby, EFL students' performance and skills are affected by their teachers' methods and strategies they apply in the classroom. The more appropriate these methods are, the better students' achievement.

For many years, language teachers focus on traditional teaching methods which make a lot of learners feel bored especially in English grammar classes, Teachers usually elucidate a new idea, present language rules deductively, or explain the lesson directly, then ask the students to copy from the board or practise exercises which most of them cannot be done because of the limited time of the class (Al-Jarrah et al, 2019b). However, the importance of grammar instruction in foreign language classrooms is highly significant. This pushed scholars to look permanently for new methods to enhance students' level. By time, these methods have moved beyond the memorization of rules and dialogues to be more situated in helping learners develop their communicative competence, necessitating tasks that allow for noticing grammatical forms, their meaning, and their use. The transition from an old method to a new one created various debates between linguists, but without neglecting that grammar is a fundamental subject which lays the groundwork for effective communication and use of the target language. Debata (2013), for example; acknowledged the importance of grammar in enhancing learners' use of the target language. He stated "Grammar is essential regarding bringing one's speaking proficiency to a higher level. In order to communicate artistically with a varied range of structures, a greater depth of grammatical understanding is necessary". Grammar cannot be neglected in one's speech. It is also deemed as the awareness of rules that help the language user to produce a correct, accurate, and understood meaning because grammatical knowledge helps the speaker to construct and express an idea in his or her mind, thus improving the development of fluency (Hinkel, Fotos & Gao, 2002).

By observing and considering the various teaching methods that grammar went through all along the history, not all of them were ideal. They had advantages, which minimized language problems and helped students comprehend grammar easier, as they presented deficiencies. Teaching grammar opens many challenges for language teachers. As a result, they thought to provide materials and activities which can motivate students to use what they learn in

classroom effectively (Isti'annah, 2017). Teachers see that certain approaches work better than others based on the success that their students have in their classroom. However, not every teacher takes that into consideration because they teach the way that they feel is best ("Advantages and Disadvantages," n.d.). But what is behold suitable remains sometimes hard to apply or unfit, the reason that drives teachers to look continuously for new methods which overcome the gaps found in the previous ones.

Contend with the modern methods of teaching, the process witnessed a shift from conventional (face-to-face) learning pattern to online classes. This shift helped students tremendously because it has widened the door for them to motivate and experiment with new strategies through online sessions (Halim, Wahid & Halim, 2021). As a result, the application of online learning offers many opportunities that meet students' needs and facilitate for instructors the task of teaching. Bikowski (2018) classified these technologies into options from low-tech like (speakers, tape recorders, projectors) through the interactive often-termed Web technologies as (platforms, wikis, blogs, forums) to high-tech options such as (speech recognition, virtual reality devices, or spaces) and into the progressively intelligent options of the future like (gesture-based devices, digital gaming). The role of the teacher then moves from the provider of information to the guide who helps students analyse intensively grammar in the context of larger discourses as well as engage them in the negotiation of meaning. Relatively, as there were various studies that justified the power of the e-learning on improving grammar learning materials, curriculum, course, and lesson (Bikowski, 2018), there were others that neglected its usefulness and further confirmed its negative effects (Al-jarf, 2005). To justify, a study taken by Blake in 2013 confirmed that many teachers prefer the task-based instruction (TBI), that focuses on student-centered learning, real-world task analysis, problem-generation, and assessment grounded in real-world activities "practised in an online classroom" more than the bottom-up grammar point approaches "followed particularly in traditional classrooms"

(Blake, 2013, p. 43). Teachers' experiences and perspectives helped also the method choice and appealed to the execution of alternative techniques. This made a paradigm shift in the English language learning process in general, and English grammar learning in particular.

Based on the above-mentioned studies and many others similar, a big number of higher education institutions in the world have adopted e-learning programs partially or completely in their courses while Algerian universities procrastinate its use. Educators relate this matter to the numerous organizational and pedagogical challenges that developing countries face, which require advanced infrastructure and costly investment especially at the beginning stage (Musse, 2017). Problems related to materials' availability (for example: computers, digital learning tools, developed classroom equipment), lack of accessibility to (Internet, power supply), or poor skills and literacy issues which are the cause of the e-learning absence in such countries (Aldowah, Ghazal & Muniandy, 2015)

Appertaining to the aforementioned background, and to assist in the possible improvements of EFL learners' English grammar, this study is intentionally undertaken to bridge between modern technologies and learning English in the sense that learners in an electronic-based environment are more likely to be knowledgeable about English grammar, and more chanced to practise its rules than those who rely only on traditional learning. The level of knowledge, and the practice learners may gain in both environments would significantly affect their outcomes regarding their performance.

Statement of the Problem

English grammar has been for a long a subject of study. Different assumptions were built apropos to its role in the foreign language classes. Some linguists recognized the essential position of grammar in EFL and ESL contexts, and supported its direct use in the classroom while others settle for its implicit acquisition via communication. Azar (2007), for example, depicted its role as it helps students discover the nature of language, i.e., this language consists

of predictable patterns that make what learners say, read, hear and write understandable and intelligible". However, the 1980's experienced an anti-grammar movement (Hedge, 2014). This linguistic movement did not completely ignore the contribution of grammar, but assumed that it could be learnt and developed naturally from meaningful input and effective communication (Krashen, 1982). Years after, the interest of propping learning grammar in EFL classrooms resurged again to the frontage, and put the light once more on its inevitability, reflecting that it remains crucial despite all the disputes. Grammar is considered as the backbone of the English language because it makes it possible for learners to speak accurately, and compose understandable communications.

Grammar is an inextricable component of language learning. In learning English as a foreign language, students sometimes find impediments in comprehending the language pattern, particularly when it is different from their mother tongue (Isti'anah, 2017). As McCarthy (1991) declared, the proper usage of the English tenses and aspects is considered as one of the stumbling blocks to the Arab learners. For instance, English contains twelve (12) verb tenses while Arabic focuses on only three (03). Therefore, the implication of this problem, academically, lies in producing improper timing of the verbs in the students' production. Thus, it prevents them from delivering their intended communication message clearly and accurately. Grammar then, is considered vital for any language production and teaching process (Isti'anah, 2017).

Relatively, various studies have shown that ignoring grammatical mistakes may jeopardize the linguistic development of students (Thornbury, 1999; Woods, 1997). It is also important to know that students should learn grammar to increase their grammatical competence, to give performance support in their (writing, reading, speaking and listening) skills, to underpin thinking skills, and many others (Hudson, 2005; Walmsley, 1989). As a result, teachers have no choice but to reinforce the necessity of mastering English grammar.

In Algerian educational institutions, English grammar is present in syllabus design and content lessons from grade 1 in middle school to grade 3 in secondary school; this would make a range of 7 years of exposure to the English grammar rules and practice. Thus, learning English grammar has become a decisive step for students to get ready for their future educational and professional objectives. During these years, teachers place a considerable focus on teaching grammatical concepts and rules, believing that learning a second or a foreign language entails the dexterity of its grammatical rules and forms. Students used to receive their courses in ordinary traditional classrooms to which they come with little or no information about the subject, and the teacher provided them with the needed knowledge and corrected their mistakes through face-to-face learning interactions.

Notwithstanding the widely prevailing need to show a good command of grammar and to master its rules, 1st year students of English department at Batna 2 University still produce numerous grammatically ill-sentences which are clearly detected through their written and verbal use of the target language. In addition, their grammar scores were also displeasing. In an attempt to confirm these deficiencies, a pilot study was systematically conducted in the academic year 2017/2018, an analysis of 56 written expression exam copies of the same department students demonstrated a considerable amount of grammar errors that students repeated frequently when composing their own pieces of writing (Appendix B). Furthermore, a preliminary questionnaire (Appendix A) was emailed to 22 teachers of the same department among which (07) were grammar teachers, (07) written expression teachers and the other (08) taught oral expression classes. The results of the questionnaire corroborated the resentment of teachers towards their students' weak grammar achievement and evidenced that teachers used traditional teaching methods such as introducing a new lesson of a grammatical item through giving rules deductively, or explaining the lesson directly while neglecting the use of technological techniques as a strategy to treat learning problems. Hence, students often feel

uninterested and bored with the traditional methods and failed to follow the teacher attentively. Because of the deficient knowledge in the basics of grammar, and the lack of practice of its rules caused by the in-class time limitation, their oral and written language production often lacks proficiency and accuracy. Teachers reported also that time allocated for grammar classes is only 3 hours a week, the factor that causes time-bound, and limits their opportunities to practise intensively. They added, the overcrowded classrooms hindered the real interaction between the teacher and all the classroom students. Other findings from the students' readiness questionnaire (Appendix C) revealed that technology, namely asynchronous e-learning, is thoroughly ignored in their courses. Also, their chances to participate in the classroom grammar activities were very few because of the crowded classes

Taking into account the obtained findings of the pilot study, the supporting studies of the positive role of e-learning on EFL students, and based also on the dearth of investigations that bridge between asynchronous e-learning and the EFL students' grammar achievement in the Algerian universities, the researcher felt committed to delving into this disregarded area and illuminating the possible causes behind Algerian students' failure in English grammar. Therefore, the conduction of the study at hand would enable the research to find out a common ground between electronic-based learning, as a modern technological means, and EFL students' performance in grammar courses. In other terms, *the study seeks to determine whether the integration of an asynchronous e-learning program alongside with traditional face-to-face grammar courses in teaching English classes has a positive or a negative effect on students' grammar achievement.*

Accordingly, it was suggested to supply 1st year grammar classes with an asynchronous platform labelled 'Google Classroom' on which the teacher published the courses, assignments, homework, and many other related activities in PDF, PPT, and Word formats. Also, the courses could be delivered through videos, podcasts, and photos. The interaction between the teacher

and her students was through the same platform and sometimes via email texting for individual conversations. The adoption of such a strategy is threefold. First, it is a way to shore up the traditional courses, believing that more practice brings effective results. Second, it is not time-bound because students will find extra time to practise what they have done in class. Third, it is not a place bound because the uncomfortable interactive communication between the students and their teacher is less impressive since most of the activities are done at a distance, or behind a screen. Given that the traditional method is still applied at the Algerian universities, this is reflected in the affirmation that there is growing dissatisfaction with classroom practices in grammar teaching (Myhill and Watson, 2014), it is high time teachers employed better alternatives.

Aims of the Study

The high significance of studying English grammar and the requirement to integrate e-learning in foreign language classrooms call for a detailed study that entails a profound theoretical purport including extensive library research of relevant information besides the treatment of the detected problem. The global aim of the ongoing study is to find out the causal relationships between the integration of electronic learning, particularly asynchronous e-learning and students' grammar achievement in EFL classrooms. The study is also arranged to attain the following aims:

- Reveal the various difficulties that EFL learners and teachers encounter during a traditional grammar course.
- Check the students' readiness of receiving asynchronous e-learning courses.
- Train students to manipulate online-related activities.
- Intensify the practice of grammar rules, for a better understanding, application, and manipulation.

- Reduce the anxiety caused by classroom real (face-to-face) interactions between students and their teacher.
- Facilitate the operation of teaching and learning grammar for EFL learners through implementing an asynchronous program.
- Explore the link between asynchronous-based courses and EFL learners' grammar achievement in a hypermedia context.
- Check the usefulness of asynchronous e-learning based courses.
- Promote EFL students' grammar performance, thus grammar achievement.
- Probe the participants' points of view towards the impact of integrating asynchronous e-learning in classes of English as a foreign language in general and on EFL students' grammar achievement in particular.

Working the above-mentioned aims out, would lead the researcher to assure the versatility of incorporating asynchronous e-learning in EFL classrooms, and to highlight its role in refining the students' performance in grammar classes, Therefore; it would be possible to attain satisfying academic achievements.

Research Questions

Following the requirements of the current study, it is necessary to answer the coming relevant questions and sub-questions:

RQ 1: How is grammar taught to first year students at Batna 2 University?

RQ 2: How do students perform in a conventional grammar class?

RQ 3: Are 1st year university students ready to receive English grammar courses through an asynchronous e-learning program?

RQ 4: Is it possible for students to enhance their grammar through an online based course?

RQ 5: Is there a difference in students' English grammar achievement scores between the treatment (asynchronous + traditional) group and the control (non- asynchronous) group after controlling for pre-intervention achievement?

RQ 6: Does the combination of AEL activities along with traditional face-to-face grammar courses exert positive or negative effect on learners' academic achievement?

RQ 7: What is the effect of AEL on student-student and students-teacher interaction?

RQ 8: To what extent is the integration of asynchronous e-learning program in the EFL grammar courses effective in promoting students' grammar achievement?

RQ 9: What are the opinions of students in the experimental group towards using AEL in learning English grammar?

To answer the aforementioned research questions, this study was put in the right flow by drawing the boundaries of the research and planning appropriate methodology and design that helped the researcher to obtain valid data regarding the relation between the research independent variable (asynchronous e-learning) and the dependent variable (EFL students' grammar achievement). If there is any, to what extent is the strength of this relationship. In case these questions find evident answers, this study will impart to solve problems in the educational sector.

Hypothesis

E-learning becomes a modern supplement, and sometimes even an alternative to traditional education. It makes learning at a very high level, also available anywhere and at any time. The appropriate use of prepared original teaching materials such as syllabi, lectures, interactive exercises, instructional videos, and many other multimedia contents make distance learning effective and also in line with the expectations of students (Górska et al., 2016). Considering the pedagogical issues related to students' grammar performance in the context of foreign language classes on one hand, and the wide-spreading of e-learning in many universities over

the world on the other hand, we suppose to conduct the present study in an attempt to improve Algerian EFL students' level in grammar. As regards to this point in research, we hypothesize that *if grammar teachers appropriately integrated asynchronous e-learning along with traditional face-to-face courses, EFL students' grammar achievement would be raised.*

Research Rationale

Presently, it is apparent that English becomes a cosmopolitan language, many people around the world are dedicating much effort and time to study it. As in many countries, Algeria inserts teaching English in its schools and educational institutions to reinforce the use of this language. With the growth of technology, English becomes more pervasive. Thus, the linking bridge between technology and learning foreign languages prompts linguists and educators to reflect on how the digital world can reshape the methods English language is taught to be more interesting and qualitative.

One of the pivotal elements to master the English language is studying its grammar. Learning grammar is crucial since it plays a fundamental role in the “four core linguistic domains: listening, speaking, reading, and writing” and will therefore impact learners' language development (Crystal, 2016: 28). Sometimes, taking direct grammar courses may be boring or difficult due to the confusing rules or the exceptions to every rule. As a compromise, learners should not rely only on reciting rules but make a lot of practice of them. In this regard, grammar is not taught nowadays as it used to be. It has moved beyond the memorization of rules or dialogues to be more firmly situated in helping learners develop their communicative competence because having the experience of a real context when learning a foreign language would help practising grammar in various situations (Debata, 2013; Matkasimova & Makhmudov, 2020). Ergo, English learners should exhibit a good level in grammar which is unfortunately not the case for EFL students at Batna 2 University who still commit a lot of grammar errors when using the target language. The lack of learning sources and the limitations

of the instructions used in the classroom are reputed as the main causes that lead to the students' demotivation to learn, therefore the students will be apathetic about their studies. This would result negatively in their learning achievement and academic performance.

The fundamental reason behind this study is to match between the power of educational technology and the demand of learning English believing that the integration of asynchronous e-learning in EFL classrooms could help students learn grammar courses more effectively. This method would help them vigorously involve in the learning environment. To this end, technology offers indispensable learning spaces and venues in the field of language learning (Lai, Shum, & Tian, 2014). Looking forward, this study would contribute to solve competently relevant or similar educational issues, and overcome many challenges that may encounter EFL learners particularly.

Significance of the Study

The findings that this study attempts to reveal, concerning the association of asynchronous e-learning as a technological service in EFL classrooms and its impact on learners' grammar achievement, will hopefully redound to the benefit of the educational family (teachers, students, administrators, universities and researchers) within the following framework:

- **University students:** the students' society may exploit this study to benefit from the provided body of knowledge about the asynchronous e-learning that may help them develop their interest in the technological materials in and outside the classroom. They may also appreciate the importance of learning grammar through studying in a competitive and enjoyable atmosphere. Therefore, learning will become easier because students would benefit from the extensive learning resources at any time and in any place. Any improvement in the teaching methods can pave the way for learners to produce better learning and pleasing academic performance.

- **University Teachers:** the findings of this study could purposely make teachers discover how is technology conducive to teaching. They may serve also as an attestation for teachers to adopt asynchronous e-learning in their courses, and start reshaping the old academic syllabi with a specific reference to e-teaching. Teachers would also be able to use a convenient strategy in teaching to make weak learners engage in the learning process and realize higher grades.
- **University administrators:** the results obtained from this study may also help administration personnel at the level of foreign language departments to improve programs that go with pedagogical advancements and work cooperatively to create an equipped and comfortable environment for both teachers and learners.
- **Researchers:** the study may be a reference or an essential start-point for investigators to uncover critical areas in the field of technology-based education that were not discussed in the study at hand, or haven't been explored yet by other researchers. Thus, a new assumption or theory may come to birth using the finding of the current study.

Research Methodology and Design

In an endeavour to manage the intended study with regard to the questions and the hypothesis plotted, and also to delineate the context in which this study took place, the researcher planned to identify the different methods, procedures, and techniques to be used throughout this research, as well as the different instruments manipulated to collect and analyse the obtained data.

On the grounds of the ongoing research nature, a quasi-experimental design was adopted in which the involved participants were not randomly handpicked, but they were already selected from the whole population of first-year students of the English department at Batna 2 University (N= 544) and distributed over 10 groups according to their names' alphabetical order by the

administration personnel during the academic year (2018/2019). The sample was itself split into two groups, with an equivalent number of students in each ($n=72$), representing (27 %) of the target population. This number was later reduced to only ($n= 38$) because of the students' truancy and absenteeism (For more details, see page 134).

Hence, the experiment was based on a control group, whose members followed purely in-class face-to-face grammar courses while the experimental group received the same courses conjointly with an asynchronous e-learning treatment. Knowing full well that, after a readiness questionnaire addressed to the experimental group participants, these last reported that they had a feeble computer and information literacy concerning online learning platforms. To this end, the researcher scheduled some software-based training sessions about Google Classroom application to make them skilled or at least familiar with the standards of using it while studying asynchronously.

The course of the study spanned over three main phases during one semester (15 weeks). The pre-test occurred in the first phase, administered to both groups (Control and Experimental); aiming to determine the participants' initial level in grammar and to assess their achievement in the grammar items they have already learned during the semester. Having checked the initial homogeneity of the two intact groups, three progress tests were sequentially delivered to the two considered groups by the end of each unit of the academic syllabus, taking into consideration, that the treatment concerns only the experimental group.

For a deep understanding of how was the performance of students in both groups during the experiment process, an observation grid was filled in each in-class or asynchronous session. Ultimately, the third phase, comprised the post-test and a students' attitude questionnaire through which the usefulness of the asynchronous e-learning treatment on the experimental group participants is verified.

Using a mixed paradigm of quantitative and qualitative methods, helped to collect numerical data that were converted to interpretive statistics used to get forthright responses for the research questions. Next to that, a qualitative approach was also used to deeply explore the meaning of the findings, unearth the study participants' opinions and reactions towards the effectiveness of the asynchronous e-learning to improve students' English grammar.

By and large, this study stands on a methodological approach triangulation through which data were collected from more than one data source comprising tests scores, questionnaires, and observation in order to increase the credibility and validity of research findings (Cohen, et al., 2000).

Limitations of the Study

As many research studies, this work suffers from some limitations, and shortcomings associated with the chosen methodology and research process that sometimes were out of monitoring. In this respect, a limitation is defined as an imposed restriction which is therefore essentially out of the researcher's control (De Jerry et al., 2011). In the following are listed the detected limitations that have impacted undesirably the results of the study right from the collection of data to the final presentation:

- The researcher used intact groups that were already selected by the department administration staff. Thus, it was difficult to assign the participants randomly.
- The difficulty to provide an equity access to Internet-connected or offline devices for all participants would not make the activities associated with asynchronous e-learning reasonably possible.
- Access to Internet was a pivotal obstacle for students of lower-income families. Thus, the teacher was unable to assess their performance neither provide feedback to their works.

- Although the asynchronous e-learning platform was addressed only to the experimental group, some students of the control group showed a lack of awareness and access to the platform with pseudo names. This action caused confusion to the investigator, and impeded the course of the experiment.
- Unlike students in the traditional classrooms, behind-the-screen students demonstrate less sincerity in attending their offline distance courses.

Scope and Delimitations of the Study

To elucidate the scope of the ongoing research and delimit the extent to which its area will be explored, the researcher puts finger on the different limitations that are typically aspects of weakness in most of the studies. Scholars like (Campbell, 1986; Creswell, 1994) considered limitations as ordinary foibles and imperfections that may appear in any study, however; they can be a good starting ground for other works in the future.

First, the research problem itself is confined to investigating the effect of asynchronous e-learning on EFL students' grammar achievement otherwise there are many other related problems which could be investigated, but they were screened off. Second, the Google Classroom application was the supporting asynchronous e-learning tool selected by the researcher to be used in the treatment while there are plenty of other AEL tools. Third, the sample population was restrained to a size of (544) 1st year students of English at Batna 2 University enrolled in the study. Consequently, the possibility to generalize the empirical findings which is typically considered as part of external validity (Campbell, 1986; Cronbach, 1982) was tied up to the number of students sample selected, the setting where the experiment took place, and the time prescribed. Accordingly, the representativeness of the sample covers entirely EFL students in Batna 2 University during the academic year 2018/2019 while the rest of students in other Algerian universities, where different circumstances occur, couldn't be reached because of time constraints.

Constitutive and Operational Definitions

When conducting a research, investigators tend to depict, in a specific manner, certain terms of research variables or other important research terms depending on the context in which these words are used. According to Wikipedia (2020), an operational definition is described as down:

It is a showing of something—such as a variable, term, or object—in terms of the specific process or set of validation tests used to determine its presence and quantity. Properties described in this manner must be publicly accessible so that persons other than the definer can independently measure or test for them at will. An operational definition is generally designed to model a conceptual definition

In a plain language, operational definitions mean a detailed, concise and apparent definition of a measure in a specific study. In the following, a list of operational definitions elaborated to explain specific terms which are frequently used in the ongoing research to make them more obvious for readers:

Asynchronous e-learning

Asynchronous e-learning is broadly described as any education form, learning, teaching or instruction that is not time and place bound, i.e. It does not crop up in one place or at the same time. It depends on network services to facilitate and share information between people virtually (Mayadas, 1997). Operationally, in this study, Asynchronous e-learning refers to the group of lessons, homework, assignments, and many other learning activities that students take outside the classroom and via internet-based mediums.

Google Classroom

Google Classroom is a free asynchronous learning platform developed by the American multinational technology company “Google” for educational institutions. It aims to simplify the creation and distribution of lessons, as well as grading assignments (Google Classroom,

2021). It is also possible to share files, documents, videos, and pictures between teachers and students (Google Groups, 2018). In this study, Google Classroom is the application or the platform that the teacher uses to deliver the grammar courses and assignments while students can be asked to join the virtual class through a private "class code". After that, they can consult all the posts frequently.

Grammar achievement

Grammar relates to the set of rules that allow the learner to combine words in a language into larger units (Greenbaum & Nelson, 2002). These rules are the description of different ways in which bits of the linguistic value are or can be combined so that longer linguistic units are made by the name of sentences (Richards & Schmidt, 2010; Nelson, Greenbaum 2009). On the other hand, achievement refers to the extent to which a student, teacher, or institution has attained their short or long-term educational goals in an academic context. (Academic achievement, 2020). Particularly, the term grammar achievement is used throughout this research to point out the extent of performance and success to which EFL students achieve at the end of a course or a term-courses of English grammar relying on an academic syllabus.

Structure of the Thesis

All the theoretical body and the experimental steps served to compose this study are annotated from beginning to end in the thesis at hand. They are ranged over five chapters; starting with an introductory part that covers an overview of the overall design framework from the earliest points of the departure of discovering the research problem, including a succinct description of the research topic. Some questions also are raised to accurately delimit the problem detected. They are followed by general and specific aims that straight the study to the target end. The general introduction comprises also the hypothesis which will be tested in the coming chapters, the significance of and the rationale behind carrying out this work. In an attempt to balance the recognition of the shortcomings that may hinder the smooth run of the

study, a couple of limitation points are straightforward declared. The next element is the concern of operational definitions where the researcher states clearly the contextual meaning of the key concepts used throughout the study. Finally, the chapter ends with written and graphic structures that outline orderly the chapters elaborated.

The First chapter reviews previous published studies for relevancy to the component parts of the research topic ramifying three broad sections: the first is entitled “Understanding E-learning Technologies”. It covers topics related to e-learning, its branches, types, tools, advantages and disadvantages. Also, it discusses the invasion of educational technologies in EFL classrooms.

In Chapter two, the focus is mainly on Grammar in EFL Classrooms, including all what concerns English grammar; its learning-teaching methods, techniques and strategies, as well as its position in the academic context referring to various linguists’ assumptions. The next section is entitled “Review of Relevant Works”. It encompasses associated research studies conducted by different scholars from several universities in the world around the topic of the present study.

Chapter Three is wholly devoted to incorporate an inclusive portrayal of the materials and methods used to gather the requisite data. It equally underpins and explains the choice of area explored. The population, sample and sampling techniques are also annotated, Explanations are further purveyed on how research instruments were validated and how data was analysed. The chapter reports also the ethical approval to increase the legitimacy of the current research findings.

Chapter Four brings together the analysis and interpretation of the findings resulting from the present study in order to verify the hypothesis and answer the research questions. The analysis and interpretation of data is carried out over four sections. The first is based on the results of the preliminary test and the teachers’ questionnaire of the pilot study. The second is concerned with the students’ readiness questionnaire and the pre-test results occurred during

the pre-experimental phase. The third section details the progress tests results prevailed in the experimental phase while the last section presents the results of the post-test and the students' attitude questionnaire.

Finally, Chapter Five winds up the whole work by discussing the revisited quantitative and qualitative data, drawing up the general conclusion, and suggest necessary recommendations for future coming works. It is then followed by a list of alphabetically-ordered references that indicates all the sources used throughout the present research paper. These References show credit to the authors for the contribution of their ideas to this work. At the end, they are attached all the supplementary materials' exploited by the research to conduct systematically this study under the name of Appendices.

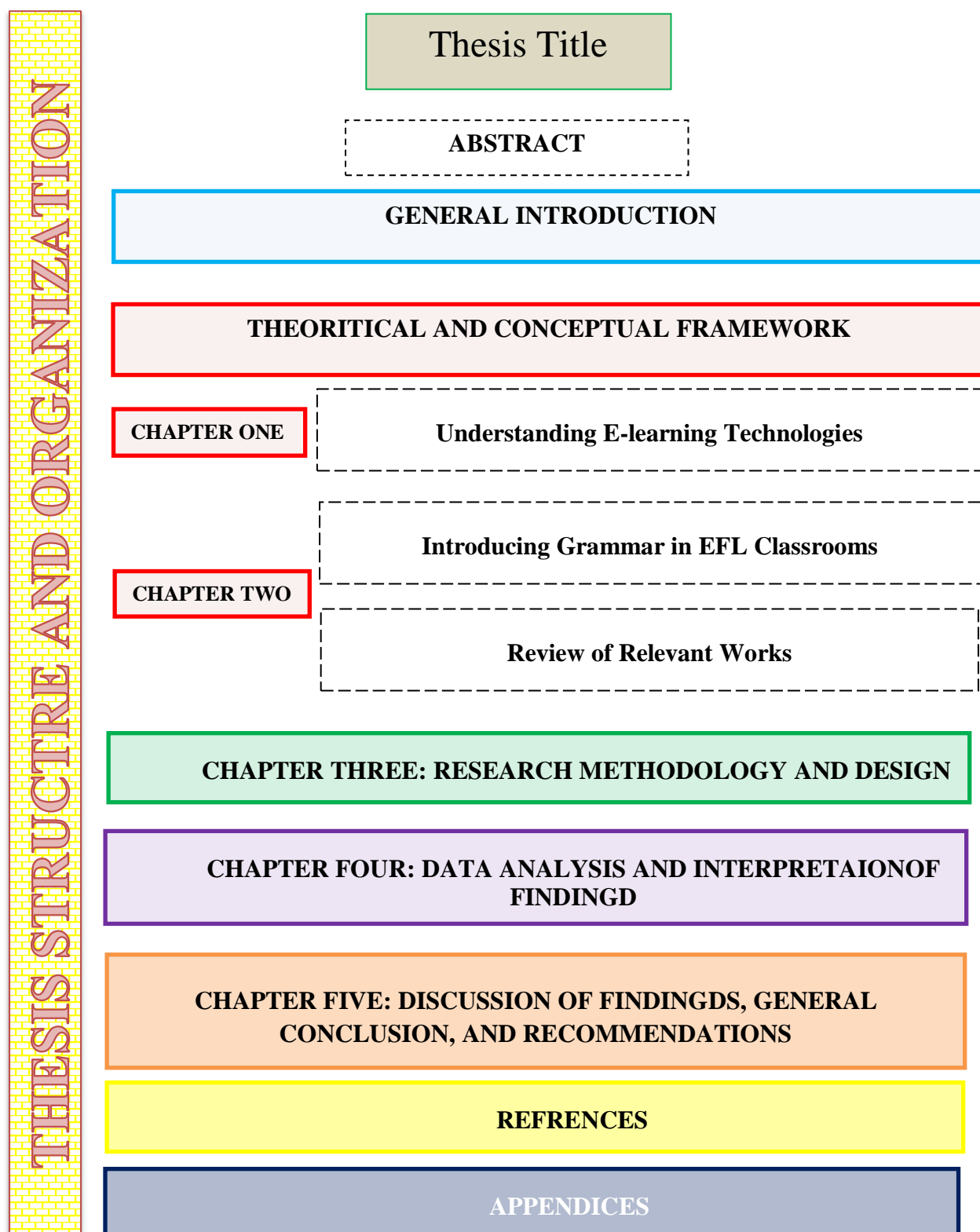


Figure 01. Thesis Structure and Organization Diagram

THEORITICAL AND CONCEPTUAL FRAMEWORK

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Introduction

Nowadays, the information and communication technology becomes increasingly substantial which entails the emergence of numerous digital devices for many purposes in our personal, educational and professional lives. Technology-based e-learning encompasses the use of internet and other important technologies to produce materials for learning, teaching learners, and also regulating courses in an organization (Fry, 2001). New methods and techniques are arranged to fulfil the learners' needs and facilitate the task of teaching as well.

In the late 20th century, e-learning tools and delivery methods pervaded more and more in all aspects of education because of the insertion of computers and internet. Exactly in 1984, the first computer known Macintosh commonly shortened to MAC enabled many individuals to possess computers in their homes, making it quite possible to learn different particular subjects and develop certain skill sets. Then, in the following decade, virtual learning environments began to truly thrive, with people gaining access to a wealth of online information and e-learning opportunities (Gogos, 2013).

In Algerian schools and universities, the process of learning and teaching is generally marked by the traditional lecturing, in which the instructor presents to students information, rules or principals for particular subjects. This way makes them more passive because they do not get enough individual time to participate in the classroom. Furthermore, the overcrowded classes in this country slash the students' chances to receive their teachers' required feedback. There is now a general conviction that this traditional way of expository teaching is not optimal for teaching and training students that today's learners require. They also need deep, flexible and transferable knowledge (Nahid, 2018). These challenges led to new pedagogical assumptions in which the introduction of online learning in higher education, is a remedial key for many of these problems.

1. Emergence and History of E-learning

History enables researchers to understand important events in the past, and compose a notoriously panorama about prior knowledge of relevant topics. Through which they can adapt their present, and build their future. Technology doesn't escape this rule too, and passed through different stages of development. Frick (1991) noted that throughout the history of human communication, advances in technology have powered pragmatic shifts in education. It means that technology is not limited to particular domains but rather it shades many.

Long before the internet was launched, remote learning was taking place among students as far back in history as the first implementation of distant courses by Sir Isaac Pitman in 1840, a teacher of English who developed the first widely system of phonetic shorthand in England (Horton, 2001). He started giving his students lectures, and completed assignments via postal correspondence. This operation proved the possibility to learn without face- to-face contact among students and teachers.

Advancements in technology witness a seemingly considerable rise in the late 1990's, where access to information became readily available to exponentially larger audiences in education and other domains. As quoted in (Cross, 2004, p. 104), Elliott Masie introduced the first time the term online-learning to refer to the use of network technology to design, deliver, select, administer, and extend learning. He added "Online- learning is one of the evolving forms of learning via internet." Even today many years after the debut of e-learning its definitions are as varied as its applications.

As the requirements to reshape the form of learning and teaching to meet the global changing, some researchers have reformulated specific terms, and concepts in the field of education. In doing so, Jay Cross (2004) coined the term *e-learning* to single out learning which is enabled electronically, and to differentiate it from distance learning and other types of learning.

Within the next few years, and exactly in 2004, Cross went further to narrow the description of e-learning when introducing it as an approach to teaching and learning presenting all or a part of the educational model applied. It is based on the use of electronic media and devices as tools to improve access to training, communication and interaction. It facilitates the adoption of new ways of understanding and developing learning (As cited in Sangra et al, 2012).

A number of visionaries for a long time have attempted to reconsider again and again the accurate meaning of the term e-learning. Khan (2019) noted that even today many years after the emergence of electronic learning, there exist multitudinous definitions of the term. In the table below is presented a timeline of historical events to e-learning from the earliest to the most recent one:

Table 01

Timeline of Historical Events to E-Learning (Tamm, 2019).

Year	Achievements
1642	The invention of Pascal's Calculator by Blaise Pascale
1728	The First well-documented distance learning course.
1924	The appearance of the automatic teacher machine to test students.
1957	The Teaching Machine called the Glider, by Skinner, to teach students
1960	PLATO (Programmed Logic for Automatic Teaching Operations) by Donald L. Bitzer. It is used successfully as a teaching tool, and also spawned one of the first successful online communities.
1966	Computer Managed Instruction, Patrick Suppes tutored elementary school children with individual CMI sessions in mathematics to supplement teacher instruction.
1969	ARPANET (Advanced Research Projects Agency Network) first wide-area packet-switching network. It enables access to remote computers.
1977	The first Apple II Personal Computer by Steve Wozniak and Steve Jobs
1979	The establishment of the Apple Education Foundation by Bell & Howell. It donated computers to students and awarded grants to those who developed software for educational purposes.

1983	The Electronic University Network by Ron Gordon, an highly accessible online educational network
1986	A quarter of High Schools Use PC's
1989	World Wide Web
1994	First online school courses with real-time instruction and participation i.e. synchronous learning.
1999	The first Use of the Term E-learning and First Online University. Other words also began to spring up in search such as "online learning" and "virtual learning"
2002	MIT's OpenCourseWare Massachusetts Institute of Technology starts offering online course materials and lectures free of charge through its OpenCourseWare project.
2008	The first use of the Term MOOC by Stephen Downes and George Siemens
2012	The New York Times declared 2012 the Year of the MOOC, because it started to spread.
2014	Most Universities in the World start using E-learning
2018	E-learning reaches 668.8 billions
2020	Most corporations use E-learning

2. Definitions of E-learning

As cited in Arkorful and Abaidoo literature review (2014), the term E-learning has extensively been defined by a large number of researchers. The authors mentioned that Dublin (2003), Oblinger and Hawkin (2005) concurred that there is no common definition for the term E-learning. Moreover, there are as many and distinct definitions as there are academic papers. This is what is proved by Holmes and Garden in (2006), the notion E-learning has been variously interpreted from diversified perspectives and in dissimilar contexts. Some definitions are reviewed below:

Many existing definitions tend to depict the concept E-learning as a range of applications and technological devices that serve the learning process like Prucha (2003) and later, Dudeney

and Hockly in (2014). They referred to e-learning as the process that takes place using technology, such as the Internet, CD-ROMs and portable devices like mobile phones or MP3 players. Also the European Commission (2001) illustrated this point by stating “E- learning as the use of new multimedia technologies and the internet to increase learning quality by easing access to facilities and services as well as distant exchanges and collaboration. In another definition, e-learning is stated to mean any learning that is enabled electronically, and empowered by digital technologies. It has been also related to internet resources. LaRose, Grenon and Lafrance (1999), later Keller and Cernerid (2002) described E-learning as any learning that is internet-enabled or web based. Also, the use of computer network technology, principally through the internet, to provide information and instruction to individuals (Welsh et al., 2003). Moreover, Wentling, Emmanuel, Ekwonwune, Dominic and Edebatu (2000) go further to include even satellite technologies. They stated ‘’ E-learning depends on computers and networks but likely it will progress into systems comprising of a variety of channels such as wireless and satellite technologies and cellular phones. In other context, E-learning was associated with educational process; it has been introduced as a tool in the learning process in the majority of the international universities worldwide. E-learning can be understood as using information and communication technologies to create training, to distribute learning content communication between students and teachers and for management of studies (Wagner, 2005). It is used to enable the access to online learning/ teaching resources (Abbad et at.; 2009). It also implemented in diverse processes of education and universities to support and enhance learning in institutions of higher education (Maltz, 2005). The concept of e-learning can be captured from much narrower perspectives comparing it to traditional classes. It includes the usage of information and communication technology as a compliment to traditional classrooms (OECD, 2005). It is also seen as a proposed based on distance learning, thus a transmission of lectures to distant locations by way of video presentation (Gotshall, 2000). However, Dublin (2003)

commented that e-learning also tends to reveal the specialization and interest of the researchers. For instance, it has transformed from a fully-online course to using technology to deliver part or all of a course independent of permanent time and place (Oblinger & Hawkins, 2005). As far as the term is concerned, Masters (2009) suggested that the “e” in e-learning should not stand for electronic; it should be an abbreviation for “evolving, enhanced, everywhere, every time and everybody”. In fact, Masters’ quotation denotes the different characteristics that e-learning may cover rather than explaining the concept itself.

As an educational approach, Twigg suggested that e-learning is directly related to its design and effect on the learner. He added “ it is an approach that is centred on the learner as well as its design as involving a system that is interactive, repetitious self-paced and customizable (Twigg, 2002). Two years later, Jennex introduced the term as a revolutionary approach that enables a workforce with the knowledge and skills needed to turn change into benefit. (Jennex, 2002).

3. E-learning Varieties

Some educational researchers have distinguished different types of e-learning, and categorized them according to many factors such as: learning technological devices, learning content, different synchronicity metrics.

3.1. Computer Managed Learning (CML)

Computer-managed learning, also known as Computer Managed Instruction (CMI), is a type of electronic learning where computers are used to manage and assess learning processes. It can be used in any course of study that involves a wide range of activities including both learning assessment and administration activities (Clarke, 2001). In a case of computer managed learning systems operations are done through delivering information, and course materials to the learner. The purpose of designing such programme is to assist large groups of learners, teachers and administration staff cope with the inherent problems of truckling learners

through a series of individualized learning events (Forsyth, et al.,1999). In different words, researchers mark that determinations can be made to check out whether the student achieved his/her learning goals on a satisfactory level. If not, then the process can be repeated until the student has achieved the desired learning goals.

3.2. Computer Assisted Instruction (CAI)

It is another type of e-learning. It purposely amalgamates the learning via computers which represent an influential part in this operation together with traditional face-to-face learning. A wide variety of techniques of using computers in education have emerged over a period of time and they become now very common in use. The computers have a vast potential for instruction in all educational environments ranging from schools to universities. They were considerably exploited towards this purpose under the name of Computer Aided/Assisted Instruction (CAI) and Computer Managed Instruction (CMI). Nowadays, Computer-assisted training methods use a combination of multimedia such as text, graphics, sound, and video in order to enhance learning. The primary value of CAI is interactivity; it allows students to become active learners instead of passive learners, by utilizing various methods such as quizzes and other computer-assisted teaching and testing mechanisms. T

3.3. Learning Management System (LMS)

This term is broadly given to any technologies that facilitate the provision of courses over long distances (Turnbull et al, 2019). The authors added: “It is a web-based software platform that provides an interactive online learning environment and automates the administration, organization, delivery, and reporting of educational content and learner outcomes.” Professionals distinguish between several confusing terms associated with the term LMS representing their acronyms: CMS that appears to meet the needs that result from a technological evolution and use made of it (Ferrer & Alfonso, 2011). It has two distinct forms: Content Management Systems that are essentially software applications designed for the

creation and management of digital content in a collaborative environment, and Course Management Systems which are used for online or blended learning supporting the placement of online course materials. Associating students with courses, tracking student performance, storing student submissions and mediating communication between the students as well as their instructor (Watson & Watson, 2007)

Some other academics and website designers prefer to use the acronym LCMS to refer to “Learning Content Management System” which is narrower in scope than LMS.

3.4. Computer-Mediated Communication (CMC)

Computer-Mediated Communication or CMC is an umbrella term which refers to human communication via computers (Simpson, 2002). Educators make a distinction between synchronous CMC where interaction between learners run in real time from different locations, and asynchronous CMC where students digest the communication and interact with each other on their space time. Simpson also focuses on the effect of CMC on the process of learning and teaching. He states that the ratio of learner participation and of turn-taking initiation are greater in the computer mode compared to the traditional one. However, it remains a complicated task for users to control a full computer-assisted discussion. Relative to teachers’ role, Simpson marks that it is shifted from that of an authoritative disseminator of knowledge to that of a guiding ‘e-moderator’ (Simpson, 2002, p. 415)

CMC has extensively been discussed in foreign language contexts. Researchers like Warschauer (1998), Simpson (2002) and Abrams (2006) confirm that it helps learners to practise and develop their target language because it represents an effective medium for exchanges and communication between dispersed groups of students in collaborative learning projects and for mentoring an affective support in distance learning courses.

3.4.1. Moodle

Moodle is a web program that was first created by the scientist and the educator Martin Dougiamas in Perth, Capital of Western Australia. The term means an open source of course management system (CMS) that educational organizations such as schools and university communities apply to incorporate internet and web technology in their courses (Jason & Foster, 2007).

Moodle is mainly designed to deliver online courses, and is addressed to reinforce the traditional way of presenting in-class courses. Experts distinguish between two literal meanings of Moodle. The first is an acronym that stands for Modular Object Oriented Dynamic Learning Environment where each initial letter of the mentioned words refer to a specific part of the compound term. The second is referred to “a verb that describes the process of lazily meandering through something doing things as it occurs to somebody to do them through an enjoyable tinkering that often leads to insight and creativity”. As cited in Jason, Cole and Foster (2007), Krouska et al. (2017) described Moodle as follows:

“ Moodle is a LMS designed to provide educators, administrators and learners with a single, robust, secure and integrated system to create personalized learning environments. It has a wide range of standard and innovative features for supporting teaching and learning process. Moreover, it allows for extending system functionality using community sourced plugins.

In a plain language, Moodle is a web program that is available and free to use for all users on the following web page: <http://www.moodle.org>. Others is creating Moodle in Free open source Website or paid website such as, e-Padi.com, Gnomio.com, etc. (Arman, 2107)

3.4.2. MOOC

The acronym MOOC stands for Massive Open Online Courses. It is an online platform that comprises courses of different disciplines. MOOCs are comparatively a new form of distant learning and it is free and affordable to everyone attentive in enrolling, no matter his/her

background and age. For Crisp and Ryan (2016), MOOCs have captured the attention of people in different fields like: journalists, administrators, faculty and students. They are considered as one of the most prominent trends in higher education in recent years that appeared the first time in 2008.

MOOCs represent open access, global, free, video-based instructional content, videos, problem sets and forums released through an online platform to high volume participants aiming to take a course or to be educated (Baturay, 2015). Due to its place and time flexibility, MOOCs give more opportunities to learners around the world to study as one team and exchange information between each other through a social networking site. As Mehta (2020) stated “ MOOCs break down the time and geographic barrier imposed on the learners and let them take courses from some of the world’s brightest minds without having to travel and pay a fortune to attend a prestigious institution. Just like a conventional classroom, learners can learn and interact with other learners but with the feature of logging to the portal whenever they wish.

3.5. Synchronous E-learning

According to Wikipedia **Synchronous learning** refers to a learning event in which a group of students are engaging in learning at the same time. Synchronous e-learning have been expanded and developed many times due to proven demands in various eras such as education.

In the online educational environment, there is no physical meeting. It means the real contact between students and teachers becomes more virtual. Some authors have also suggested a more detailed definition. They noted that synchronous system occurs at the same zone for all learners but at different places thanks to internet. It includes text chats and video conferencing (Hittz & Goldman, 2005). Synchronous learning is characterized by the exchange of information and communication in real time. This indicates that users meet together at one specified time even if they are geographically dispersed.

Participants and teachers interact via chat or video conferences live”. Gorska (2016) explained “The online course is characterized by a multilateral exchange of information and communication in a predetermined time interval”. This indicates that synchronous e-learning is live, real-time (and usually scheduled), facilitated instruction and learning-oriented interaction.

While many online educational programs started out as and with the advent of web conferencing tools, people can learn at the same time in different places as well. For example, use of instant messaging or live chat, webinars and video conferencing allow for students and teachers to collaborate and learn in real time. Khan (2006) explained on the basis of these components that synchronous e-learning can be understood as “the Interact of participants with an instructor via the Web in real time”.

3.6. Asynchronous E-learning

In the case of Asynchronous e-learning, the students are given the opportunity to learn without personal contact with the lecturer. The contact happens through e-mail or on a forum. The advantage of asynchronous learning is the possibility of an individualized pace, place and intensity of learning (Gorska, 2016). As far as the definition of the concept is concerned, Mayadas (1997) reported that asynchronous online learning has various meanings due to some components, its nature and facilities that are common in some characteristics. On the other hand, one of the popular definitions that focus on the components of asynchronous e-learning introduced it, depending on the nature of the contact between teachers and students, as “an interactive learning community that is not limited by time, place or the constraints of a classroom.

Various studies have been carried out to make a clear distinction between synchronous and asynchronous environments. While asynchronous e-learning methods are often considered to be more student-centered, synchronous counterparts are teacher-centred because the first methods give students more flexibility. Therefore, the role of the teacher shifts from a provider

of the knowledge to the counsellor. For these reasons, asynchronous e-learning is often preferred by students who do not have flexible schedules since it allows them to utilize self-paced learning. They can set their own timeframes for learning, and they are not required to learn at specific time intervals together with other students. Before the invention of the PLATO computer system, all e-learning was considered to be asynchronous, as there were no methods of computer networking available. However, nowadays, with the availability of computers and the World Wide Web, deciding between synchronous and asynchronous e-learning becomes a more difficult task, as each has their pros and cons.

Asynchronous online learning is defined variously due to some components, its nature and facilities that are common in some characteristics. On the other hand, one of the popular definitions that focus on the components of asynchronous e-learning introduced it as “an interactive learning community that is not limited by time, place or the constraints of a classroom” (Mayadas, 1997).

Asynchronous e-learning takes advantage of computer-mediated communication (CMC) to achieve the promises of learning “anytime and anywhere” through asynchronous online discussions. In this context, Shahabadi (2015) cited the following

“The interaction between the teacher and students which does not require them to be engaged at the same point in time. Asynchronous online communication allows students to absorb information by engaging with the reading of others’ thoughts and thereafter, processing, reflecting and contributing to their learning and continuing through this cycle at their own pace. Examples of technologies for asynchronous communications are e-mail, mailing lists, newsgroups, bulletin boards, blogs and wikis, as well as online discussion boards like Blackboard and Moodle (p123- 124)

3.7.Distance Learning

According to Ananga and Biney (2017) the concept of “distance learning” is concerned with a type of educational delivery where teaching and learning are separated in time and space with technology and space.

3.8. Blended Learning

After the occurrence of e-learning which had a momentous impact on the field of education, educators started thinking to blend and amalgamate the proceeding traditional face-to-face learning with the contemporary electronic one to revolutionize a new concept and suggest an elegant solution to the challenges that learners face in both traditional and online environments. (Thorne, 2003) To put it another way, students and teachers are about to use a mixture of remote and traditional course delivery. In this sphere, Dudeney and Hockly (2014) explained that “learners might meet once a week with a teacher face-to-face for an hour, and do a further two hours’ work weekly online. In some situations the digital element is done offline with a CD-ROM”.

Further definitions covered the field of concern and the perks of blended learning appeared in Volchenkova’s work in 2016, He mentioned that Procter defined blended learning in 2003 as ‘the effective combination of different modes of delivery, models of teaching and styles of learning’. In the same article, Volchenkova added ‘According to Chew, Jones and Turner, ‘blended learning involves the combination of two fields of concern: education and educational technology’ (Volchenkova, 2016 P.24). An alternative definition given by Garrison (2004) where he introduced the blended courses are the ones that are set through combining online and classroom learning activities and using resources in an optimal way in order to improve student’s learning outcomes and to address important institutional issues (Kaur, 2013).

In a holistic perspective, blended learning comprises any combination of media that sustains instruction, regardless of the mix of synchronous or asynchronous media (Holden & Westfall, 2006).

From an educational standpoint, blended learning is associated with the pedagogical courses that students take inside and outside the classroom simultaneously. Thereon and Laster (2005) introduced this type of learning by integrating two detached educational paradigms, where the classroom represented the synchronous environment on online platforms together with the asynchronous one.

In a pragmatic stance, this hybrid learning goes hand in hand with the different pedagogical approaches that teachers depend on to present and deliver their courses where the first intention is to meet students' needs. As stated in Kaur (2013), these pedagogical approaches are mixed together also to fulfil the followings:

- To produce an optimal learning outcome with or without the use of instructional technology through combining constructivism, behaviourism, cognitive learning approaches.
- To join any form of instructional technology such as CDs, films, web-based video conferencing training with face-to-face instructor-led programming.
- To create a proportional and a harmonious effect in terms of learning and working by combining instructional technology with actual job tasks and requirements.

As reported in Kaur (2013, p 332), blended learning has been also defined in a corporate training perspective through which the implementation of multiple instructional media to deliver one course or curriculum such as a sales training course involving pre-reading, lectures and role play practices (Wexler, 2008). In the same framework, continuing with blended learning definitions, Kaur (2013) added in the same article (p. 613) that this type of learning means executing a learning strategy that embeds multiple delivery of synchronous and

asynchronous modalities, thereby, creates the best possible learning solution for the target audience (Peters et al., 2009). Thus, online learning is gradually blended with face-to-face teaching, but without changing the basic classroom teaching model. In this case, online learning is being used as a supplement to traditional teaching. Although there is no standard or commonly agreed definitions in this area of education, Gülbahar and Madran (2009) used the term ‘blended learning’ for the combined use of technology with in-class learning. The figure below demonstrates clearly this definition:

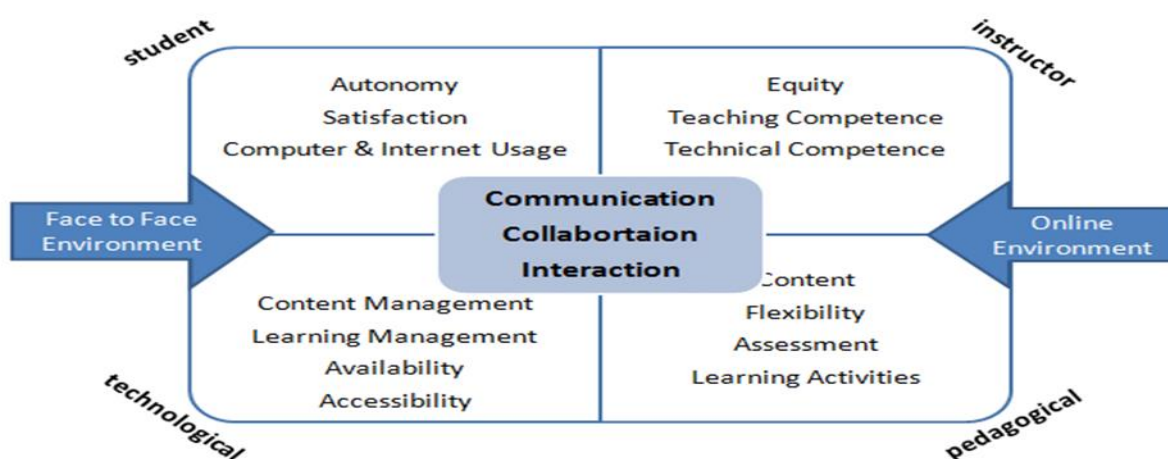


Figure 01. Components of Blended Learning by Gülbahar & Orçun Madran (2009, p.25)

3.9.Fixed E-learning

Fixed e-learning is a complicated term for something that is likely common in the field of education. “Fixed” is usually something that is unchangeable while in this context refers to the content used during the learning process which does not change from its original state and all the participating students receive the same information as all the others. The materials are predetermined by the teachers and do not adapt to the student’s preferences (Tamm, 2015). Tamm claimed that this type of learning has been the standard in traditional classrooms for thousands of years, but it’s not ideal in e-learning environment because fixed e-learning does

not utilize the valuable real-time data gained from student inputs. Analysing each student individually through their data and making changes to the materials according to this data leads to better learning outcomes for all students (2015).

3.9. Adaptive E-learning

Adaptive e-learning is a new and innovative type of e-learning, which makes it possible to adapt and redesign learning materials for each individual learner. Taking a number of parameters such as student performance, goals, abilities, skills, and characteristics into consideration.

Adaptive e-learning tools allow education to become more individualized and student-centred than ever before. A more recent literature on this topic by Taldaoui and Khaldi (2020), found that adaptive learning, called also intelligent learning, is an educational method that uses technologies as teaching tools to organize human resources and learning materials according to the unique needs of each learner. In the same context, the authors go further to elucidate the aim, users of adaptive learning attempt to achieve, they stated first that is a pedagogical concept which is designed purposely to adapt the learning path according to the learners in order to make it special and personalized. Adaptive learning can be added to facilitate the group work in environments in distance learning, like forums or resource sharing services (Gaudioso, 2003)

3.10. M-learning

M-learning or mobile learning is another type of modern education learning that goes via the Internet or network using personal mobile devices such as tablets, smartphones, MP3 players, Personal Digital Assistants (PDAs) like Palm hand-held computers and devices using Windows Mobile Computing platforms like the iPAQ to obtain learning materials through mobile apps, social interactions and online educational hubs (Dudeney & Hochly, 2014; McQuiggan, Sabourin, Kosturko, 2015).

Mobile learning proffers many favours to learners and teachers alike. As being flexible and mobile, m-learning makes the processes of learning and teaching accessible anywhere and anytime because everyone can get the same content of knowledge or learning materials at the same or different times and from any place in the world. It also ameliorates and personalizes the knowledge presented. In this regard, Thomas (2019) advocates that due to its huge variety of topics and related subjects, m-learning motivates students to perform better and keep track to their progress. To this end, Uther (2019) mentioned that a detailed quantitative analysis study by Cho et al. (2018) confirms the benefits of mobile learning through proving its overall moderate positive effect on language acquisition and language learning achievement.

As much benefits as m-learning provides, there are also some challenges that learners and instructors find difficult to overcome. In this connection McQuiggan (2015) listed some disadvantages of m-learning as follows: “

- “Mobile learning initiatives can face the differentiated access to devices and internet across different audiences.” (p.13), this can be a problem in areas where internet accessibly is very low or absent, also with students suffering from an inferior economic background. To reach the avail of mobile learning, the previous requirements should be supplied.
- “The use of mobile devices must be monitored by students in classrooms or at home.” (p.14), the author indicated that using mobile learning may cause students’ distraction because they are up to waste their time using other tasks like chatting, playing electronic games and visiting social media networks instead of studying through learning websites.
- “There are many prevailing attitudes and prejudices against using technology for instructions.” (p.14), data from several studies like Bloomburg (2006), Barak (2013), Forsyth Country School (2014) who identified that the attitudes of students who use

mobile learning are negative, reflected in laws prohibiting the use of this technology.

Moreover, it could be used as a tool to cheat in school exams.

- “There are some limiting physical attributes make mobile devices difficult to use” (p.15).

These difficulties concern software and hardware issues which hinder the smooth use of the device or the application installed in.

- “And finally, the way in which the devices are implemented impacts the effectiveness of them” (p.16). In essence, the more interesting reasons mobile devices are used, the most effective.

4. Connectivism Theory

The word connectivism is recent which has not been used before the egress of the digital society. Connectivism is a learning theory for understanding how people learn and share information across internet technologies and among themselves in a digital age. These technologies include Web browsers, email, wikis, online discussion forums, social networks, YouTube, and any other tool which enables the users to gain knowledge and exchange it with other people (Siemens, 2005; Downes, 2012). In connectivism, the starting point for learning occurs when knowledge is actuated through the process of a learner connecting to and feeding information into a learning community (Kop & Hill, 2008). In this fragment, knowledge is created beyond the level of individual human participants. It is constantly shifting and changing because the information shared in networks is not controlled or created by any formal organization although organizations can and should ‘plug in’ to this world of constant information flow and draw meaning from it (Siemens, 2004). Since its emergence, connectivism has marked a significant position in education. Its supporters claim that the Internet changes the essential nature of knowledge because as this last continues to expand and develop, access to what the learners need becomes more important than what they currently possess (Bates, 2019).

The application of connectivism to education has also influenced the role of teachers and learners. An Indian study by Pushpanathan (2012) revealed that instructors and learners, in a digital-based classroom, perform differently comparing to those of a conventional classroom. Joan Harrison (n.d.) suggested that “the e-teacher will not be the person who knows all the answers and decides what the question will be but it is the e-teacher who becomes an expert learner.” This is to show that the traditional image of the teacher with a chalk and a blackboard, and who stands in a front of above 40 students and presents lectures is almost over while he is likely to be more flexible and provides more control to learners in a digital-based classroom”. Students, on the other hand, tend to be more autonomous and have more freedom to work in their own pace. Within this framework, Downes (2007) stated that the connectivism theory seeks to describe the activities that lead to such networks, both in the individual and in society. These activities are characterized as modelling and demonstration (on the part of a teacher), and practice and reflection (on the part of a learner).

Unlike the proponents of connectivism, there are other scholars who criticized the theory and considered it as a pedagogical view rather than a theory of learning. Juxtaposed with this framework, Verhagen (2006) stated that he could distil no new principles from connectivism that were not already present in other existing learning theories. He added that he was not convinced that learning could reside in non-human appliances. Moreover, Kerr (2007) claimed that although technology affects learning environments, existing learning theories are sufficient. In the same vein, Kop and Hill concluded that while it does not seem that connectivism is a separate learning theory, it “continues to play an important role in the development and emergence of new pedagogies, where control is shifting from the tutor to an increasingly more autonomous learner”.

5. Learning Environments

Learning environment is often used as an interchangeable synonym to the physical classroom where students take their courses including class furniture such as desk, tables, chairs, board and other elements of the traditional classroom. Otherwise this term has a more profound meaning and has been studied extensively using variations of Moos' (1974) including school climate dimensions: relationship, personal development, and system maintenance and change (Keefe & Jenkins, 2013). Educators may also contend that there are two major learning environments: traditional, where education is mainly based on teaching system and often focuses on the material itself rather than the learners and differences between capabilities and learning skills (Chen & Kinshuk, 2005). At the same time, learners are naturally imposed to harmonize and attune their own learning abilities and techniques facing their instructor in the classroom (Li et al, 2014). Traditional method of teaching is teacher-centered learning where lecturers use visual aids in the form of presentation slides and hand-outs (Shaharane, Jamil & Rodzi, 2016).

On the other hand, online environments or Virtual Learning Environments (VLEs) concern any medium that is electronically or internet based. In this context, Harmer (2014) describes this world as the one in which students are represented by avatars, who can virtually move, speak and interact with each other. Being connected to an online environment, the social relationships between students and teachers are related to feelings of social connectedness and group cohesion. In relation to the online environment, social integration is related to feelings of social connectedness and group cohesion (Zydney & Seo, 2012). Some educators endorse the importance of the online environment because it engenders a sense of responsibility, with learners working collaboratively on content (Dudeney & Hockly, 2014). In the same context, the authors added, that learners belonging to this environment tend to produce a more accurate and appropriate content.

A learning environment can either be synchronous or asynchronous. Each learning environment has a distinct set of advantages and disadvantages. The goal of blended learning is to leverage the specific positive attributes of each environment to ensure the optimum use of resources to attain the instructional goal and learning objectives (Holden & Westfall, 2006).

6. Asynchronous E-learning Vs. Synchronous E-learning

It is important, as a teacher, to keep in mind that every individual has specific characteristics which make him/her a unique learner. Educators have, for many years, realized that some learners go for certain styles and methods of learning instead of others. These last, refer as learning preferences.

As the emergence of advanced and sensitive tools in e-learning, a large number of educational researchers carried out comparative studies between learners' different preferences and methods of providing e-content in an online or blended learning environments. One of the major dichotomies discussed are: synchronous and asynchronous e-learning from different educational contexts. Today, the preferred learning style is one of the most important criteria for recognizing any individual differences in learning process which have been considered for adaptability (Shahabadi & Uplane, 2014). Adaptability according to Graf is a necessity which includes all facilities to customize the system for the needs of the educational institutions (Graf, 2007).

According to a study taken in (2007) by Redmon, Dolan and Parkinson, some learners and instructors tend to adopt the synchronous mode which is characterized by the absence of physical meeting, but a live interaction. They assume that it has some important advantages over the asynchronous mode such as direct interaction between teachers and learners which help these last to receive an immediate feedback. In addition, students also suppose that they will be likely more motivated if they follow a synchronous-based learning since their presence and participation are obligated. Later in 2014, Rampel highlighted the positive corner of

synchronous e-learning in realizing team work for course projects that require group interactions and synchronous online conferencing. He stated that it can be very valuable and even preferable for students since it overcomes limitations of space, time, and distance. Correspondingly, Rampel recommended that future research should explore benefits, challenges, and outcomes of synchronous online discussions.

From a discrepant perspective, some other studies argue that learners, instructors and administrators prefer joining an asynchronous environment rather than a synchronous one. They justified that unlike synchronous media environments; participants are more independent and have more freedom in choosing when to participate in an instruction session. In terms of technical requirements and equipment, asynchronous methods are more accessible compared to synchronous methods (LeShea, 2013). According to Ware (2004), such discussion board tools can help language learners improve their syntactic complexity while they compare their writing styles and skills with their peers’.

In terms of drawbacks, Researchers pointed out that asynchronous e-learning mode has also its imperfections where the major problem is positioned in its lack of interactivity among the instructors and learners. In this perspective, Pan and Sullivan (2005) pointed out that learners often feel isolated when using asynchronous media such as message postings, and many online learners do not check their email often, thereby limiting their access to potential learning. As a result, in using such tools, instructors must not only consider learners’ potential feelings of isolation, but also provide a framework to facilitate students’ learning activities. For example, the instructors may need to periodically remind language learners to check their email boxes regularly, encourage them to use email to send opinions and ask questions, and provide discussion forum to make learners practice with their writing skills when communicating among instructors and other learners. This can however be an advantage for the elementary level learners who can spend longer time in helping themselves to the instruction materials

(Chen, Liu and Wong, 2007; Jiang and Ramsay; 2005) used a different yet innovative asynchronous tool in their study: the sound file. In that research, sound-file questions were posted on the WebCT discussion board each week throughout the semester. Language learners recorded their answers to these questions on the sound files. Both of the learners and instructors found the communication using the sound files to be enjoyable and useful. This combined network of learners and the electronic network in which they communicate are referred to as an asynchronous e-learning network.

7. Characteristics of Synchronous E-learning and Asynchronous E-learning

7.1.Input

Synchronous e-learning is internet-based where the teacher presents lectures, different course instructions, and provide questions and answers through forums which permit the users to deliver instant messages, synchronized chats, and live online conferences. Asynchronous e-learning input, on the other hand, focuses on arranging lectures in different forms: documents, PDF, PPT, DOC..., videos, audios, recommended books and websites through online platforms that learners can reach any time and any place.

7.2. Interaction

Synchronous learners follow a direct collaboration with their teachers respecting a common real time of meeting, but not necessary a same place. Synchronous e-learning involves remote online studies through chat and video conferencing. This kind of learning tool is real-time because meetings are moving entirely online. It is like a virtual classroom that allows students to ask and teachers to answer questions promptly through instant messaging. For this reason, it is called synchronous. Rather than taking lessons alone, students associating themselves with synchronous e-learning software or online courses, can easily interact with fellow students and their teachers during the course. On the other hand, asynchronous e-learning can be carried out even while the student is offline. It refers to instruction that is not constrained

by geography or time” (Khan, 2005).It also involves coursework delivered via web, email and message boards that are then posted on online forums. In such cases, students ideally complete the course at their own pace, by using the internet merely as a support tool rather than volunteering exclusively for e-learning software or online interactive classes.

7.3. Assessment

Online assessment has always been a challenge to online teaching. Educators have been exploring students who should be prepared for lectures, topics and activities to be discussed through the synchronous meeting. Assessment is mainly based on speaking and listening skills. Instructors assess their students’ oral performance while they are having their academic talks, and teachers should make sure that everybody participates, using checklists, eye contact or observation, asking questions regarding to the concepts studied.

7.4. Feedback

Teacher feedback and student revisions are influenced when feedback is given electronically (Ene and Upton, 2018). Electronic feedback (e-feedback) has gained recent attention due to the rapid growth of the use of electronic learning in language classes. Computer-mediated feedback can be provided either synchronously, typically through online oral chats where students’ main audience remains the teacher confirming the importance of teachers as a feedback source, or asynchronously which are generally written. Teachers require students to submit their papers electronically through classroom learning management systems (e.g., Blackboard or Canvas) and to provide feedback on student papers electronically in online chats, forums, or via e-mail or word-processing software (Hyland & Hyland, 2006; Eloola & Oskoz, 2017).

7.5. Academic performance

Academic performance is multidimensional variable which might be affected by internal and external classroom factors so the authors assumed the different learning style as a

determiner of classroom factor in relation to the different academic performance groups. In fact, this study follows an outcome-centric approach which has attempted to classify academic performance in terms of the learning outcomes that are designed to match, or the particular competencies that are designed to measure. Thus, the outcome-centric approach is a taxonomy process and then overall generality of the taxonomy can have advantages and disadvantages. The general nature of the taxonomy means that it is easily applicable across the different disciplines (Anderson, Krathwohl, & Bloom, 2001; Semper, 2008).

Researchers are eager to assess the learning styles of e-learners in different modes of e-learning and their academic performance. Thus, researchers find a necessity to evaluate whether there is any significant difference between successful academic performance groups and particular learning styles in the mode of synchronous and asynchronous e-learning or not. An Iranian study, conducted by Yen-Tzu Chen and Nova at the Southeastern University in 2007, proved that the academic performance of students who belonged to three different levels at that university and who studied in both synchronous and asynchronous e-learning environments perform similar in both mediums. The results of the study showed that asynchronous e-learning was comparable to synchronous e-learning. It was a learner-centred process which used online learning resources to facilitate information sharing regardless of the constraints of time and place among a network of people (Chen & Nova, 2007).

7.6. Learner Autonomy

The term learner autonomy is generally understood to mean independent learning, but in literature there seems to be no steady definition of the term. As mentioned in Kaur's (2010) review, several authors have attempted to explain learner autonomy through elucidating the different synonyms that it is muddled with. For instance, Little (2002) noted that it is often confused with other synonyms like self-instruction, Candy (1991) explained it as 'andragogy' while Knowles (1985) referred to the term as a Greek word that means 'leading man' or 'leading

children' in pedagogy, 'independence'. Sheerin (1991) described it as 'language awareness' (as cited in Van Lier, 1996). In another light, some researchers like Benson (2001) argue whether learner autonomy should be best described as a capacity or behaviour characterised by learner responsibility or learner control. In a major advance in 2007, Field suggested "learner autonomy consists of the freedom to learn outside the teaching context and the ability to continue learning instruction has finished (Harmer, 2014).

The inception of electronic learning and the development of educational technologies urge to the change of learners' activities in and outside the classroom. Unlike traditional learning, students have more freedom to study at their own pace. Goulão's (2012) assumptions seem to have the same prospect, he justified that "e-learning gives students time and space flexibility by allowing a better management that suits their needs in education". This implies that e-learners are more proactive and responsible for one's own learning rather than being passive. Furthermore, a Malaysian preliminary pilot study by Kaur (2010) shows that asynchronous online interactions have the potential to help online learners develop autonomy and take a more control over their learning in terms of planning, organising, monitoring and evaluating their instructional tasks. However, others like Hrastinski (2008) provides insight on the position of online learners in a synchronous environment. He indicates that these learners are expected to work in groups because they use instant messaging as support for getting to know each other, exchanging information, and planning tasks.

8. Asynchronous E-learning Tools

8.1. Websites

A website, also called World Wide Web is a group of web pages, documents and services, distributed across the Internet and linked together by hypertext links. Very common examples are: google.com, Amazon.com, youtube.com, en.wikipedia.com, facebook.com...

Originally, websites were classified by their top-level domains (TLD). They are classified into three distinct categories:

- Generic Top-Level Domain (gTLDs): where the domains are associated with generic words. Being generic means that they include anything other than a country code (Mahler, 2019)
- Country Code Top-Level Domain (ccTLD): the extensions are abbreviated into 2 letters representing a certain country in the world.
- New Top Level Domain (nTLDs): are new extensions that refer to brand and organizations names.

In the following are some examples:

Table 02
gTLDs , ccTLDs and nTLDs domains

G	Domain	cc	TLD	N	TLD
.gov	Government agency websites	.uk	For the united Kingdom	.app	Applications' websites
.edu	Educational institutions' websites	.dz	For Algeria	.voyage	Travels' websites
.org	Non-profit organizations' websites	.fr	For France	.ninja	Comedy sites
.com	Commercial websites	.eu	European Union	.cool	Entertainment Industry
.info	Information sites	.su	Soviet Union	.buzz	newness and shareability
.net	Network organisation's websites	.us	For the United States	.shop	Selling goods online or offline
.mil	Military websites	.no	For Norway	.wiki	For fan wikis

.blog	Web blogs websites	.ca	For Canada	.eco	
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8.1.1. ELT Websites

Among the countless accessible websites, there is a huge number of them that cover language courses and language practice to which students are able to access in order to revise their lessons, practise activities, or even take relevant tests. Teachers, as well, can easily consult these websites to track and check out their students' performance and progress (Harmer, 2014). These websites provide valuable chances to language learners who need to brush up on certain aspects of the target language or to prepare for their homework or exams (Hockly & Dudeney, 2014).

In the following list, a group of famous ELT websites that they were primarily designed for English language learners and teachers:

Table 03

Famous ELT Websites

Name of the Website	Website's URL
British Council Teaching English	https://www.teachingenglish.org.uk/
BBC Learning English	https://www.bbc.co.uk/learningenglish/
Cambridge English Online	http://cambridgeenglishonline.com/
ISL Collective	https://en.islcollective.com/
Designer Lessons	https://designerlessons.org/
Lesson Stream	https://legacy.lessonstream.com/
One Stop English	https://www.onestopenglish.com/
An A-Z of ELT	An A-Z of ELT

8.1.2. Authentic Websites

As quoted in Hockly and Dudeney (2014), an authentic website refers to any site that is not created with the language learner in mind. They aimed at all ages to improve sociolinguistic competence to interact with all age groups within the culture under study (Arens et al., 2010; Walz, 1998)

8.1.3. Webquests

Bernie Dodge, a professor of educational technology at San Diego State University, is the first designer of Webquests. He created the first model in 1995. In an attempt to define his new term, Dodge quoted "Webquest is an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the Internet..." (British council, 2021). Webquests can be created by teachers or learners. They depend on Dodge's WebQuest page as a reference of design and format to create theirs. These pages represent structured search activities based on internet and they are centred on specific tasks which use information from the World Wide Web for a specific purpose (Lewis et al., 2013). WebQuests are designed for many educational and pedagogical reasons:

First, they facilitate sharing knowledge and stimulate communication between learners especially in language classrooms. Second, webQuests encourage learners to develop their critical thinking skills because they practise to compare, classify, induce, deduce, analyse errors, construct support, abstract, analyse perspectives, etc. They are also considered as a means way for teachers to incorporate the Internet into the language classroom, on both a short-term and long-term basis. Moreover, WebQuests can provide both authentic and motivating tasks which encourage users to view the activities they are doing as something 'real' or 'useful'.

Learning a language by means of WebQuests is one way of integrating technology into the ESL/EFL classroom (Deutsh, 2021); however, lack of technology in these classes make students have challenges with maintaining access to efficient and reliable sources of information.

8.2.Blog:

The term blog is the short form of ‘Web Log’. It can also be used as a verb that means “to maintain” or “add” content to a blog page. It emerged in 1997, and was used the first time by the American blogger John Barger while its short form ‘blog’ was initially stated by Peter Merholz (Wikipedia, 2020). It is practically defined as an online web page with regular diary or journal entries (Dudeney & Hockly, 2014). It is usually retained by one person with regular posts of comments, thoughts, analysis, experiences of daily life, interesting links, jokes, descriptions of events, or other materials such as graphics or audios, videos or photos. Entries are commonly presented in a backward chronological order (edublogs, 2010; Dudeney & Hockly, 2014). The term was also used by Lewis (2013) to denominate “any electronic journal where readers post their thoughts and opinions in a regular basis”. In the same line, Lewis adds “It is usually arranged in backwards chronological order, and readers focus on the latest post by reading down until they reach the place they left the last time they logged on” (Lewis, p. 63).

Bloggers do not only produce content of different topics to disseminate on their blogs but often build virtual social relations with their visitors and other bloggers (Alexia & Peroni, 2010). Thus blog users represent the social software community.

8.2.1. Types of Blogs

Corresponding to the blog content, genre, device and the way in which this last is transmitted, there are sundry types of blogs such as personal blogs, collaborative blogs, organizational blogs, political blogs, fashion blogs, educational blogs also known as ‘edublogs’, moblogs...etc.

Edublogs are the most common in the educational family, they are used by learners and teachers to post news, comments, issues related to their courses, and extra reading practice, links, handouts or homework which learners were unable to attend directly in the classroom as shown in figure 02 on page 57.

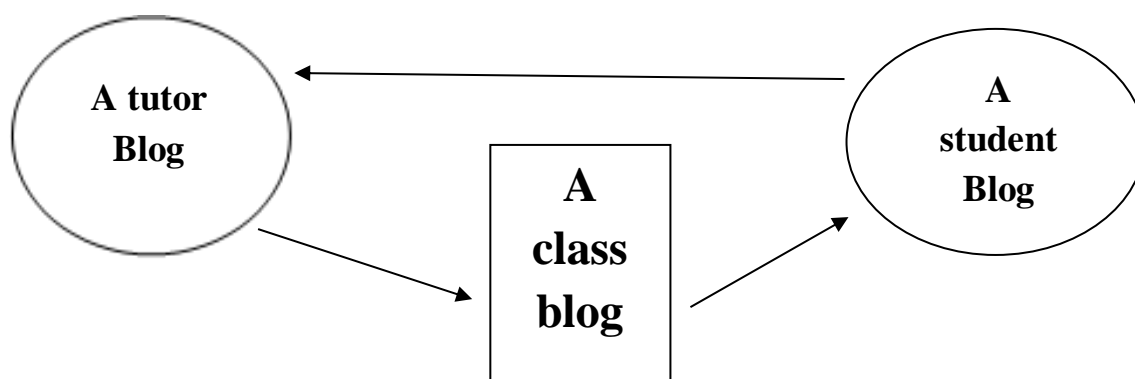


Figure 02. Blog Elements

8.2.1.1. Edublog

One of the many advantages of implementing blogs in English language classrooms is supplying a ‘real-world’ of communication between many students over the world but only invited members are permitted to comment on the blog posts (Dudeney & Hockly, 2014, P. 90)

- **A Tutor / Teacher Blogs:** This kind of blogs are used by teachers or trainers to communicate with their learners or even with other learners throughout the world. They can easily post electronic links to resources of different works, assignments, homework, useful books...etc. In the following, a list of some famous teacher-blogs created by teachers over the world in different domains like science, art, language skills and others: Teach for Us, ScienceFix, Youth Voices, The Teaching Palette
- **Learner/Student Blogs:** learners’ blogs can be managed either by one learner or by a small group of learners to interact with other peers and exchange information or discuss different topics. It is even possible for teachers to share their feedback and opinions with the learners through these blogs.
- **Class Blogs:** These are blogs which include teachers and learners of the same class where the teacher acts as the leader of the blog who posts courses, assignments, links, and exercises and controls the students’ activities. Students on the other side, are expected to contribute with their own works.

- **Project/ Topic Blogs:** a blog is not only determined by its users but evenly by its content.

The conductors can manipulate the topics or the projects posted either by editing, deleting or even creating new ones.

8.3. Google Classroom

Google classroom is a part of online Google applications for education (GAFE). It was created the first time in August, 2014. It is arranged to help students and teachers collaborate, organize and manage assignments quickly, provide feedback efficiently, and communicate with their classes with ease (Bell, 2015). All the activities designed in this application work in such a manner that facilitates to users the process of learning-teaching and encourages them to work paperlessly. Also, it ditches the in-class environment.

In Google Classroom, teachers should first create a virtual class on the website: 'https://classroom.google.com' or after downloading the application via android or iOS market called Play Store. The application will immediately generate a six digit class code. Students need only to have a Google account to join it through entering this code and be a member of the class. Thus, teachers can readily open an online room for discussions between students and their teacher. Users of this application can enter to their online class(s) through various platforms, i.e., through computers, tablets and smart phones.

In keeping with the context of incorporating Google Classroom into the field of education, this application can be used as a means to post tasks, assignments along with teachers' accessibility to assess their students' responses and provide necessary feedback (Nur et al., 2019). Both teachers and students must have perception that Google Classroom is very effective to facilitate and promote the process of teaching and learning (Shaharane et al., 2016). Consequently, students will be more percipient and aware of the application usefulness, also dependent on its cognitive and pedagogical use to ensure a decent tool of learning. One of the many sophistications of Google Classroom is that it can be used collaboratively with other

groups of teachers and students to facilitate the interaction their interaction together in the virtual world (Liu & Chuang, 2016).

In a comparison between Google Classroom, websites and blogs, Computer scientists draw a distinction between these three virtual spaces which seem interchangeable. Unlike websites and blogs which are publically accessible, Google classroom is a closed and limited environment where the access is not possible for everyone. In the same line, Bradbury (2017) added that Google Classroom is not a full Learning Management System because it doesn't have a grade book and work in this application, and it cannot be organized into units.

8.4. Wikis and Wikieducator

The name "Wiki" was adopted by the American computer programmer Ward Cunningham in 1994. He is the creator of the first Wiki. The term is a shortened form of "wiki-wiki", it is a Hawaiian word that means 'quick' (wikieducator, n.d.). Leuf & Cunningham (2001,p. 14) introduced Wiki as " a freely expandable collection of interlinked web pages and hypertext system for storing and modifying information". In general terms, wikis are dynamic and constantly changing web-based environments where readers are both authors and editors, and the format allows multiple users to upload, build, and create content and global communities (Parker & Chao, 2007). In 2013, Lewis described it as a tool which allows people to work together on a common webpage. Stated in other words by Dudedney and Hockly (2014) who mentioned that Wiki is a collaborative web space, containing an editable webpages that all users can update, change, amend or even add or delete other pages or parts of pages. In terms of credibility, Lewis (2014) insisted that teachers and students have to remember though that because wikis are a product of multiple inputs that anyone can edit content, they should make sure that the facts and the information documented are accurate and they need to be checked across other resources.

In the following table, they appear some examples of Wikis and their characteristics which are frequently visited by different people throughout the whole world.

Table 04
Types and Characteristics of Wikis (Hadjerrouit, 2014)

Name of the Wiki	Year of emergence	Service /Characteristics
Wikiwikiweb	March,1995	The first wiki, it discusses software design patterns
Wikipedia	January,2001	The largest and most talked about Wiki on the Internet.
Wiktionary	Dec, 2002	To create a free content dictionary of terms (including words, phrases, proverbs, linguistic reconstructions, etc.)
Wikitravel	July,2003	a project to create a free, complete, up- to- date, and reliable worldwide travel guide
Wikibooks	July, 2003	Providing available links to textbooks, annotated texts, instructional guides, and manuals
Scholarpedia	Feb, 2006	a wiki project based on a system of peer review.

8.4.1. Class Wiki Site

A class wiki site is a class homepage where instructors can post courses, assignments, text messages, videos, audios and online links to their students. It is accessible only if the instructor sends email invitations to their students to join the page. On the other hand, each student can create his/her own profile linked to the instructor's wiki homepage (Lewis, 2013, p. 67).

One of the primary reason to apply class wikis is for helping students reach Bloom's higher order skills like creating and evaluating (Vanderbilt University, n. d.) because students are expected to show their competences of editing, creating new texts and submitting prompt feedback. Moreover wikis also contribute to construct an environment to students to work in cooperation.

8.4.2. Wikis as a Tool for Collaborative Language Learning

In the framework of integrating technology in second and foreign language classrooms, wikis have played an essential role as an internet-based popular tool to deliver rich contents, constitute a quickly emerging and popular learning tool. It aims also to store several categories of language digital information (Choy & Ng, 2007; Godwin-Jones, 2003), exchanging knowledge, monitoring learners' performance and progress separately or collaboratively through a virtual classroom (Nicol et al., 2005).

From another perspective, wikis help promoting democratic participation (Schwartz et al., 2004) because it increases the number of users regarding to the affluent space of information. It equally empowers learners to improve their language skills (Thorne & Payne, 2005), because research on their efficiency is relatively new, wikis' efficacy in the language acquisition and learning processes remains an open question (Aydin, 2019).

8.5. Podcasts

After the appearance of computer technology, many dynamic approaches and tools have come to birth, and podcasts are one of them. The term podcast is a combination of the terms pod (i.e., from the Apple iPod) and broadcast (Oxford Advanced Learner's Dictionary, 2007). It represent audio or video files that are posted as series on the web and distributed via the assistance of a Rapid Simple Syndication feed (like the RSS feed) (Deal, 2007; King & Gura, 2007; Lafferty & Walch, 2006, Rosell-Aguilar, 2007, Huang, 2013). In plain words, it is a tool through which one can listen a record, music or watch a video on a particular topic at any time and place. A video podcast is also named Vodcasts or Podclips. It can last anything upwards of a few minutes to an hour or more (Dudeny & Hockly, 2014). Many types of podcasts are found on the Internet such as television podcasts, radio podcasts, classroom podcasts, and individual or group podcasts. Television podcasts, radio podcasts and classroom podcasts. Individual or

group podcasts are real podcasts designed for multiple purposes (Tan, 2013) such as English language podcasts, science podcasts, Religion podcasts...

In language classes, podcasts have also been involved as tools which offer learners of foreign languages dynamic models of tangible language and authentic materials (Thorne & Payne, 2005). This help students and teachers to exploit such a technology to improve the classroom learning through getting exposed straightway to the target language. Educational podcasts can be designed by students, as they can be produced by teachers who record their lectures, then publish them for students, who have missed their in-class courses, to listen or watch on their laptops, smartphones or an USB device, and optimize their self-learning by either listening to the podcasts online or downloading the podcasts for later use outside the classroom enable learners to review course materials at their convenience (Bamanger & Alhassan, 2015).

As cited in (Bamanger & Alhassah, 2015), a group of studies concluded the positive effect of podcasting on the students' positive attitudes towards learning through podcasts (Kavaliauskienė & Anusienė, 2009; Chan, Chi, Chin, & Lin, 2011; Fernandez, Simo, & Sallan, 2009; Lord, 2008; Kim & King, 2011; Evans, 2008; Heilesen, 2010).

Podcasts in EFL context was also considered as a useful device. In this line, Beheler (2007) claimed that teachers might implement podcast as an effective teaching tool by delivering podcast lectures to classroom websites and inviting their students to access the websites to expand their learning.

8.6. Discussion boards

Another asynchronous electronic tool which groups people from different regions at one place. It is deemed as strapping used tool to the progress of pedagogical activities. Recently these forums have integrated groups to communicate asynchronously (Hudson, 2014). these forums, which are in a form of folders containing messages on a particular subject or diferent subjects delivered by the forum users. They also contain threads of messages relating to a

particular question or topic. Each individual contribution to a conversation is called a conversationally called a message (Osborne, 2018)

8.7. Flipped the Classroom Approach (FTC)

It is nearly impossible to write about blended learning without mentioning flipped the classroom approach (FTC) which has recently attracted the attention of many educators in all disciplines. Many definitions have been provided about flipped classroom. As reported by Bishop and Verleger (2013) FTC is a student-centred learning method based on two parts with interactive learning activities during lesson, and individual teaching bases directly on computer out of lesson. In simple terms, Students engage with learning in two different ways: traditional face-to-face learning hold inside the classroom along with online learning outside the classroom. A more comprehensive description provided by Mull (2012), he defined it as a model that offers students the opportunity to prepare themselves for the lesson by watching videos, listening podcasts and reading articles.

From a lesson content perspectives. As quoted in Ozdamli and Asiksoy (2016), before a course in a flipped classroom, students maintain the theoretical part of lessons by means of multiple instructional materials such as online course presentations, LMSs, vodcasts as well as by discussions, collaborative activities and applications during classroom course. They can also take notes, and formulate questions of ambiguous parts of the received lessons (Milman, 2012; Kim, Kim, Khera, & Getman, 2014). From another perspective, the term 'Flip' represents an acronym where each word of it has a specific significance. "The letter 'F' for "F"lexible Environment: It indicates provision of time and place to achieve flexibility of learning. Second, the letter 'L' for "L"earning Culture: refers to the move from teacher-centred approach to student-centred approach. The letter 'I' for "I"ntentional Content: educators in a flipped classroom provide fluency develop appropriate cognitive understanding of students. Finally, the letter 'P' stands for "P"rofessional Educator refers to the responsibility of flipped classroom

educators where they are continuously observing their students' performance during the course, assessing their studies and providing feedbacks. Their responsibility is more than those who follow a traditional approach. Flipped classroom educators continuously observe students during the course, evaluate their studies and make feedbacks (Flipped Learning Network -FLN, 2014).

A large number of instructors assume that an FTC approach has a positive impact on learning quality based on a number of empirical studies about the effects of FTC in different domains. In this line, the scholars Toto and Nguyen 2009, Akçayır and Akçayır, 2018; Lo et al., 2017) proved that FTC strengthens active learning activities, and provides chances for students to employ their knowledge in the classroom with teacher help and guidance. Concerning students' activity, Chi and Wylie (2014) supposed that students can achieve more profound understanding of the learning material as they become more engaged in the flipped classroom. Moreover, students are better able to enhance their academic achievement, and realize higher learning outcomes as there is additional classroom time available for learning activities that fosters active, constructive, and interactive engagement modes of the learner.

By comparison, the majority of the time spent in a traditional classroom is devoted to activities namely lectures which are presented in an absolutely passive mode of engagement (Fulton, 2012 ; Bergmann & Wadell, 2012; David et, al. 2019). Another attraction of flipped classrooms is for language learning environment where teachers can make their own online videos or just ask students to watch beforehand designed videos on YouTube, then elucidate and demonstrate how do different items of the taught language operate. Alternatively stated, the students use online instructional equipment outside the classroom to prepare, study and revise any language items which will be later discussed with the teacher inside the traditional classroom. With regard to classroom collaborative work, Milman (2012) confirmed that FTC approach supports team working with class.

Although there are many studies that demonstrate the positive side of the FTC approach, they exist also other research works that adopt negative attitudes. Following an FTC approach may decrease students' motivation because they find it hard to prepare courses outside the classroom (Herreid & Schiller, 2013). In terms of internet accessibility, which is an essential component of this approach, is not always achievable for all students. Kordyban and Kinash (2013) corroborated that the lack of learning equipment such as smart phones, computers, tablets or even having internet troubles prevents the application of the approach.

9. Advantages and Challenges of Asynchronous E-learning

A famous Dutch proverb says “everything has two sides”, it points out that all things or ideas in this world can be seen from more than one angle but not necessarily positive or negative. The same case is for Asynchronous e-learning, it has been studied by many scholars over years, and it is noticed that there are many proponents who support this program through presenting its benefits. According to Goodwin University website (2020), recent research in the field of education shows that more than 75 percent of academic leaders feel that online education is equal or superior to traditional learning. Almost 70 percent of chief academic officers believe online learning is a critical component of long-term educational strategies. Notwithstanding, there are also others who disfavour it and unwrap the different challenges and drawbacks that face its users while diverse works have summarized both its advantages and disadvantages.

9.1. Advantages of Asynchronous E-learning

Many researchers like (Bennett, 2020; Elkins & Pinder 2015; Hrastinski, 2008; Johnoson, 2006; Lin, Hong & Lawrenz, 2012; Murphy, Rodríguez-Manzanares & Barbour, 2011; Piccoli et al. 2001; Prveen, 2016; Stevenson, 2021) draw the educators' attention to the bright side of asynchronous e-learning. In the following, a summary list of their studies' findings:

➤ The anywhere feature

This option allows students from all the world to learn together no matter how far they live. Furthermore, AEL breaks the rules of a formal class setting and meeting, so that students can receive learning at any place.

➤ **The anytime feature**

In conventional classrooms, the limited time hinders much of the learning and teaching tasks; however, time is more flexible in AEL environments. In other words learners are not time bound but they have chances to take their time thinking of the questions and even give delayed responses because teachers in such environments don't expect an instant answer.

➤ **Delivered on demand**

Once a course has been prepared, the poster can share it whenever required, learners then can check it as early as they need it rather than waiting until the next time the course is offered.

➤ **Timing for instruction access is independent of access delivery**

Because the time constraints for learners in asynchronous e-learning environments are therefore removed (Piccoli et al, 2009), learners have more freedom to study when it best fits their schedule. This indicates that when the teacher posts courses, assignments or other resources, learners are not obliged to check them immediately. They can access afterwards and as often as desired because these resources can be stored and archived.

➤ **Flexible interaction**

Teachers and students interaction differs from one learning environment to another. Due to its rich and inclusive modes of interchange, AEL leads to students' satisfaction through facilitating communication among distributed participants. Hence, more opportunities of discussions with peer groups help build critical thinking and deep learning (Huang & Hsiao, 2012).

➤ **Resources Availability**

The availability of a vast amount of information on the web has provided access to all types of learning materials (Wikramanayake, 2003). Therefore, asynchronous e-learning facilitates the learning process through collecting and sharing knowledge.

➤ **Promoting a learner-centred approach**

Instead of putting all the responsibility on the teacher, AEL has the potential to provide far greater personalization of instruction and a much higher degree of learner control than traditional learning while teachers represent the guiders and facilitators.

➤ **Self-paced**

In online learning, all courses and classroom activities take place virtually. As a consequence, students are able to learn at their own pace, especially slow learners who will feel freer to study through a long period of time and without a requirement for immediate intervention by their teacher.

➤ **Scalability**

AEL's programs help institutions with large members to repeat training courses several times effortlessly; i.e., there is no significant difference whether a teacher trains a team of ten learners or thousands of learners because the content is effective to the same extent in both teams.

➤ **Scaffolding / Reinforce Learning:**

Referring to asynchronous e-learning benefits, Lin, Hong & Lawrenz (2012) stated “ It can scaffold students' previous knowledge with new concepts.” That is to say AEL courses can also be used to strengthen learning activities because students can go back and check the posted lessons many times as well as using discussion boards to ask questions and receive answers besides to videos and photos which can be stored to be reviewed later.

➤ **Affordability**

From a budget standpoint, AEL seems to be less expensive for many users compared to other e-learning types because it saves their money of traveling, buying school supplies, books and hand-outs and many other materials.

➤ **Tracking capabilities**

The potential of making an archive of past learning materials accessible leads AEL users able to review the course materials, re-watch recorded sessions and the test scores constantly. They can equally recheck threads in panel discussions long after they have taken place.

Teachers can equally track their students' access to the platform, documents and discussion forums and see what activities they have accomplished.

➤ **Unlimited Simultaneous Users**

Where traditional learning allows a limited number of students to participate per session, AEL offers the opportunity to unlimited number of learners from different locations to get valuable information at the same time.

➤ **Increased cognitive engagement**

“Cognitive engagement is conceptualized in the learning and instruction literature as the psychological investment students make towards learning” (Barlow et al., 2020). In other words, since students will spend more time to engage with the course material, their cognitive engagement will be highly increased.

➤ **Universal access**

Since AEL opens the doors for students to study from any place where they have a stable internet access, learning process becomes easier for those who live in different time zones and also organize their time more effectively (Panduranga & Arishi, 2018).

9.2. Disadvantages of Asynchronous E-learning

Each mode of learning has its own advantages and disadvantages. Despite the big number of research works that throw light on the flawless face of asynchronous e-learning, it still

remains some deficiencies that let this mode under-utilized. Some of them are reported in the coming lines.

➤ **Development time and cost**

The smooth and the rapid operations of accessing, posting and sharing an asynchronous e-learning coursework pretend to be an easy task but the preparation and the development of such a course take much more efforts, time and money comparing to face-to-face courses which are easily built.

Technological pedagogical content design is a time taking process, as it needs a deep understanding of the relationship between content, pedagogy, technology and the context where it would be operational (Koehler, Mishra & Yahya, 2007).

➤ **Lack of collaboration**

Working in teams is an important factor for an effective learning. Despite the possibility to interact with teachers and students from different locations and cultures in the world, working collaboratively is less than in traditional classrooms. Furthermore, students may feel isolated and less satisfied without the real social interaction between their teachers and fellows. In a psychological view, when students find a group of supporters around who will encourage them stay focused on their goals and succeed (Walburg, 2018).

➤ **Computer literacy**

In order to cope with today's world, it becomes necessary for students and teachers to develop computer skills. This makes them able to manage much of the asynchronous e-learning operations without difficulties. Thus, an unskilled user of computer may find AEL more complex and challenging.

➤ **Computer and Internet availability**

Implementing an AEL program in an educational institution requires a sort of technological equipment which is basic for getting started such as computers an internet connection as a source of knowledge. Unfortunately, many education centres are not able to supply them.

➤ **Device computability**

Computers and internet are sometimes not the only equipment required for a course. When designing this particular type of courses, the teacher decides on what materials are necessary depending on the course content and the target learners' needs. As quoted by Johns (1991) "the first step in designing any language course is students' needs analysis" to achieve a fruitful learning task.

➤ **Unanswered questions**

Because of the unreal interaction between teachers and their students, the probability of leaving questions in a discussion forum, emails or even assignments without answers is high because students feel less controlled being hidden behind their computers' or mobiles' screen. On this detail, Er et al. (2009) proves that students learning on an online platform have the opportunity to perform freely without judgment or interruptions. Against this background, a traditional classroom setup opens more chances to learners to have an in-person conversation with their peers or teachers to better understanding something they have learned or been wondering about (Walburg, 2018).

➤ **Lower energy and excitement**

It is true that technology succeeds to make people at ease but sometimes it turns to be a negative means when letting its users less active and less sociable. To his end, McInnerney and Roberts (2004) highlight one significant shortcoming of online education in which asynchronous e-learning is a part. The authors state the following: "*Online education has one deficiency when compared to traditional in that it does not have face-to-face interaction and*

thus this leads to the creation of isolation in the minds students of participating in an environment where they will be less than successful”.

➤ **Misunderstanding**

Online lessons and instructions may be misunderstood or misconstrued without the real-time interaction because effective communication is a process of exchanging ideas, thoughts, knowledge and information in such a way as to fulfil the purpose or intent in the best possible way. In other terms, it is nothing more than the sender’s expression of views in a way that the recipient understands best (Alawamleh, 2020) because the instructor cannot see the student’s satisfaction, frown, or even hear the question in his/her voice.

➤ **Lack of control mechanism**

Given the fact that AEL allows students to study anywhere, the possibility of using proxy, in assessment tests and scope for plagiarism is high. Hence, it would be difficult to control or regulate such activities (Panduranga & Arishi, 2018, p.12).

10. Pedagogical Framework of Asynchronous E-learning

10.1. Understanding Views of Knowledge

With the rise of the digital age, educators have started addressing questions of whether the new technologies affect the nature of knowledge and change the way through which it is addressed. As more instructors have become involved in online learning, they have realised that much that have traditionally been done in class can be done equally well or better online.

As a result, instructors have been gradually introducing more online study elements into their classroom teaching (Bates, 2015). Unlike traditional learning which is based on classroom lecturing (books, academic papers, and so on), instructors in AEL tend to code their lessons, notes and assignments in the form of slides (PPT), or full texts through Words or PDFs. They may also submit relevant links to online videos, podcasts audio, animations, graphics or readings for further explanation to the taught lessons. Moreover, to keep contacted, teachers

and students establish common online forums for mutual interactions to discuss different topics intending to improve specific skills. As cited in Bates (2015), *'Castells says that...knowledge is not an object but a series of networks and flows...the new knowledge is a process not a product...it is produced not in the minds of individuals but in the interactions between people.....'* (Castelle,2000, p. 60). In the same context, Lyotard (1984), traditional methods of representing are becoming less important, and the role of traditional academics or experts are undergoing major change'.

In terms of quantity and pace, AEL expands tremendously the speed and the range of the information recorded and transmitted to learners. In addition to the unlimited number of sources where information is extracted, it is easier to learners to view, reproduce and duplicate the presented knowledge in any place and at their own time being verified, and checked

10.2. Learning Processes

Learning Process represents the activities carried out by students to achieve educational objectives. They are conducted individually although this takes place in a cultural and social context, in which students combine their new knowledge with their previous cognitive structures. (Monclús-Guitart et al., 2009; Torres-Coronas & Vidal-Blasco, 2011).

Few years later, another definition elaborated by Chalil (2014) who focused on the aim and the effect of learning process and quoted the following: "A process that people pass through to acquire new knowledge and skills and ultimately influence their attitudes, decisions and actions. Furthermore, Schoper and Wagner (2015) considered a learning process as a completion of the learning cycle that includes active testing, concrete experiences, reflective observation, and abstract hypothesis.

In a psychological view, the term was deemed as an operation consists of several mental processes and which makes the change of one's behaviour possible (Yamaguchi, Tamai & takadama, 2018).

As technology keeps developing, online education is emerging as a viable alternative to the learning that is occurring in traditional learning environments (Wright, 2015). This claims that the quality of learning besides to the knowledge being provided and the techniques and the strategies applied are changing the way the learning process go through from one learning setting to another in terms of: (1) The way knowledge is delivered and transmitted, (2) the nature and the source of the input, (3) the sender and the receiver's positions (teachers and learners), (4) the learning materials required, and (5) assessment of learners tests and performance (Wikramanake, 2003; Hedge, 2014).

AEL proponents like Taplin, Kerr and Brown (2013) assert that an asynchronous e-learning process calls for improving instruction, establishing flexibility in learners' reach to instruction, and reducing the costs of instruction.

Conversely, other learners crave the traditional classroom experience, which might involve less developed technologies than the digital classroom simply because they enjoy meeting with their instructors and classmates in person, or perform better in a face-to-face setting. The riddle posed then is whether it is preferable for educators to follow a virtual or a traditional classroom. To answer such a question, researchers call for a deep analysis of how learning is taking place and which mode best fits learners' needs.

10.3. Role of the Student

Much of contemporary discussions about learning theories has shown an emphasis on the role of learners as major point of any learning process which has become popular among the educators (shahabadi & Uplane, 2014). Researchers believe that taking into account the position of the learner in a learning environment is one of the causes to meet most of the learners' diverse requirements because no two learners are completely alike. Each brings a unique mix of learning styles to the classroom which call for specific nedds (Lewis, 2013, p. 130)

In an asynchronous e-learning setup, Individual learners take benefits of having a greater degree of control over their pace of learning, managing time, gaining a considerable amount of knowledge, communicating with their teachers through email and discussion groups ,and also practising much of other learning activities. These tasks can be accessible through ICT tools, such as wikis, blogs, and podcasts for project work, digital portfolios, emails and text messaging either inside or outside the classroom. Shahabadi and Uplane again asserted that these tools play a significant role in humanizing online courses by replicating and optimizing the classroom experience of information exchange and social construct, not just between learners and instructors but among the learners as well (p. 131). Generally, student responsibilities in an AEL course or any other online courses seem similar to those confronted in face-to-face classroom with some differences which characterize the nature of the online environment. To cope this last, researchers like Dudeney and Hockly (2014) insisted that learners should take computer training courses to get prepared and equipped for such courses.

10.4. Role of the Teacher

For most learning modes the teacher occupies an important position but the dispute that researchers raise is assessing to what extent this importance is increased or decreased. In direct teaching, instructors moderate and manage the process of learning by providing knowledge through a regular standard curriculum. In this regard, Novak (2003) and Lulat (2005) confirmed that traditional learning starts from the idea of total control of the teacher over students in the way a curricular content is taught (as cited by La Puente, 2018). La Puente continues to explain that teachers in such setup deal with their students as “empty holes” in knowledge and only through their teachings the “holes” can be “filled”. John Harrison describes the e-teacher as an expert learner who can help students solve problems and find answers to their questions but also not expected to know all the answers (as cited in Pushpanathan, p.2).

Therefore, an online teacher needs to play the role of the facilitator who paves the way for students to learn under convenient circumstances. More specifically, Berge (1995) identifies four main key-areas where an e-teacher takes part:

- Pedagogical area: the online teacher facilitates the process of teaching and learning through providing learning goals, posting courses and assignments, leading discussions and team works, stimulating and reinforcing the learners' engagement and contributions.
- Social area: the online environment often uses discussions to foster deep learning and to form a community of inquirers (Wright, 2015). The role of the teacher then is to ease the departure of these discussions and ensure their progress in the appropriate way in order to determine when to support or contradict their discourse. Additionally, the teacher is expected also to harmonize seamlessly the learning community by managing the discussion sessions and keeping students dialled-in and on track.
- Management area: Similar to teacher's responsibilities in a traditional classroom, the e-teacher is asked also to plan, deliver lessons, draw instructions and determine objectives for each course. Within this role, the teacher manage all the course elements and divide it into chunks to make it understandable by everyone.
- Technical area: focusing on the course content and the learners' requirements, the e-teacher decides on the different technology devices that should be implemented.

Introduction

Teaching and learning grammar in EFL classrooms have been and still are an open issue to debate for centuries regarding to the various disputes raised in the field. Some linguists consider it as a pillar of learning the English language and the syllabus design while others remain indifferent to it. Accordingly, researchers are constantly making efforts to improve the quality of teaching English for non-natives by focusing on making amendments in teaching grammar methods to make them easier and more effective. In this situation, the position of grammar has changed from one approach to another. For instance, before the advent of communicative language teaching, grammar had a central place in teaching methods reliant on a structural syllabus (Ellis, 2008). However, explicit grammar instruction in language teaching has been downplayed after the communicative era (As cited in Azad 2013, p.213). Of the many issues surrounding the teaching of grammar, perhaps the most controversial is whether to teach it directly, indirectly or ignore it at all.

This chapter comprises an overview of what grammar is, in addition to a detailed review of the history background of major developments in the research on the teaching of grammar over the past few decade. It also includes a discussion of arguments for and against the value of teaching grammar in EFL and ESL contexts. The relation between grammar and other aspects of language.

1. Definitions of Grammar

The notion of “grammar “has been varyingly and controversially defined (Hartwell, 1985). According to an online dictionary named “Dictionary.com” grammar is defined as the study of the way the sentences of a language are constructed; including two main aspects: morphology and syntax. Another definition extracted from two separated editions of Merriam-Webster’s New International Dictionary (1971 and 1986), indicates that “grammar is a branch of linguistic studies that deals with classes of words, their inflections or other means of indicating relation

to each other, functions and relations in the sentence...”. In 2001 Richards and Theodore referred to grammar as books that contain descriptions of the structure of a language or to the knowledge that a native speaker has of his or her language, and also to the descriptions of that knowledge. Hilles and Murcia (2019) consider language as a type of rule-governed behaviour. Grammar, then, is a subset of those rules which govern the configuration that the morphology and syntax of a language assume appropriate. It can also be used to refer to a set of rules developed to control certain aspects of the usage of native speakers. In addition, it can refer to a set of rules typically taught in school about “appropriate usage” and about writing.

Grammar is the structural foundation of our ability to express ourselves. The more we are aware of how it works, the more we can monitor the meaning and effectiveness of the way others and we use language. It can help foster precision, detect ambiguity, and exploit the richness of expression available in English. And it can help everyone—not only teachers of English, but also teachers of anything, for all teaching is ultimately a matter of getting to grips with meaning (Hilles & Murcia, 2019, p.26). Batston conceived of grammar as “a set of categories and forms which help the language user to see it as structured and systematic...or a source which language users exploit as they navigate their way through discourse” (as cited in Bouras, 2006, p. 22). According to this definition, grammar is not a set of rules that students can master easily. They need to practice the language regularly, and teachers should use many approaches to present and explain it. Williams (n.d.) suggests a brief definition with the statement that “Grammar deals with the structure and analysis of sentences”.

Different experts have explained the term grammar differently. Harmer (2012) introduces grammar as the description of the ways in which words can change their forms and can be combined into sentences in the language. Also, Lado (1977) clarifies that grammar is the study of rules that are claimed to tell the students what should and should not say in order to speak language of the social educated class.

In other works, grammar is described as the study of classes of words, their inflections, and relations in the sentence of in the sentence of language. Grammar is partly the study of what forms (or structures) are possible in a language. Traditionally, grammar has been concerned almost exclusively with analysis at the level of the sentence. Thus it is a description of the rules that govern how a language's sentences are formed. So, grammar attempts to explain why a sentence is acceptable and the other is not. That is grammatically well-formed.

Grammar is conventionally seen as the study of the syntax and morphology of sentences. Put another way, it is the study of linguistic chains and slots. It means studying both of the way words are chained together in a particular order, and also of what kinds of words can slot into any one link in the chain (Thornbury, 2015). In the same line, Gerrot and Wignell (1995) said that Grammar is a theory of language of how language is organized and how it works.

Most of the above-mentioned definitions agreed that linguistically speaking, grammar concerns the study of wordings that is realized and expressed through sound of letters. Theories of language or grammar are not inherently good or bad, right or wrong, true or false. Rather, grammars are validated by their usefulness in describing and explaining the phenomenon called language.

2. Grammar and Forms

The grammatical structure of language comprises two major sections: morphology and syntax. The two areas are obviously interdependent and together they constitute the study of grammar.

2.1.Morphology

Morphology is simply the study of forms and shapes. There are two basic divisions in morphology: lexical morphology (word formation), and inflectional morphology (grammar, conjugation/declination), concerned with the endings put on words, and derivational which involves the formation of new words in linguistics.

Morphology has to do with how words are shaped, and how the shapes of words may be systematically adjusted in order to accomplish communicative tasks. You can also think of morphology as the study of how meaningful units combine to shape words (Thomas, 2015). In other words, morphology is the way linguists analyse the root, stem, prefix and suffix basis of words. It looks at the internal working of a word.

2.2.Syntax

Syntax, on the other hand, is how words are combined together, and developed to form sentences (Thomas, 2015). It is concerned with the possible arrangements of words in a language. The basic unit is the sentence which minimally consists of a main clause (containing at least a subject and predicate).

Nouns and verbs are the major categories of the sentence and can be combined with various others, such as (adjectives, adverbs, prepositions, conjunctions, etc.) to form more complex sentences. Syntax observes sentences and how words perform in a sentence. It looks also at the rules and process of building a sentence and it considers the word order and structure of a sentence. The meaning of a sentence in any language depends on the syntax and order of the words (Wither, 2019)

3. Grammar as Meaning

The major aim of language users is to express their thoughts, wishes, feelings using language, and beyond that all, provide a well-developed means of encoding and transmitting complex and subtle ideas through communicating between each other. The language situates many other things that make our messages merely a recital of facts but a complex of facts and comments (Bolinger 1997). In this regard, linguists demonstrate that meaning of a language can change from one situation to another when the same vocabulary is used with different grammar items (Hedge, 2014).

Accordingly, the consideration of grammar as meaning influences the structure of sentence in which grammatical forms are presented. The sentence, on the other side ,is just a jumbled pile of words until grammar rules are applied.

4. Grammar and Pragmatics

While grammar is responsible for what we express explicitly, pragmatics explains how we infer additional meanings (Ariel ,2008). In other words, someone’s discourse can be analysed in a surface dimension (the form) in addition to the deep dimension (the meaning in a social context). In the same line, Ur (2014) assumes that some grammatical constructions have fairly simple forms, but rather complex meaning that may have no parallel in the student’s L1 and need careful explanation and lots of examples. In this situation, the complex relationship between grammar and pragmatics, that is, between codes and inferences involved in human communication. The relationship is not one-dimensional. It has a few facets, and each one of them needs to be examined (Ariel, 2008, p.2). Linguists distinguish also between semantics as a part of grammar which focuses on the meaning of words within and out of sentences while pragmatics studies the same words and meanings but with attention to their surrounding context. Thornbury (2016) suggests that learners need to learn not only what forms of language are possible, but what particular form will express their particular meanings.

5. Grammar and Discourse

Language can go beyond the level of a sentence and examines at larger stretches of a language. The combination of sentences can produce texts in a written form, or speech in vocal communications. As grammar can control the structure of a sentence, it can also operate across its boundaries. This is what is known as “Discourse Grammar” (DG).

As reported by Harmer (2014, p. 241), an effective way of explaining grammar is to let the students see the grammar being used in context. When they see language in reading texts, for example; students get a good ideas of how it functions in connected discourse. This is to say

that grammar makes clear for students how sentences can be combined in written texts and how utterances link in speech (Hedge, 2014).

Leech and Svartvik in 1975 published a book entitled “A Communicative Grammar of English” in which they devoted a whole section of “Meaning and Connected Discourse” in explaining full detail how grammar goes across the meaning of discourse in spoken and written forms. As stated in Hedge (2014, p. 154) there are six elements that make the connection between grammar, meaning and discourse:

- **Linking Signals:** When communicating in writing or in speech, the senders should make their language understandable by signalling how one idea leads on from another.
Example: we use the words: *For example* and *For instance* to give an illustration while we use expressions like *that is* , *that is to say* and *which means* to clarify or expand an idea mentioned before.
- **Linking Constructions:** They cover the conjunctions used to link two clauses, sentences, phrases or more together.
Example: ‘*However*’ is used to link two clauses in which one is the opposite or the contrast of the other while ‘*For*’ is a coordinating conjunction used to explain a reason or a purpose of the clause that precedes it.
- **General purpose links:** This type of connectors includes phrases (verbless clauses).
Example: *Being an online learning mode*, asynchronous e-learning provides e-courses for students. The first part is a gerund phrase linked to the rest of the sentence by using the gerund ‘being’.
- **Substitution and Omission:** When building a discourse, the language user sometimes omits some words or phrases and substitutes them with pronouns to avoid repetition and flabby expressions.

Example: Many e-learning platforms are offering gratis access to the courses of the e-learning platforms.

We write instead: Many e-learning platforms are offering gratis access to their courses. The repeated expression '*the e-learning platforms*' is replaced by the possessive adjective '*their*'.

- **Presenting and focusing information:** The focus of information is when the speaker draws the audience's attention to a particular part of the message that he/she wants to address.

Example: Researchers do *not only* need to investigate the reason behind the failure of students in grammar, *but further* need to suggest solutions to *this* problem.

The words written in italics are used to focus on what comes after them and to mark its importance.

- **Order and emphasis:** In the English language, it is possible to reorder words in a sentence so that the presentation of information differs in terms of intended emphasis from one situation to another. The message needs to be cut up into individual pieces of information. Then, the ideas have to be given the right emphasis according to the speaker's intention, and finally the ideas have to be put in the right order. (May English Club.com, n.d.)

Example: : He says: "Asynchronous e-learning has not been yet adopted by Algerian." universities. In the example above, the speaker uses a passive sentence because he wants to emphasize on Algerian universities rather than the adoption of asynchronous e-learning.

(The examples above are adapted from Hedge 2014: 154-155)

6. Grammar and Style

Style refers to consistent and rather enduring tendencies or preferences within an individual (Brown, 2007). It appears in one's speech or writing and includes word choices, sentence structures, and paragraph structures. In the same line, Brown added that "styles are not social or regional dialects, but sets of conventions for selecting words, phrases, discourse and nonverbal language in specific context" (Brown, 2007, p.235). Linguists claim that grammar refers to what a writer does (language system), style refers to how a writer does it 'Language use' (Kile, 2016). Therefore, style is as much a matter of lexis as of grammar (Hedge 2014: 157). That is to say style concerns what is appropriate and inappropriate in a language usage. For a more explanation of the relationship between grammar and language style, Hedge (2014) stated in his book entitled "Teaching and Learning in the Language Classroom" that Leech and Svartvik 1975: 11) argue the followin

"Where English gives us a choice of grammatical structures for a particular purpose, the different grammatical structures available are often not equivalent, since they belong to different 'styles' or 'verities'. We believe that the appropriate choice is as important as it is difficult".

Hence, grammar and style complete each other in a way that style determines what grammar rules should be applied in the message while grammar figures its style. This helps the sender and the audience achieve an intelligible communication.

Example:

- Gimme that that book! (informal style)
- Would you please give me that book! (formal style)

7. Varieties of Grammar

Linguists categorize different types of grammar based on diverse theories of language. These types are classified in terms of the way grammar structures and functions are described and analysed.

7.1. Comparative Grammar

Comparative grammar, known also as comparative philology, is the branch of linguistics that appeared in the 19th century in Europe and stimulated by the study of Sir William Jones that Sanskrit was related to Latin, Greek, and German. It analyses the relationship and comparison between two or more language, grammatical structures of related languages or dialects. It is also used to discover whether the studied languages have a common ancestor (Chopra, 2011)

Nordquist (2020) compared between comparative the grammar works in the past and the present time. He argued that during the 19th century, grammar attempted to explain the relationship between languages in terms of a common origin, the works often focused on a hypothesis for which there was no actual evidence in the historical record. In contrast, comparative grammar studies nowadays have an ample scope. Grammar is concerned as a basis theory on which research focuses on solving many linguistic issues and giving extensive explanation of how a human being can acquire a first language or any other languages s/he may exposed to (Freidin, 1991. As cited in Nordquist, 2020)

7.2. Generative Grammar (GG)

Generative grammar is a theory of grammar established by the linguist Noam Chomsky in 1950's which is noted independently over a century earlier by the great German linguist Wilhelm von Humboldt (Waswo, 1979). According to Chomsky and his supporters, the theory holds that human language is shaped by a set of basic principles and abilities of producing language that are shared between all human brains. These principles exist right before

knowledge of any particular language develops, and this knowledge is hardwired, having a biological foundation (Yu, 2017).

In a psychological view, psycholinguists state that GG represents sentences which are generated by a subconscious set of procedures (like computer programs). These procedures are part of our minds (or of our cognitive abilities). This is to say that all humans are born with an innate capacity for producing any language and that this capacity determines the rules for what is considered “correct” grammar in that language. (Generative Grammar, n.d.) In a more detailed description of the term, Nordquist (2020) quoted Parker and Riley’s definition of generative grammar as follows:

“Simply put, a generative grammar is a theory of competence: a model of the psychological system of unconscious knowledge that underlies a speaker’s ability to produce and interpret utterances in a language ... A good way of trying to understand [Noam] Chomsky’s point is to think of a generative grammar as essentially a definition of competence: a set of criteria that linguistic structures must meet to be judged acceptable,” (Parker and Riley 2009).

7.3. Mental Grammar

Prior to the early 20th century and previous to Chomsky’s insights, it was not really explained how humans acquire language or what exactly in brains makes us different from animals, which do not use and develop language as we do (Nordquist, 2020). At that time, philosophers, like Descartes, believed that humans construct language by reason or rational which really does not explain thoroughly the process go on. Centuries later, Chomsky blew up his theory of linguistic competence where he compared between competence and performance. Mental grammar is one aspect of what Chomsky refers to as competence. While competence is one’s underlying knowledge of a system, event or facts (Brown, 2007), mental grammar is the

knowledge of grammar rules stored in the human brain that allows a language user to understand and produce correct utterances. One argument for this theory is that the expressive variety of language use implies that a language user's brain contains unconscious grammatical principles (Bautista, n.d.). This may appear in babies' language who do not receive any grammar instructions on how to build sentences but they are able to learn their first language easily from their environment (Oxford Univ. Press, 2003)

7.4. Performance Grammar (PG)

Performance Grammar (PG) is a psycholinguistically motivated grammar formalism. It aims to describe and explain intuitive judgments and other data concerning the well formedness of sentences of a language (Kempen & Harbuschy, 2002). Its definition is simply stated by John Carroll in 1985 as "a description of the syntax of language as it is actually used by speakers in dialogues". The writer added "Performance grammar centres attention on language production; it is my belief that the problem of production must be dealt with before problems of reception and comprehension can properly be investigated".

7.5. Theoretical Grammar

According to Antoinette Renouf and Andrew Kehoe (2003): "Theoretical grammar is concerned with making completely explicit the formalisms of grammar, and in providing scientific arguments or explanations in favour of one account of grammar rather than another, in terms of a general theory of human language". In simple words, theoretical grammar is the presentation, description and analysis of all language grammar data without giving instructions or practice. Unlike theoretical grammar, practical grammar is the description of grammar rules that are necessary to understand and formulate sentences. The purpose of theoretical grammar is to give students a deeper insight into the mechanism, processes and tendencies in the grammatical structure of the language (Burdina, 2013, 18).

Theoretical grammar is linked to other branches of linguistics like phonology, lexicology and grammar. This connection leads to changes in the description of these disciplines (Burdina, 2013). Burdina gave many examples of how the relation between theoretical grammar and the other fields function.

- **With phonology:** one example is the fact that a change in a word stress (stress placement) determines the part of speech of that word.

Examples: PREsent /'prezənt/ (Noun / Adjective) → preSENT /pri'zɛnt/ (Verb)

Addict /'ædɪkt/ (Noun) → aDDICT /ə'dɪkt/ (Verb)

A change in intonation may also change the type of the sentence.

Example: We move tomorrow to Algiers. (Declarative sentence)

We move tomorrow to Algiers?! (Exclamation sentence)

- **With Lexicology:** Lexicology concerns vocabulary and word meaning. In this regard, the meaning of a word may affect the type of the predicate in a sentence (Burdina, 2013, p. 18).

Example: Technology *affects* the process of learning. (Verbal sentence)

The *effect* of technology on the process of learning. (Nominal sentence)

- **With Grammar:** Theoretical grammar has a strong relation to grammar because all what is studied in the first is applied in the second. Again in traditional grammar, rules are just described but in grammar they are prescribed.

Examples: To form the plural we add an 's' at the end of the singular noun. (Theoretical grammar)

Computer (singular) → computers } (practical grammar)
 Speaker (singular) → speakers }

7.6. Transformational Grammar (TG)

The idea of transformational grammar was first discussed by the American scholar Zellig Harris who was the teacher of Noam Chomsky. He suggested TG as a means of expanding his method of descriptive analysis to cross sentence boundaries (Britanica, 2021). The rules of transformational grammar are stated in terms of symbols and techniques that have been borrowed from logic and mathematics (Borstein, 1984). Chomsky was influenced by the work of his teacher; however, he criticized structural linguistics because he thought it was going in the wrong direction in terms of its assumptions and methods (1984, p20-21)

Transformationalists believe that the proper object of linguistic study is the knowledge that native speakers' process, which enables them to produce and understand an infinite number of sentences. TG assigns a "deep structure" and a "surface structure" to show the relationship between these sentences (Prommeet, 2009). Moreover, the perception of structure enables the speaker to detect paraphrases, that is to tell whether the transformed sentences have the same meaning or not.

Examples: The three sentences below share the same deep structure where they express the president's activity in different surface structures.

- The president will address a speech this evening.
- A speech will be addressed by the president this evening.
- This evening, the president will address a speech.

7.7. Universal Grammar

The universal grammar theory is a famous theory credited to the linguist Noam Chomsky who considers it as "the system of principle, conditions, and rules that are elements or properties of all human languages, it is the essence of human language" "the scientific theory of the genetic component of the language faculty" (Robert, 2017). In plain words, UG represents the ability to learn grammar is built an encoded into the human's brain from birth (innate) no matter which language is going to be acquired. Proponents of this theory argument that all children of the

world, at their early times of speaking, are not exposed to enough linguistic information to learn the rules of grammar; however, they become efficient at understanding and producing a countless number of language sentences and expressions.

8. Grammar Approaches Focus

Grammar instruction can hold many forms and be carried out with different approaches. There may be no single best approach to grammar teaching that would apply in all situations to the diverse types of learners a teacher can encounter. However teachers can move from one approach to another or blend some of them to achieve the effective way to present the grammar courses. Being familiar with the pros and cons of each approach allows teachers to select the most appropriate one for each situation.

8.1. Operational Vs. Analytic Grammar

Further distinctions concerning what grammar is cover the variation between operational and analytic grammar. The first refers to the ability that language users have to operate the rules of grammar whenever they speak or write even if they never studied any grammar (Greenbaum, 2002).

Example: (1) Yesterday, Adam read the advertisement in the newspaper.

(2) Yesterday, Adam the advertisement read the newspaper in.

In accordance with Greenbaum's elucidation, a learner of English can easily recognize that sentence (1) is a possible English sentence whereas sentence (2) is not.

On the contrary, analytic grammar, which is mainly the systematic analysis of a language, requires studying grammar. It is then, the explicit knowledge of the grammatical rules applied to operate the used language (Greenbaum, 2002)

8.2. Formal Vs. functional

Grammarians distinguish also between formal and functional grammar. In this regard, Gerrot and Wignell (1995) argued that formal grammar is used to describe the structure of

individual sentences. This type sets language as a set of rules which allow or disallow certain sentence structure. Where Lock (1996) noted that it is “a set of rules which specify all the possible grammatical structures of the language”, the American scholar Noam Chomsky introduced also formal grammar as the one that represents a means for the strict description of natural languages. From this perspective, the focus of formal grammar is more on the structure of the different grammatical chains in a given language, and their relationship between each other rather than their semantic or pragmatic meaning. Functional grammar however, emphasises to describe language in actual use and so focus on texts and their contexts. This type sets a language as a resource for making meaning Formal grammar “considers language primarily as a system of communication and analyses grammar to discover how it is organized to allow speakers and writers to make and exchange meanings” (Gerrot and Wignell, 1995). It focuses on “the appropriateness of a form for a particular communicative purpose in a particular context”. Such an approach is concerned with “the functions of structures and their constituents and with their meanings in context” (Lock).

The difference between formal and functional approaches can be simply illustrated in the table below by Butt et al. (1995)

Table 05

Difference between Formal and Functional Grammar

Types of differences	Formal Grammar	Functional Grammar
Primary concern	How is / should this sentence be structured?	How are the meanings of this text realized?
Unit of Analysis	sentences	The whole text
Language level of concern	syntax	semantics
Language	is something we know as a set of rules for sentence construction	Is something we do as a resource for making meaning

8.3. Pedagogical Grammar vs. Linguistic Grammar

Pedagogical Grammar is used to denote the description of how to use grammar of a language to communicate for people wanting to learn the target language. Pedagogic grammars establish assumptions about learners' way of learning, follow certain linguistic theories in their descriptions which are written for a specific target audience (Swan, 2010). Pedagogical grammar is commonly used to indicate: pedagogical process- the explicit treatment of elements of the target language systems as (part of) language teaching methodology; and pedagogical content-reference sources that is one kind or another that present information about the target language system.

Pedagogical grammar is also viewed as the version of grammar that seeks to find, frame, and describe criteria for language education and rules of language use. It helps to identify optimal ways for teaching and learning L2 language in a classroom (Ellis, 2006, Westney, 1994). On the same note, Thornbury (2016) describes it as the grammar rules that make sense to learners while at the same time providing them with the means and confidence to generate language with a reasonable chance of success. Thus, teachers must cater for the learners' needs rather than those of the grammarians.

On the flip side, linguistic grammar concerns the descriptions and the theories of language forms. In this regard, Harmer (2001) considers that linguistic rules "may attempt to describe everything there is" whereas pedagogic grammars are "designed specifically to be of help to teachers and students of the language who need, as far as possible, clear and easily-digestible summaries of what is and what is not correct".

8.4. Descriptive and Prescriptive Grammar

Another distinction between two types of grammar was elaborated in terms of Descriptive and Prescriptive (normative) grammar. As attested by Huddleston (n.d.), descriptive grammar aims to present the grammar that underlies the actual usage of speakers of the language.

9. The Value of Grammar Instructions in EFL and ESL Classrooms

Having known the definitions of grammar, it seems clear that it plays a major part in language classes, and has been the most controversial subject of language teaching. The attitude to grammar teaching and its key role in the mastery of any language differs from one teacher to another. There are some scholars who advocate its implementation where it is rejected by others. Those who are for, claim that grammar is essential and should be put in the foreground to make students able to master the target language effectively. They set many arguments to prop up their standpoint. The following are some of them: Ur (1996) argued that ability to communicate effectively is probably not attained most quickly or efficiently through the pure communicative practice in the classroom, and there is no doubt that a knowledge – implicit or explicit of grammatical rule is essential for the mastery of a language”. Similarly, Hutchison affirms that a sound knowledge of grammar is essential if pupils are going to use English creatively. Correspondingly, few years later Thornbury (1999, p15) provided the following seven arguments for putting grammar in language teaching. These arguments are presented equally in (Campell & Wales; 1970; Hymes 1967, 1972) works.

9.1.Approaches For Grammar

9.1.1. The Sentence-Machine Argument

Adherents of grammar-based approach believe that although foreign language learners receive a limited number of language items, words and phrases which can later be retained or retrieved, but there comes a point where learners need to learn some patterns or rules to enable them to create and generate new sentences which is impossible to be achieved through memorization only. On this ground, Thornbury (2016) again surmises that knowledge of the regularities in a given language provides the learner with the means to generate a potentially enormous number of original sentences. Thus, proponents consider grammar as a sentence-making machine that helps foreign language learners to produce an infinite number of grammatical sentences.

9.1.2. The fine-Tuning Argument

In terms of intelligibility and appropriacy, grammar serves significantly to elucidate meaning of a written language particularly because it needs to be more explicit and accurate than spoken language. This possibly takes place when a user of a language produces a long stringing of words and phrases together rather than a simple one. In other words, grammar is taught mainly to avoid ambiguity. By its absence, individual words cannot express a wide range of meanings and may cause confusion (Ramesh, 2015).

9.1.3. The Fossilization Argument

Researchers suggest that language learners sometimes show no motivation to improve their proficiency in learning, and reach a plateau beyond which they find it arduous to progress. In this case teachers say that their students' linguistic competencies fossilize. Brown (2007) describes fossilization as the relatively permanent incorporation of incorrect linguistic forms into a person's second language competence. Accordingly, learners who do not receive regular grammar instructions risk to fossilize sooner than those who do receive these instructions.

9.1.4. The Advance Organiser Argument

The exposure to a new language makes the learners able to pick up specific grammatical items of that language through noticing. As cited in Brown (2007) and Thornbury (2016) the term 'noticing' is used when learners who have already received courses in grammar of the target language observe certain forms and features which catch immediately their attention. Hence, after items have been noticed and the relationship between form and meaning interpreted, these items become part of intake into the learning process. In this manner grammar plays acts an advance organizer that facilitates the acquisition of the language.

9.1.5. The Discrete Item Argument

The first time learners confront any new language, they may see it as a gigantic and shapeless mess that can be challenging for them. Teachers then, suggest grammar to be the key

to get rid of all the worries that encounter learners in this case, and reduce the complexities of the learning language task. Because grammar can cut down language into discrete learnable items, it simplifies the process of learning and teaching the target language, and makes this last more digestible.

9.1.6. The Rule of Law Argument

On the land of education, the process of teaching and learning a language is accomplished through transferring a body of knowledge, comprising facts and rules from knowledgeable persons to those who are not. Grammarians put forward that without integrating grammar in foreign and second language classes, the transmission of knowledge becomes unattainable because grammar offers the teacher a structured system based typically on grammar rules that streamline language learning to be presented, practised, tested and transferred.

9.1.7. The Learners Expectations Argument

Through their academic course of study, language learners usually anticipate having grammar classes, thinking that it makes their language learning more systematic and efficient.

Table06

Variables Relevant to Focus on Form (Celce-Murcia 1993)

	Less Important	Focus on Form	More important
Learner Variables			
Age	Children	Adolescents	Adults
Proficiency Level	Beginning	Intermediate	Advanced
Educational Background	Preliterate, no formal education	Semiliterate, Some formal education	Literate, well educated
Instructional Variables			
Skill	Listening, reading	Speaking	Writing
Register	Informal	Consultative	Formal
Need/Use	Survival communication	Vocational	Professional

9.2. Anti-grammar movement: Critical Theories

The 1980's recognized a different perspective regarding teaching grammar in foreign and second language classrooms. Pioneers of this approach believe that grammar can be developed naturally through a meaningful interaction using the target language without an explicit use of grammar rules. Stephen Krashen was among the first defenders of this stance. As cited in Brown (2007), by the year 1982, Krashen presented the idea that grammar can be acquired naturally from meaningful input and opportunities to interact in the classroom. Otherwise stated, Language acquisition does not require extensive use of conscious grammatical rules, and does not require tedious drill. He added that the form of a language is less significant than its use as a medium of interaction. Acquisition requires meaningful interaction in the target language - natural communication - in which speakers are concerned not with the form of their utterances but with the messages they are conveying and understanding (Krashen, 1988).

In 1993, Lewis put forward a Lexical Approach Theory. He put more stress on vocabulary and lexical chunks than on formal grammar and proved to be quite effective in specific situations and for special purposes (Lakhoua, n.d.).

Just as the grammar-based approach has a number of supporting arguments, the anti-grammar movement has equally several other arguments that have been made to prove Krashen's theory and all its descendants. Here are some of them as outlined by Thornbury (2016):

9.2.1. The Knowledge-how Argument

This argument asserts that for foreign or second language learning, learners need to use and practise the target language, not by knowing its rules to understand how it works. Because learners are exposed to the new language recurrently, they can pick up grammar unconsciously. In this regard, (Lakhoua, n.d.) provided an example which seemed more illustrative. She stated that immigrants become very fluent in a foreign country just by exposure to native speakers, or

natives who pick up a foreign language only through close contact with tourists in some developing countries where tourism is a key economic sector.

9.2.2. The Communication Argument

This argument particularly has a forthright relationship with commutative competence approach which claims that learners should know how to use the grammar and vocabulary of the language to achieve communicative goals, and also to know how to apply this in a socially appropriate way (Susan & Cohen, 2013). As mentioned in the same book, the term competence was first used by the linguist Noam Chomsky in 1965. He meant by it the unconscious knowledge that speakers (at any age of language development or language mastery) have of the grammatical features of the language they speak. It is also called linguistic competence. All over again, proponents of this approach uphold that learning grammar rules is a 'waste of valuable time.

9.2.3. The Acquisition Argument

Starting from the theory that native languages are acquired without teaching grammar rules, alludes to researchers that this theory may also work for second and foreign languages too. Within this framework, Krashen declared his theory of 'The Acquisition Learning'. In which he distinguished between two independent systems of foreign language performance: On one hand, the acquiring system that requires meaningful interaction in the target language - natural communication - in which speakers are concentrated not in the form of their utterances, but in the communicative act (Schütz, 1989). On the other hand, the learning system which is a more conscious process. According the mentioned theory, learning is less important than acquisition.

9.2.4. The Natural Order Argument

As reported in brown (2006), following Dulay and Burt (1974, 1976), also Fathman (1975) Makino (1980) who also cited that Krashen's hypothesis claims mainly that humans acquire language rules in a predictable or 'natural' order. It predicts that features of L1 grammar are

learned in a sequence predetermined by innate universal processes of acquisition. The possibility that a natural order influences second language acquisition, and it has received considerable interest. Also, the distinction hypothesized between L2 learning (conscious learning) and acquisition (subconscious learning) has received rather wide interest (Sell, David A., 1989). Because students stick rigidly to L1 grammar rules; they may destroy the natural order of the target language. For this reason; researchers ignore teaching grammar in FL and SL classes.

9.2.5. The Lexical Chunks Argument

Proponents of the anti-grammar movement proclaim that many phrases and expressions in a given language are called “chunks” which can be picked up by young children easily through having direct communication, or being exposed several times to the target language without learning regularly grammar rules (Schmitt, 2000). For example, after having heard the phrase “what on earth?” several times, it may be acquired as a chunk with the meaning of ‘an exclamation’. In recent years, there have been a growing recognition of the importance of lexical approach among which chunks and formulaic expressions are concerned, in contrast to the traditional emphasis on teaching abstract grammatical categories (Thornbury, 2016, p. 20)

9.2.6. The learner Expectation Argument

As there are many students whose concern is to take grammar courses during their foreign or second language classes, there are also many others who come to the classroom with an expectation to put their language immediately into practice. So, the learner expectation argument cuts both ways depending on their individual cognitive styles. One dimension of this style is whether learners prefer to gain a global impression on the target language, and tend to talk rather than study specific units on the contrary, other learners prefer to analyse the language details which means they demand grammar formally (Hedge, 2014).

10. Approaches and Methods of teaching Grammar

The question “Is grammar essential in foreign language classrooms or not?” has unleashed dozens of educational research papers and debates, which have affected the ebb and flow of the variant methods and approaches of teaching grammar in FL and SL classrooms. Before listing them down, it is preferable to define first the terms ‘method’ and ‘approach’.

According to (Anthony, 1963; Richards and Rodgers, 1986), an approach refers to the general assumptions about what language is and about how learning a language occurs. In simple words, it is the theory of language. As reported by the same scholars, a method is a practical implementation of an approach while a theory is put into practice at the level a method. In this regard, the history of teaching has marked a pursued string of methods in the light of the different approaches that emerged gradually.

10.1. Grammar-Translation Method (GTM)

As its name suggests, this method focuses on grammar as a departure point for language instructions. Grammar rules, in this case, take a substantial part in FL language courses. As Tetzner (2006) notes, grammar-translation method is also referred as classical. It is traced back in the mid-19th century. It was known in the United States of America as Prussian method, as it had its origins in Germany, exactly in Prussia, earlier in the twentieth century, this method was used for the purpose of helping students read and appreciate foreign language literature, and grow intellectually through presenting grammar lessons with explicit rules statement with a clear translation into and out of the mother tongue (Thornbury, 2016).

As Brown (1994) posits that this method focuses on grammar, memorization of vocabulary of various declensions and conjugations, translation of texts which are at the core this method. It is still acknowledged as the most popular method and is still widely used in many parts of the world.

10.2. Direct Method

Since the previous method (GTM) gave much interest to grammar instructions, and ignored the direct use of the target language. Teacher suggested to track the direct or natural approach which prioritises oral skills. Accordingly, it enables learners to develop their listening and speaking skills of the target language through an immediate audio-visual association between experience and expression, words and phrases, idioms and meanings, rules and performances through the teachers' body and mental skills without any help of the learners' mother tongue. The direct method came as a reaction to the excessive emphasis on grammar-translation method put on language learning (1973)

10.3. Audio-lingual Method

As the direct method, the audio-lingual method focuses also on the direct use of the target language without using the learners' native one to explain new vocabulary, expressions, and even grammar rules. This method was widely used in the 1950s and 1960s where the teacher spent most of time in the classroom drilling the learners on grammatical sentence patterns and phonological structures in common everyday dialogues. The teacher used also to play an important role in correcting students' errors. Dialogues, performed in the classroom, provide for students the structure and idea of how to use some types of patterns in some sort of situations. Usually these dialogues illustrate socio-cultural situations of a target language, such as greeting, opinion exchanges, likes or dislikes, standard safe topics (weather, hobbies...etc.) that help students to memorize the suitable utterance for each situation. By repeating and memorizing the whole dialogue or some specific parts of it, learners should emphasize on proper pronunciation, intonation, stress and rhythm usage (Alemi & Tavakoli , 2017).

10.4. The Natural Approach

The Natural Approach is a method of language teaching used in EFL and ESL classes. It focuses on communicative skills, both oral and written. This approach was first developed by the scholars Krashen and Terrell between the late 70's and the early 80's in their book entitled

“The Natural Approach and Language Acquisition in the Classroom”. It was first published in 1983 and lately in 1988, they denoted that the first principle of the natural approach is that comprehension precedes production; That is to say, listening and reading must be accomplished before learning speaking and writing (Krashen & Terrell, 1988). It reduces the use of grammar and neglects correcting students’ language errors which do not interfere with their communication.

The second principle of the approach is that production of language can be developed in stages from the easiest to the more complicated structures and students are not imposed to speak or write before they are linguistically ready. Another principle indicates that direct grammar instructions are neglected in syllabus course design while teachers should focus more on teaching grammar through communication.

The last principle covers the content of the topics and the activities delivered in the classroom which should fit the learners’ needs and go with their interest in order to encourage their feelings and emotions.

11.5 Communicative Language Teaching (CLT)

The origin of Communicative Language Teaching (CLT) was from late 1960s. Theorists have been arguing that (CLT) consists of more than simply the knowledge of the rules of grammar. Nevertheless, the role of grammar in CLT is based on two versions: shadow-end and Deep-end. The first maintains grammar as a principal component of the syllabus. Despite of its priority of teaching language communication, it doesn’t reject grammar instructions and syllabus out of hand (Thornbury, 2016). In this regard, teachers suggest that it is first necessary to learn the grammatical rules, and then apply them in the communicative situation. Conversely, deep-end version declines totally the role of grammar. In this case, it is based on the belief that grammar is acquired unconsciously during the performance on the communicative situations, so it would be useless to teach grammar previously and explicitly (Thornbury 1999).

In the figure below, a timeline arrow that exhibits the different teaching methods in a chronological order. It also illustrates the attachment between teaching grammar and grammar itself.

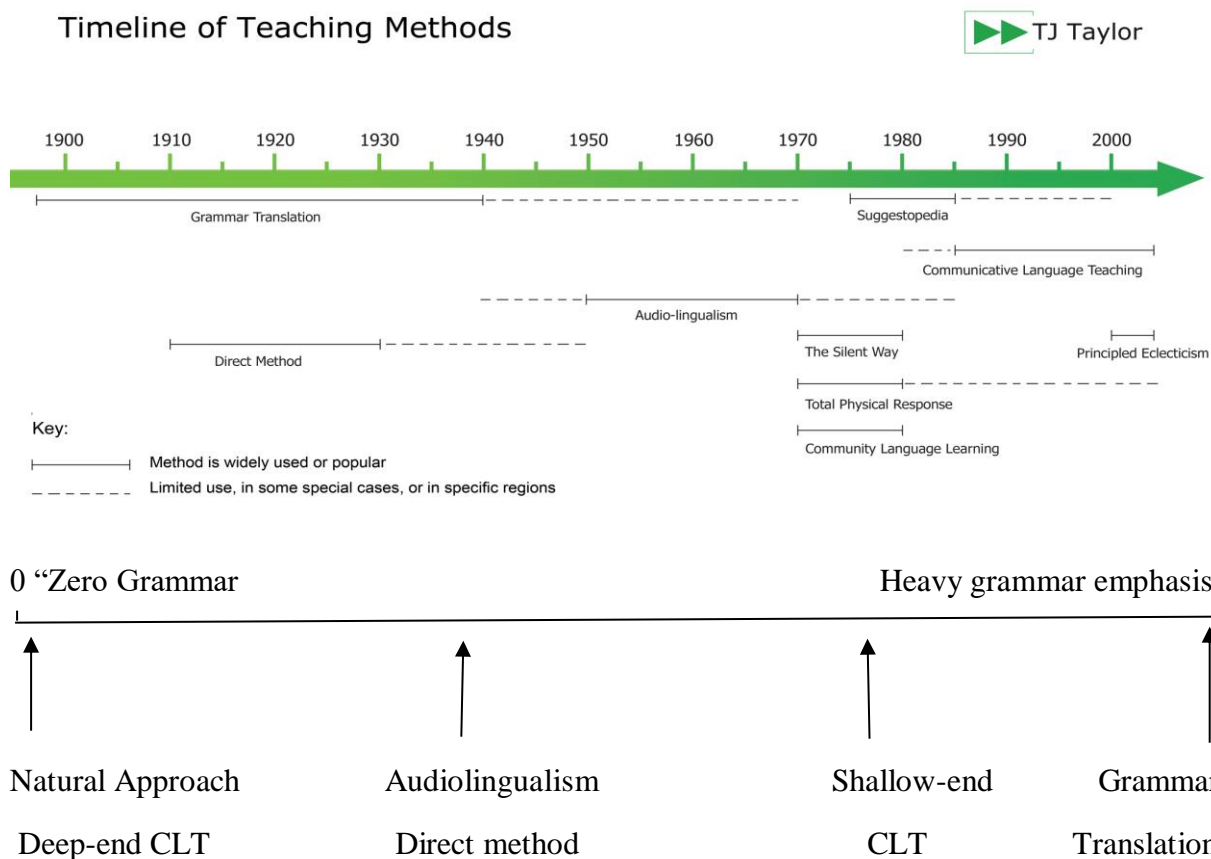


Figure 03. The Attachment between Teaching grammar and Grammar

11.6. Task- Based Learning (TBL)

It focuses on the use of authentic language (language used in real life situations) to complete meaningful tasks and activities in the target language. Such tasks can include buying elements from a shop, conducting a TV interview, or disputing with a friend on a phone call.

In (TBL), assessment is based on task outcome (situational conversations) rather than on accuracy and correctness of prescribed language forms (Grammar). It helps developing target language fluency and student confidence. As such, linguists consider it as a branch of communicative language teaching (CLT) (Skehan, 2003).

Table 07

Types of Grammar Teaching in Language Approaches/Methods

Approach/Method	Deductive model	Inductive Model	Zero Grammar
	Explicit Teaching	Implicit Teaching	No teaching
GTM	✓ Heavy emphasis		
Direct Method		✓	
The audio lingual Approach		✓	
The Natural Approach			✓
CLT(shallow-end)		✓ Rather a functional grammar	
CLT (Deep-end)			✓
Task-Based Learning	✓ Only if necessary		✓

Section 03: Review of Relevant Works

Introduction

The pace of searching is continuous as long as researchers are in need of checking, re-checking, analysing or even replicating a certain subject matter. In almost any research, the achieved conclusions do not rely only on the practical findings of the study itself but further to a comprehensive summary of the existing literature of relevant works. Relative to the present study, asynchronous e-learning has been discussed in a number of contexts where a series of works have been carried out and a number of articles have been published to provide a deep understanding of AEL and how to use it in language classrooms in order to improve students learning achievement. Therefore, it would be easier for EFL teachers and learners to perceive the necessary steering lines to start implementing AEL mode into their courses and to prepare learners specifically with new language skills. Furthermore, these studies treat the relationship between AEL as an electronic learning program and the teaching of English language. The nature of this relationship differs from one research work to another depending on the findings of each. Additionally, thousands of comparative studies were carried out to check the similarities and differences between traditional and e-learning modes of delivery. Taking into account teachers' and students' positions towards this technology-based mode helps discovering the bed of roses as well as the challenges of AEL compared to onsite classroom with face-to-face instruction. .

This section sheds light on the most important relevant investigations conducted by a number of scholars across different universities in the world. These works are grouped in the following contexts: (a) Asynchronous e-learning in relation to English learning outcomes, (b) grammar achievement of English language learners, and finally, (c) Exploring the students' and teachers' experiences about asynchronous e-learning programs

1. Asynchronous E-learning in Relation to English Learning Outcomes

Broadly speaking, effective teachers draw on a growing body of research knowledge about the nature of learning and on craft knowledge about teaching that has stood the test of time. Typically, they consider the special characteristics of the material to be learned, the background of their students, and the conditions under which the teaching and learning are to take place (American Association for the Advancement of Science, 1990). To this end, achieving an effective learning calls for building a strengthening relationship between learning processes of collaboration, interaction, participation and responsibility, and learning objectives and outcomes like problem solving skills, critical thinking and higher order thinking (Watkins, Carnell, Lodge & Whalley, 1996). Accordingly, the implementation of any language learning pedagogy through an online educational mode should provide maximum support to students for attaining objectives and outcomes to avoid frustration and failure (McCloskey, Thrush, Wilson-Patton & Kleskova, 2013) (As cited in Perveen,2015).

Obviously, online learning is having greater acceptance amongst educators. Thence, AEL is gaining more and more impact because it encompasses learner oriented approach which emphasizes on the development of learners' knowledge and skills (Hariadi and Simanjuntak, 2020). It was resulted that asynchronous e-mail learning was effective and the attention, working memory and executive functions of students has significant relations with their performance (Jena, 2019). Another study by Shanker and Hu discloses that a well-designed distance education course can lead to a high level of satisfaction and classroom performance

Since AEL provides also online feedback, it plays an important role to enhance students' language performance especially for the productive skills 'speaking' and 'writing'. In this fragment, Saeed and Ghazali (2017) report an article in which they present an empirical study of asynchronous e-learning group review of argumentative essays over nine Arab universities where English is taught as a foreign language. Their study reveals that learners establish a sound social space for maintaining good social relations that can contribute to their pursuit of online

group review. Moreover, the open time in asynchronous group review fosters learners' reflection on their writing texts (Saeed & Ghazali, 2017). In the same context, Fanous (2020) also insisted on the positive effect that asynchronous approach of providing e-feedback play to successfully improve the quality of writing of learners as well as their engagement in the writing process as a whole. He equally compares its effect to the synchronous approach and the traditional mode of learning where he finds that learners prefer the synchronous and asynchronous e-feedback while they disfavour the traditional one.

Additionally, asynchronous language learning can be more encouraging for learners to ask questions that require long answers (AbuSeileek & Qatawneh, 2013) because it allows both learners and teachers to reflect and express their thoughts more freely than face-to-face oral communication (Perveen, 2015, p. 25). In the same line, a study which takes place in USA shows a cross case design framed on 286 secondary and 287 elementary school students resulted a significant effect of video base communication used for talking classes (Spiceland & Hawkins, 2008). Another American study by Hull Saxon (2009) found that asynchronous courses have significant effect on collaborative learning compared to traditional learning. Few years later, a British study, with 16 school students who followed a computer mediated asynchronous learning, reveals that this method is significantly effective for developing learners' skills (Coffin, Hewing & North, 2012).

The previous studies have not only affirmed the effectiveness of AEL on learners' language skills and performance but also on their responsibility and autonomy. For instance, Arkorful and Abaidoo (2015), Malik et al. (2017), and Mather and Sarkans (2018) suggest in their studies of e-learning methods that AEL could be an effective way to promote English language students' learning independence and responsibility in gaining knowledge as students are expected to be involved in the learning process. Raising learners' autonomy maintains self-regulated learning because students receive more flexible and convenient AEL materials. For

this perspective, Guragain (2016) stated that learning and teaching through an AEL mode are practical as the material can be easily downloaded or saved on gadgets.

Despite the fact that a large number of studies estimate a positive effect of AEL on English language learning, there are still others which uncover the bleak side of this mode because as any learning method, e-learning has its merits and demerits. In a similar context, Quadri et al. (2017) suggest that lack of infrastructure such as computers devices, internet, electricity and computer skills is the most significant as perceived by EFL teachers and learners; however, taking much care of the implementation of E-Learning systems in educational institutions would result favourably. For late, an analytical and descriptive study by Panduranga and Arishi in 2018 has been used to analyse and describe the problems and the challenges of e-learning among the undergraduate EFL students of Jazan University in Saudi Arabia. The investigators administered two open-ended questionnaires, one for teachers and the other for learners to examine the problems they currently face in an e-learning environment. The data collected show that most of these problems are by dint of personal or emotional factors which Panduranga and Arishi consider negligible and can be fixed through time. They add that courses containing practical components are preferably taught in conventional classes rather digital ones. Kartal (2005) further argues that foreign language learners who improve their language skills digitally need two types of guidance, functional (how to use it) and pedagogical (providing content-related help). Thus, it is expected that the online material with which a foreign language learner is working, should provide further help with which students learn comfortably.

2. English Grammar Instructions in the Time of Digital Learning

Teaching grammar can be a challenge in the best of circumstances, and having to abruptly handle it digitally is undoubtedly a frightening prospect for many. In the past several decades, different approaches and methods of teaching English grammar have been proposed to constitute an effective grammar pedagogy (Hinkel & Fotos, 2008). Accordingly, grammar

teaching has found new aspiration with the use of the Internet because there are numerous lively and attractive activities, games, puzzles, and worksheets available on the Internet for teachers' as well as students' use (Arikan, 2014). As cited in Hinkel (2016), Erben et al. in 2009 suggested that "Technology also offers a wide range for sources to support the learning of grammar". Hinkel refers to the software programs designed to focus on the role of grammar in spoken and written English language which become more and more sophisticated to treat not only error correction features, but further they guide students through the process of decision making, monitoring, and evaluation of grammar.

Many have integrated a variety of technologies and an impressive array of new instructional media in the teaching of grammar in foreign and second language learning environments, such as websites and CD-ROM virtual environments (Bowen, 1999; Simonson & Schlosser, 2008). Therefore, the implementation of technology-based teaching for grammar allows this last to shift from the mode of classroom grammar-focused instruction to the multimedia learning centre. As a consequence, the teacher and the students gain more time in the classroom to do other learning activities (Hinkel, p. 186). In this context Hinkel himself quoted "Online learning provides a more stress-free environment to explore and practise grammar, one in which students can devote as much time to grammar as needed". Along the same line, Mandernach and Holbeck (2016) examine the investment and distribution of instructional time as a function of instructor experience, class size and course duration. The authors mention that while a number of studies have compared the time commitment required for online versus face-to-face teaching (Rockwell, Schauer, Fritz & Marx, 1999; Christianson, 2002; Tomei, 2004; Cavanaugh, 2005; Orellana, 2006; Sheridan, 2006; Mupinga & Maughan, 2008; Mandernach, Forrest, Babuzke & Manaker, 2009; Sword, 2012; Van de Vord & Pogue, 2012), there is less information available in traditional classrooms on what online instructors do with their instructional time. Specifically, to gain a better understanding of the time investment required for online teaching.

Recent findings regarding this topic show that AEL provides facilities and time efficiency to learn English grammar because each student no longer needs to record teaching materials and can access to any whenever and wherever s/he is (Arikan & Khezeralou, 2020).

In contrast to face-to-face English grammar instruction, the online learning has adequately reflected learners' expectations. For this perspective, many comparative studies were conducted to compare between conventional and digital teaching. For instance, Arikan and khezeralou in (2010) compared between teaching English in a computerized way, where they reviewed websites and online resources of grammar by taking notes of their features through paper-based materials as the case of in-class grammar instruction. Their study reveals that grammar can be taught adequately either way unlike listening which can be learned or taught better with digitals and media centres and writing taught through paper-based materials. In the same study, the investigators proved that English grammar online learning material made students learn independently along their learning time, their learning pace. Besides, they suggested that English grammar online learning provides ease of learning and time efficiency for students because each student no longer needs to record teaching materials and can opt for the learning material that most fits their needs.

A more recent and a profound study by Sean Ruday in 2020, a professor of English education at Longwood University and a co-president of the Assembly for the Teaching of English grammar, explains the most appropriate practices of grammar instruction applied in remote teaching. To this point, Ruday applied a five-step instructional grammar process through distance learning as follows:

- In the first step, the instructor began the process by introducing grammatical concepts with examples. The lesson was created in a form of a short lesson video and post it in an online learning platform. Ruday had managed these lessons through live videos on Zoom application and recorded them for students who were not present or could

- not access the class live. In the first case, the grammar lessons were taught synchronously while they are asynchronous for those who watched recorded videos.
- In the second stage, the instructor selected and then published a full text that included the grammatical concepts and features studied in the previous stage. The reason behind was to read it loudly through a recorded video or audio and share it with the students. As reported by Ruday (2020) “This step was a great way to help students understand the ways authors used grammatical concepts in authentic and purposeful ways”.
 - In the third stage, the instructor divided the students into groups and gave each group a different text but with the same local grammatical concept to analyse. All the students were expected to meet after finishing their works and discuss them collaboratively through an online platform or text each other via emails or over social media networks.
 - In the fourth stage, a big opportunity for students to put their knowledge understanding into practice because the instructor asked them to compose pieces of writing in which they utilized the intended grammatical concepts. The analysis and discussion of this activity were held later through teacher-student writing online conferences that were “private conversations between teacher and student about the student’s writing or writing processes” (Sperling, 1991, p. 132). “As students write, teachers often hold short, informal conferences to talk with them about their writing or to help them solve a problem related to their writing” (Tompkins, 1990). As students do so, they show improvements in their sentence composition, editing, revision, and style. Ruday again suggested that this operation could be also held through a remote conference by using Google Docs to benefit more from written exchanges.

- The fifth and last stage covered the students' attitudes and reflections towards the importance and the effectiveness of the target grammatical concept. These reflections could be easily shared between students and their teacher or with the rest of the class digitally.

For others, the abrupt switch to online teaching has been especially challenging (Trusler, 2020). A study by Anggrawan and Satria reveals that 30 % of EFL students claim that there are many positive things in learning English grammar lessons through AEL because lessons developed in such a mode do not increase their enthusiasm for independent learning. The formative assessment results in the same study show that English grammar online learning can be a learning choice for higher education institutions or as an alternative learning method due to online grammar learning with multimedia and animated images. The study shows also that it is not only favoured by students but also supports student learning styles and eases their learning process (Anggrawan & Satria, 2020).

The question "Which teaching method, technique or even material is the perfect for EFL classrooms?" has never a fixed or a precise answer. In this regard, Awad (2013) asserted: "There is no perfect material that suits every situation in any classroom or that suits all students' needs of learning styles and strategies. In this respect, teachers may use supplementary relevant material, substitute or even omit trivial or irrelevant items where the need arises either to comply with student needs in order to compensate for any weak or unsatisfactory points in the textbook or according to the teachers own needs in certain teaching situations" (p. 2404)

3. Students' and Teachers' Experiences about Asynchronous E-learning Programs

While there are different standpoints of the learning process such as learning quality, achievement and faculty perspectives, students' views are especially critical since they are ultimately the *raison d'être* of the educational endeavour (Chickering & Gamson, 1987). As cited in Van Wart et al. (2020), the student perspective is especially important when new

teaching approaches and methods are used and when new technologies are being introduced (Arthur, 2009; Crews & Butterfield, 2014; Van Wart, Ni, Ready, Shayo, & Court, 2020). In their article, the authors explain the different angles that researchers focus on to scrutinize students' positions towards their learning justifying that with the rise of technology the student perspective on online education and its features become profoundly important. Their opinions give an inclusive image about the quality of the learning method being applied, gratification with the input they receive, technical skills of the selected process, cognitive and emotional stimulation factors, flexibility and comfort with the technological device, and sense of learning community.

Knowing about students' and teachers' perspectives will help the universities and the academic staff to develop appropriate models and forms of online learning to meet the students' requirements (Peytcheva-Forsyth, Yovkova & Lyubka Aleksieva, 2018). Therefore their attitudes and perspectives towards online learning are a key factor for their learning outcomes. (Alomyan & Au, 2004; Sanders & Shetlarthe, 2001; Zhang & Bhattacharyya, 2008). Many research works mark that learners have different preferences, some support electronic and online learning, others remain devoted to the traditional one while in other instances, learners prefer a blend of a/synchronous e-language learning (Pérez, 2013) as it can better cater their multiple needs and facilitate in enhancing their capabilities to learn L1 or L2.

In an attempt to investigate EFL students' views about the effectiveness of AEL on learning English grammar, an Indonesian study by Anggrawan and Satria was carried out in 2020 and found that up to 67 % of the interviewed students agreed that AEL programs for learning English grammar lessons made easier for students to understand learning material and achieve good learning outcomes, and equally meet the students' learning needs and the desired quality qualifications of the input (Anggrawan & Satria, 2020). In the same study, the authors went to point out that students preferred studying through an AEL environment rather than an

in-class one warranting that this kind of setting provided animated images that represented lecturers in form of teaching materials in with mouth expressions of the words of the text described and which students opted for because it was more attractive and amenable (p.1524).

Since EFL students are also interested to develop their English listening and speaking skills, attending videos and movies in the English language can be supportive. In this line, Sarah and Patricia (2009) reported

“the mode of teaching grammar with the help of visuals and movies has been in practical use of teachers for teaching any language because they think that the audio and imagery of movies has the capability to develop awareness and provoke intellectual thinking in such a way that words are unable to do Students prefer asynchronous online learning modules along with animated images that represent lecturers presenting teaching material”

In terms of technology flexibility, students think that it is enjoyable to work at their own pace style provided in asynchronous environments (Coogler & Floyd, 2015). The language learners in this case experience some positive impacts in their learning process. They find also that the availability of language e-learning applications at this point of time is adequate for the success and the continuity of e-learning (Famulasih, 2020). Henceforth, in their study of e-learning methods, Malik et al. (2017) examined that AEL could be an effective method to promote students' learning independence.

As far as the students' views are concerned, researchers highlighted various factors that influence students' perspectives towards using online learning. To determine these factors, a Bulgarian survey by Peytcheva-Forsyth et al. (2018), from Sofia University reports that there is an interrelation between the age of the students and their inclination to work their home assignments, course projects, scientific papers, essays and other learning activities on online learning platforms. The results show that female prefer studying electronically rather than face-

to face mode twice more (48.3%) than men (28.7%). The second factor is the students' profession status. "Data analysis shows that there is statistically significant dependence between the employed/non-employed categorical variable and the attitudes of the students towards their needs of online learning" (Peytcheva-Forsyth et al., 2018, p. 3). The collected data show that A large number of employed interviewees (66.7%) express their willingness to learn digitally compared to the unemployed ones who represent only (54.4%) of the participants. The same study approves that students' technology proficiency can be an influential factor to manipulate students' perspectives toward e-learning because technology literacy can cause a dent in the process of learning and be a demotivated factor to learners. This is because (98%) of the students who master the technology skills tend to opt for online learning. The fifth factor according to Peytcheva-Forsyth et al., (2018). Evidently, the students do collaborative e-learning to discover and share knowledge with peers. This finding is related to the study by Borup et al. (2020) who revealed that students-students interactions enabled them to promote friendship, motivate them in study and collaborate effectively with others. Another survey by Rath et al. (2019) identifies that there are other four factors related to student perceptions of online courses which are set-up of the course, learner characteristics and sense of course learning, social interactions and issues with technology. The table below is assembled by Rath et al. and it summaries the differen themes and subthemes of the student perspectives of online learning.

Table 08

The Themes and Subthemes of the Student's Perspectives of Online Learning (Rath et al., 2019)

Course set up	Learner Characteristics	Social Interactions	Technology
- Effective Communication	- Self-regulator	- Instructor interaction	- Internet
- Course Organization	- Behaviour	- Sense of isolation	reliability
	- Time management	- Lack of peer friendships	
	- Accountability		

- Early Access to materials	- Requirements of computer literacy
- Creativity of assignments	
- Welcome videos	

Conversely, distance learning technologies, based on the new and emerging information technologies, are not always a windfall to students, but they remain inessential for others. Hariadi and Simanjuntak (2020) take a qualitative descriptive study in which they explore participants' experience in learning English through AEL during COVID-19 pandemic. The results show that students do not rely mainly on these technologies because they are less important than traditional ways of learning and they can be only a supplementary assistance for them. In other instances, students find these technologies irrelevant or even detrimental to the learning and teaching process (Negash, et al., 2008). The results revealed that in undergoing asynchronous e-learning, the participants have to implement self-access learning and additionally they have to adapt with technology setting which may appear to be challenging due to limited technical support they have; moreover they still have to discover the knowledge by themselves in as much as they experience limited interaction with their English teachers throughout the process of learning. (Arkorful & Abaidoo, 2015; Rahmawati, 2016; Mather & Sarkans, 2018). As cited in Elfaki, Abdulraheem and Abdulrahim (2019), other studies argue that language students may feel isolated, less motivated and experience a disadvantage in a text-heavy online environment

For teachers, their ordinary situation is to occupy an essential part of a conventional learning environment classroom activities because they are a demand for lessons based on the syllabus that is created and approved by the teacher himself or the headmaster (Sadana, 2020). However, their role in the online mode is qualitatively different. Researchers have not only compared the quality of learning in face to face and digital environments but also between

synchronous and asynchronous learning. The selection between synchronous and asynchronous modes is contentious. In current learning environment, the English teachers typically use one of two methods of e-learning: Asynchronous and Synchronous. However based on preliminary observation at senior high schools in sub-district, Cirebon City, it was discovered that the schools preferred to implement Asynchronous e-learning especially in English teaching. Kisanga (2016) presents a survey research study that covers the findings on determinants of teachers' attitudes towards e-learning in Tanzanian higher learning institutions. The researcher asks 258 teachers from 4 higher learning institutions obtained through stratified, simple random sampling. The survey results show that teachers have positive attitudes towards e-learning where computer exposure played a statistically significant contribution to their attitudes. Most of the studies in this field insist that teachers' technical proficiency should be developed because it helps teachers overcome the challenges of teaching digitally.

Experts recommend that teachers should receive thorough preparation before introducing any e-learning program. In this connection, Adams (2020) suggests that teachers' training should cover the required strategies to make the instruction engaging and provide ample time to practise the technology before starting teaching through the new technology. In this manner, teachers become able to expand their knowledge about e-learning and how it works.

There is also a need to strengthen factors associated with teachers' positive attitudes towards e-learning.

Conclusion

In conclusion, the theoretical framework clarifies the pathway of the research topic. It fetches the kernel of the theoretical background to delineate the area of the current research and resonate its main theme. Throughout this chapter, relevant theories and concepts were explored. Therefore, the field work ensures that the investigation is not obscure by including trivial or irrelevant thoughts.

CHAPTER III: RESEARCH METHODOLOGY AND DESEIGN

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Introduction

Many investigators have confirmed that any research without practicality is merely postulation. This allegation comes after multiple studies which show that research practical work confers many advantages, including developing laboratory skills, scientific knowledge as well as understanding science concepts and theories (Fadzil & Saat, 2013; Croker & Härtig, 2016). Therefore, researchers should conduct comprehensive studies where they elaborate not only a theoretical section of relevant knowledge and reviewed studies, but further manage accurate and detailed methodological procedures deployed to maintain a systematic design and convincing findings. In the same vein, Leedy and Ormrod (2001), also Williams (2011) describe the research methodology proceedings as the holistic steps a researcher employs in embarking his/her research work.

The goal behind planning a research methodology in experimental research is to help students achieve a profound level of understanding by finding things out for themselves and by experimenting with techniques and methods that have enabled the secrets of our bodies, our environment, and the whole universe to be discovered (Sotiriou, Bybee and Bogner, 2017). This chapter also contributes to develop the researchers' skills in solving problems and perceiving the nature of science by replicating the actions of scientists (Shana, Abulibdeh, 2020) while for readers, the methodology section allows to critically evaluate the study's overall validity, reliability and answer two principal questions: (1) how systematically was the data collected or generated? and (2) How was it analysed statistically? (Leedy, 1974; Wilkinson, 2000).

As mentioned previously, the ultimate aim of the current study is to find out the relationship between the variables in terms of causation, also to highlight the impact of asynchronous e-learning as a cooperated program to traditional grammar classes as well as the target population and the samples (teachers and students) chosen for the experiment. All the methodology

procedures, the research design, and the tools used for the investigation are covered and detailed step by step in the coming pages.

Research Paradigm, Approaches and Methods

1. The Philosophical Foundation of the Research (Research Paradigm)

According to Merriam-Webster dictionary (2021), Paradigm means “a theory or group of ideas about how something should be done, made or thought about”. In educational research, the concept of research paradigm, also known as research philosophy, refers to the theoretical or philosophical ground for the research work (Khatri, 2020). The term was first used by the American philosopher of science Thomas Samuel Kuhn in 1962. He described it as a philosophical way of thinking. Years after, Mackenzie and (Knipe, 2006; Willis, 2007) defined research paradigm as “the comprehensive belief system of a researcher’s worldview or framework that guides the research and its practice in a field. This implies that it incorporates all the researcher’s ideas and beliefs about any issues explored in their studies and which would subsequently guide their actions during the course of investigation. According to Khatri (2020), the researcher’s philosophical orientation reflects their perspectives about the selection of the research problem, arranging the research questions, choice of methodology and methods, determining the nature and types of reality, knowledge, and value of the research work.

Novice researchers and postgraduate students find research paradigm difficult to set forth and challenging to apply (Kivunja1 & Kuyini, 2017; Nguyen, 2020). This perplexity is caused by the meaning dissimilarity of the term which is debated and understood in multiple ways, i.e., in a normal discourse, paradigm means a typical example, model or pattern of something (Oxford Dictionary) while in a research discourse, the term comprises four elements, namely, epistemology, ontology, methodology and axiology (Lincoln & Guba, 1985). The advantage of

understanding these elements help the researchers to know how their research will be conducted. Hence, it is necessary to perceive each of these elements.

To start, epistemology is the researcher's view regarding what constitutes acceptable knowledge (Business Research Methodology, 2021). It is sometimes confused with methodology but what differs is that the first is more philosophical than the second (Killam, 2013). Killam claimed that epistemology seeks to understand the nature of knowledge and figures out the correlation between the knower and the would-be known (Guba & Lincoln, 1998). In other words, epistemology examines the relationship between the investigator and the knowledge during discovery (Killam, 2013, p. 8). In this phase the researchers should also think about how knowledge is acquired and how do they know what they know. According to Moon et al. (2021), there are five main questions of research design that relate to epistemology in integrative research practices: (1) what is the object of study the researcher seeks to create knowledge about? (2) How does s/he create knowledge? (3) Who accepts knowledge as 'true' and how? (4) How do researchers determine the epistemology underpinning educational science, and (5) what are the implications of epistemology for applied integrative educational science?

The second element in research paradigm is 'ontology'. It is defined as the conception of reality, and in its broader sense is concerned with the question of existence (Coventry University, 2021) while in research, it refers to the researcher's beliefs about the nature of reality. Philosophically, ontology refers to the study of human existence and the fundamental nature of reality or being and it answers questions like what exists? What is true? How can we sort existing things? (Killam, 2013, P. 7)

Methodology is the third research paradigm component that embraces all the systematic procedures along which the researchers go through to attain knowledge. Unlike epistemology, methodology is more practice-based.

Researchers do not carry out their studies only systematically and sceptically but also ethically (Robson, 2002). To this end, research paradigm reckons its fourth pillar on ‘axiology’ that is mainly based on ethical considerations and values. In other words, axiology is concerned with classifying things as good, valuable and ethical. Many novice researchers ignore this step which leads to dire consequences. Hence, respecting these norms would ensure the appropriateness of researcher’s decision making. According to the Norwegian National Committee for Research Ethics in the Social Sciences and the Humanities (NESH, 2019), norms for research ethics are categorized as follows

- 1- Norms that maintain good scientific practice: they are affiliated to the issues of accurate, relevant and appropriate knowledge such as academic freedom, originality, openness, trustworthiness, etc.
- 2- Norms that set the research community: they include integrity, accountability, impartiality, criticism, etc.
- 3- Norms that govern the relationship between the researcher and participants who take part in the research such as respect, human dignity, confidentiality, free and informed consent, etc.
- 4- Norms that arrange the relationship between the researcher and the rest of society like independence, conflicts of interest, social responsibility, dissemination of research, etc.

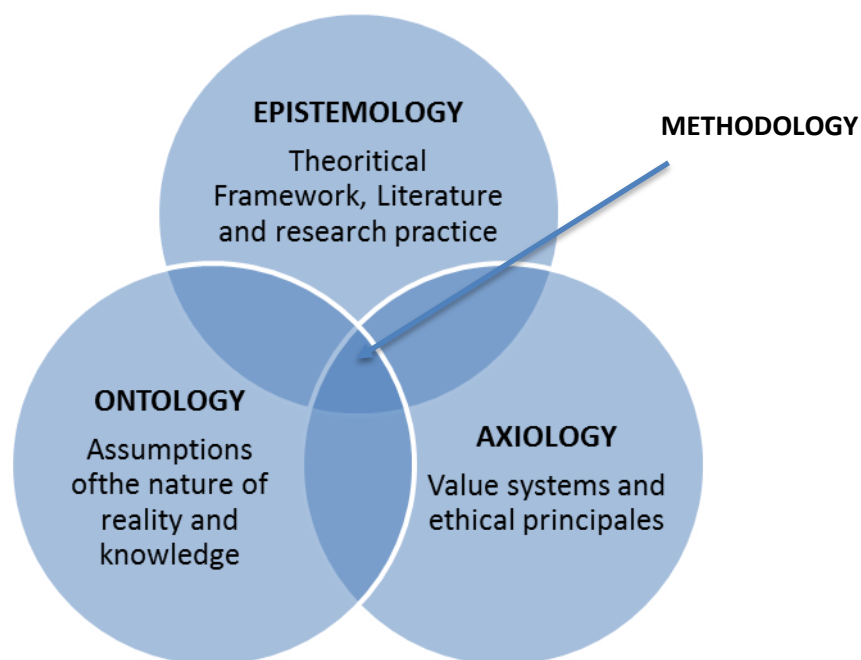


Figure 04. The Relation between Research Paradigm Components (Killam, 2013)

After studying the research paradigm components thoroughly, the researcher will be guided then to frame the research process in certain pattern and decide about the type of research paradigm that best fits his/her study. Moreover, these issues are really essential in the sense that the philosophical position the researcher adopts, determines the kinds of research that is worth-doing, the kinds of questions s/he can ask and the methods that s/he will use (Arthur et al., 2012). The research questions and objectives differ from one study to another; hence, a large number of paradigms have been proposed. However, Candy (1989) suggested that they all can be grouped into three main taxonomies, namely positivist, interpretivist, or critical paradigms. Other researchers such as Tashakkori and Teddlie (2003) proposed a fourth that borrows elements from these three and that is known as the Pragmatic paradigm (As cited in Kivunja, Kuyini, 2017). In the following, a brief overview of each:

1.1. Positivist Paradigm. It is also known as logical positivism. It holds that the scientific method is the only way to establish truth and objective reality (Chilisa & Kawulich, 2012). Chilisa and Kawulich believe that this paradigm is based upon the view that

science is the only foundation for true knowledge. Additionally, the methods, techniques and procedures used in the natural sciences offer the best framework for investigating the social world (p.7). They also stated that:

“This paradigm aims to provide explanations and to make predictions based on measurable outcomes and use quantitative research methods as the bedrock for the researcher’s ability to be precise in the description of the parameters and coefficients in the data that are gathered, analysed and interpreted, so as to understand relationships embedded in the data analysed” (p.30)

1.2. Interpretivist Paradigm. It claims that knowledge and meaning are acts of interpretation, hence there is no objective knowledge which is independent of thinking, reasoning humans (Gephart, 1999). In the same line, Taylor and Medina (2013) quote in their article that this paradigm “enables researchers to build rich local understandings of the life-world experiences of teachers and students and of the cultures of classrooms, schools and the communities they serve”. In many cases where the interpretivist paradigm is opted, data gathering methods follow a grounded theory approach, which is well suited to generating a theory from real life occurrences in which the social processes and what they mean are explained (Strauss & Corbin, 1990). Interpretive paradigm is propped by observation and interpretation thus, to observe is to gather information about events, while to interpret is to make meaning of that information by drawing inferences or by judging the match between the information and some abstract pattern (Aikenhead, 1997). The relation between the researcher and knowledge is strong because phenomena are studied through the meanings that people assign to them (Deetz, 1996).

1.3. Critical Paradigm. The research paradigm is critical in the sense that it posits that social science can never be truly objective or value-free. Further, this paradigm

operates from the perspective that scientific investigation should be conducted with the express goal of social change in mind (DeCarlo, n.d.)

1.4. Pragmatic Paradigm. Unlike the previous paradigms, pragmatism embraces more than one method per time. Thereby, it is often associated with mixed or multiple methods (Biesta 2010; Creswell and Clark 2011; Johnson and Onwuegbuzie 2004; Maxcy 2003; Morgan 2014a; Teddlie and Tashakkori 2009 (as cited in Kaushik & Walsh, 2019). It is based on the proposition where researchers should use the philosophical and/or methodological approach that works best for the particular research problem that is being investigated (Teddlie and Tashakkori, 2009; Creswell and Plano Clark, 2011).

Onwuegbuzie and Johnson (2006) related pragmatism in a research to pluralism of methods in which they stated the following:

“Pragmatism includes a healthy dose of pluralism by which we mean that it is not logically contradictory to claim that quantitative and qualitative research are both useful, even if, at times, they appear to be contradictory; perhaps what is seen as contradictory are different perspectives that are complementary and enable one to more fully to see his or her world” (Onwuegbuzie & Johnson, 2006, p. 54).

Table 09
The Major Paradigms in Research (Milman, 2010)

Paradigm	Ontology <i>What is reality?</i>	Epistemology <i>How can researchers know reality?</i>	Methodology <i>How do researchers go about finding knowledge?</i>	Axiology
Positivism	There is a single reality, truth realism (more realist)	Reality can be measured and apprehensible. Hence, the focus is on reliable	Quantitative/ Experimental research/ Quasi-	The researcher should be isolated,

		and valid tools to achieve that	experimental/ Survey research	absolute objectivity
Constructivist/ Interpretive	There is no single reality or truth (less realist). Reality is co-constructed by a group of individuals.	Reality needs to be interpreted. It is used to discover the underlying meaning of events and activities.	Qualitative/ Ethnography, grounded theory / Action research	The research is a part of research, he can be subjective and give his opinions.
Critical				
Pragmatism	Reality is constantly renegotiated, debated, interpreted in light of its usefulness in new unpredictable situations	The best method is one that solves problems Objective and subjective points of view.	Mixed methods: quantitative and qualitative / Design- based research	The value of the researcher depends on the usefulness of the research (value-laden)

Putting forward that the study at hands relies on multiple methods to investigate the effect of asynchronous e-learning on EFL students' grammar achievement objectively and subjectively, it adopted the 'pragmatism paradigm' (see table 09 above.). This study sets itself to answer in the expectation of answering the questions of the present research. The questions were categorized as shown in table 10.

Table 10
Research Questions and Paradigm Relations

Questions	Positivist Paradigm	Interpretist paradigm	Critical paradigm
RQ 01: How is grammar taught to first year students at Batna 2 University?	X		

RQ 02: How do students' perform in a conventional grammar class?	X
--	---

RQ 03: Are 1st year university students ready to receive English grammar courses through an asynchronous e-learning program?	X
--	---

RQ 04: Is it possible for students to enhance their grammar through an online based course?	X
---	---

RQ 05: Is there a difference in students' English grammar achievement levels between the treatment (asynchronous + traditional) group and the control (non- asynchronous) group after controlling for pre-intervention achievement levels?	X
--	---

RQ 06: Does the combination of asynchronous activities along with traditional face-to-face grammar courses exert positive or negative effect on academic achievement?	X
---	---

RQ 07: What is the effect of asynchronous e-learning on student-student and students-teacher interaction?	X
---	---

RQ 08: To what extent is the integration of asynchronous e-learning program in the EFL grammar courses effective in promoting students' grammar achievement?	X
--	---

RQ 09: What are the opinions of students in the experimental group towards using AEL in learning English grammar?	X
---	---

As table 10 above shows, the treatment of the research questions is not restricted to one specific paradigm but demands both the positivist and interpretivist. As a result, the research at hand elects a pragmatist research philosophy; it means that the study combines the two paradigms together to promote both methodological, epistemological pluralism, and to go through the course of investigation effectively.

2. Research Approach

In order to maintain a systematic plan for managing a scientific research in education, scholars draw on two broad distinctive approaches: quantitative and qualitative. The issue of adopting one or even combining both approaches in one's research is a compelling step that researchers should never ignore.

The appropriate selection of one category in a research shapes precisely the ways researchers approach problems, collect and analyse data. Going by this fact, it could be deduced that the first thing a researcher deals with is resolving the issue of conducting the research through a qualitative or quantitative approach. The decision on the research approach influences its design and provides an opportunity to consider benefits and limitations of various approaches available to the researcher. In the following each of these approaches is explained exclusively:

2.1. Quantitative Approach

Historically, the quantitative approach has dominated education research in the late 20th century; however, scholars began to call for an alternative to the quantitative approach in educational research (Guba & Lincoln, 1988). The quantitative approach is commonly affiliated with the positivist paradigm. It involves collecting and converting data into numerical forms so that statistical estimation can be made and conclusions drawn (Alzheimer Europe, 2009). A number of scholars, among whom (Aliaga & Gunderson, 2002; Babbie, 2010; Creswell, 2003;

Leedy & Williams, 2011; Ormrod, 2001) emphasize mainly on describing the approach as the manipulation of objective measurements and the statistical, mathematical, or numerical analysis of data collected through specific statistical and computational techniques. The adoption of this approach helps researchers to use the statistical techniques to answer questions like ‘who, how much, what, where, when, how many, and how’ through the focus on gathering numerical data and generalizing them across groups of people or to explain a particular phenomenon, support or refute alternative knowledge, claims (Williams, 2011).

The approach is purposely designed to establish relationships between the different variables either by giving much greater control over the research environment through manipulating all the variables that might influence the dependent variable as in the experimental research, or attempt to find causal relationships (Melter, 2016).

2.2. Qualitative Approach

As its name indicates, the qualitative approach tends to describe the quality side of research by focusing on the total and the holistic picture of the study. It is concerned with subjective assessment of attitudes, opinions and behaviour (Kothan, 1985). It grants the researcher to provide a deep understanding of more complicated subjects such as meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things (Berg, 2009).

The approach aims to propel investigators to understand people, and the social and cultural contexts within which they live (Myers, 2009). Hereof, it is more pertinent to answer “why” and “how” questions that seek to develop understanding about experiences, meanings and stories that people have towards the concepts in someone’s research questions.

2.3. Mixed Methods: Integrating quantitative and qualitative approaches

Sometimes, to meet certain requisitions regarding the nature of research, it is worth demanding to call for integrating more than an approach at a time, and to endorse multiple methods in a single investigation which would best serve the work. In this regard, a qualitative

research can involve statistics and numbers while the quantitative may include narrative descriptions and storytelling. So, at the end, the main goal is to be attentive in deciding which one is the most appropriate (Nachimas and Worth-Nachimas, 2008; Wildemuth, 2009; Lee, 1991; Gable, 1994; Mingers, 2001; Ragin, 1987). Many in the role of teaching research methods assert the significance of selecting the correct approach for any given study, as opposed to being loyal to a particular category or design (Hox & Boeije, 2005)

2.4.The Approach of the Current Research

In terms of approaches, the instant investigation appeals for a pragmatic approach which is an amalgamation of quantitative and qualitative approaches collaboratively: quantitative in the vein that it addresses numerical facts (scores, number of respondents) through answering close-ended questions, and qualitative intentionally to analyse how this relationship is processed and why is established.

The admixture of both approaches together entails the use of distinct methods that are a triangulation procedure which behind the purpose of illustrating a more complete understanding of the phenomenon being studied, and also to maintain the validity, reliability and the credibility of the data presented.

Another way of sorting out the research approach is on the basis of whether the research is testing the applicability of an existing theory, model or framework (deductive) or developing a new one (inductive) where the purpose is to understand the perceptions and behaviour of individuals (Yin, 2009). Since the present research utilises an existing theory (implementing AEL in education) to build a new conceptual framework (effect of AEL on EFL students' grammar achievement at Batna 2 University), it seems to espouse abductive approach which is essentially a combination of both approaches.

3. Research Methods

All the methods used like (procedures, schemes, algorithms, etc.) by a researcher during a research study are termed as research methods (Goundar, 2012). The choice of the appropriate method(s) of any research relies mainly on the nature of the topic, types of the collected data, the research questions, the objectives, and the sample under investigation. The nature of the current research applies for the use of a quasi-experimental method for three main reasons:

- 1- We hypothesized already to find a common ground between the independent variable and the dependent variable, also to rigorously decipher the causal relationship between them through a systematic manipulation of one variable on the other. Therefore, the experimental design would best serve to elucidate this connection.
- 2- It explicitly identifies the differences between the control and the experimental groups through comparing both sections (pre and post experimental) to each other.
- 3- No random assignment of subjects is marked because the groups were already formed at the start of the year by the English department administration. Besides, they have received the same courses along the standardization phase to establish group equivalence.
- 4- The random assignment is applied to intact groups rather than to individual subjects.
- 5- It provides the researcher with the chance to control all the other variables that might influence the dependent variables.

In the same line, one of the main research objectives of the present study stated previously which seeks to obtain a profound description of teachers' and students' perspectives, performances, evaluation and social interaction between teacher and students of the teaching and learning processes in both sections. For this reason, it is convincible enough to adopt additionally a descriptive method.

Research Contexts and Participants

4. Research Context

The study was carried out at the faculty of languages, department of English language and literature at Mustapha Benboulaïd University Batna-2. The department includes students of three degrees (licence/Bachelor, master and Doctorat). Grammar is taught only for first and second year licence students with a range of 3 hours a week via in-class face-to-face lecturing over two semesters a year. During the academic year (2018-2019), there were about 544 first year students clustered over 10 groups with at least (60 to 72) students in each. A grammar teacher was assigned to give lessons to two grammar classes, check their assignments, prepare their exam questions, correct their copies and put grades.

The study was purposely taken in this setting for the reason that the researcher, as a doctoral student and a part-time teacher in the same department, had the opportunity to teach first year grammar program for two years. Therefore, the access to the target population and the information needed was easily attained.

5. Target Population and Sample

5.1.Population

Whichever type of research is conducted, an important consideration involves the selection of participants who undertake the treatment. Methodically, the concept of population can be explained as a comprehensive group of individuals, institutions, objects, and so forth which have common characteristics that are the interest of a researcher.

In most cases, the feasibility of applying the experiment on the entire target population is unachievable. Consequently, researchers tend to reduce the size of the desired population to an applicable one to which the findings are expected to be generalized.

5.1.1.Students' Population

The population intended in this study involves all first year students of the department of English language and literature at Batna 2 University, and that is represented by (544) students among which female ratio (68.42 %) is higher than males (31.58%) during the academic year

2018/2019. Accordingly, conducting a detailed experimental study on this large number of students, would be time, money and effort excessive. In this case, a sample is used commonly to limit the numbers of units in the target population.

The objective for which first year students were selected is the perception that grammar is taught only for first and second year licence students. In addition, it is not a new module for them, they have already been exposed to grammar courses for 7 years, 04 years in the middle school, and 03 others in the high school. Besides, students were asked to handle asynchronous courses along with the ones taken in traditional classrooms. Simultaneously, the younger generation of learners grow up with technology that makes the integration of asynchronous e-learning as a technological tool in learning grammar easier. Thus, using such a technique in first year classrooms would prepare students right from the beginning to be able to control their awareness, understanding and manipulation of the delivered courses. Hence, first year students seem to be the most appropriate population to carry out this study.

5.1.2. Teachers' population

The population is expanded also to all permanent teachers in the same department and during the same academic year (2018-2019), represented by 69 teachers (Source: English Department at Batna 2 University. May, 2019). The teachers were asked to provide their opinions about the treated topics in a systematic manner. It is obvious that the process of contacting individual teachers through principals would have been prohibitively effort and time-consuming. Therefore the population was narrowed to only grammar, oral and written expression teachers who served more the survey, and could provide resonant explanation of how was grammar taught in their classes, and how was their students' level regarding their grammar achievement. The whole population of teachers was later reduced to a representative sample with a size of 22 teachers.

5.2.Sampling Technique and Sampling Size

5.2.1. Students' Sample

The question of sampling emanates immediately after defining the population on which the research will focus. The sample then is a subset of the population to which the researcher wants to generalise the results. Mouton (1996) defined a sample as elements selected with the intention of finding out something about the total population from which they are taken because in many educational research works, it is not feasible to include all the units of the population. The time, money and effort would be prohibitive. The same line of reasoning happened in the present study where the researcher was supposed to gather data from the whole population (N= 544 units) of 1st year students of English through incorporating asynchronous e-learning as a contemporary technological tool in EFL classrooms to detect their grammar achievement. The investigator confronted many hurdles to approach the entire population in terms of time and effort.

As mentioned previously, the researcher used a non-random students 'sample. In theory, if a sample isn't randomly selected, it will probably be biased in some way and the data may not be representative of the population (Rebecca & Warner, 2007). In order to ensure an accurate representation of the obtained results on the larger population, the researcher confirmed that the criterion upon which the sample was selected had no relation to the research variables, i. e. the administration personnel focused on the students' names alphabetical order to classify them into groups. This factor has no correlation with asynchronous e-learning or the students' grammar achievement. To all the sample participants, English is a foreign language. They have approximately the same age (17- 21). To determine the appropriate size of the sample, we used Slovin's formula that fits the purpose of our study, and the nature of population under scrutiny. First because the population is finite (544 subjects). Second, nothing is known about the behaviour of the population (the researcher has no idea about the students'

performance or perspectives towards the implementation of asynchronous e-learning). The formula of calculating the sample size is written as

$$n = \frac{N}{(1 + Ne^2)}$$

Where:

n = Number of sample

N = Total population number

e = Error tolerance (level).

Table 11
Confidence Level / Error Margin (Douglas, 2014)

The Desired Confidence Level	Error Margin
80 %	0.2
85 %	0.15
90 %	0.1
95 %	0.05

Step 1: It is important to figure out the confidence level we want it to be .In this study an estimation of 0.1 is given.

Step 2: Once the data are plugged in the formula, it becomes as follows:

$$n = \frac{544}{(1 + 544 * 0.1^2)}$$

$$n = \frac{544}{6.44}$$

$$n = 84$$

Therefore, 84 subjects were estimated as the original number size of the current study sample, on which all the experiment procedures were applied. In an attempt to reduce sample errors, the researcher had overestimated the number to 100 for the following reasons: It was expected that

- Some students may skip their classes

- Some participants would return incomplete or spoiled tests or questionnaires.
- Others may possibly miss out responding some questionnaire items.
- Ambiguous answers are also expected.
- Ticking twice in a row of choices where they were asked to tick only one...

Another pedagogical reason refers to the pre-made alphabetic distribution of students' groups by the English department administration personnel who devised the total number of 1st year students (N= 544) over 10 groups, in which they assigned meanly 64 student in each (The two groups, I personally taught contained 64 in each while other groups have more or less members) during the academic year 2018 /2019. Throughout the first weeks of the academic year, the researcher noticed that some students were enrolled in the concerned groups, but they marked truancy and absenteeism, the fact that may confound the process of the treatment. Therefore, the participation of these students was eliminated, and the number was again reduced to (76) students.

This revised number of students (n= 76) was divided into two (02) groups, a control group and experimental one, with 38 students in each. The decision of which group is the control, and which one is the experimental was done at random. In order to avoid having two distinct groups in terms of their background knowledge, levels, and competences, also to maintain an equivalent departure for both groups, students were all directed to a standardization phase which is clearly decoded in (p.150-151).

The final groups were analysed in terms of demographic and pedagogical characteristics, the results are descriptively and statistically summarized in the following table:

Table 12
Demographic and Pedagogical Characterises of CG and EG Students' Samples.

Demographic Characteristics	Options	CG	EG
Gender	Male	12	12
	Female	26	26
Age	≤ 25	4	2
	>25	34	36

High School Course Streams	Scientific stream	10	8
	Literature stream	28	30
Pedagogical Characteristics	Grammar courses timing	8.30 a.m.	8.30 a.m.
	Duration of in-class session	3 h a week	3 h a week + asynchronous
	Number of 1 st term sessions	16	16
	Learning environment	Traditional in-class	Traditional in-class + asynchronous e-learning
	Instructor	The same instructor for both groups	

5.2.2. Teachers' Sample

To select the teachers' sample, the stratified sampling technique seems the most appropriate to fit this study. It is a probability sampling method that involves dividing the population into small subpopulations that may differ in characteristics. It permits the researcher to draw more precise conclusions by ensuring that every subgroup (also known as strata) is properly represented in the sample (McCombes, 2019). In the study at hand, the researcher selects randomly the members after dividing the population, based on the teachers' teaching speciality (e.g. Grammar teachers, written expression teachers, oral expression...). The reason behind this categorization is to consider only the teachers who focus more on evaluating the grammar level of their students when using the target language.

The proportionate stratified random sample of teachers will be obtained using this formula:

$$\text{Strata Sample Size} = \frac{\text{Total sample Size}}{\text{Total population size}} \times \text{Number of teachers in stratum}$$

because it ensures that each subgroup of a given population is adequately represented within the whole sample population of the research study (Hayas, 2021).

Table 13
Teachers' Population and Sample Sizes.

Teachers' Groups	Grammar Teachers	Written expression teachers	Oral expression teachers	The rest	Total
Number of teachers in stratum	10	11	12	38	69
Strata sample size	7	7	8	26	48

The original size of the teachers' population was (N= 69), selecting seven (07) grammar teachers, seven (07) written expression teachers and other eight (08), which gives you a representative sample of 22 teachers (7 + 7 + 8).

6. Identification of Research Variables

The simplest definition of a variable is presented as something that takes on different values; it is something that varies (Bhopal, 2002; Kerlinger, 1973). Methodically speaking, a variable is a construct or a characteristic that can take on different values or scores (Ary, Jacobs & Sorensen, 2010). More specifically, Agravante (2018) described the variable in scientific research as a measurable attribute that changes or varies across the experiment whether comparing results between multiple groups, multiple people or even when using a single person in an experiment.

In this research, the investigator studied all the variables related to the investigated subject, and tried to find the relationships that existed among them. One of the major aims of research is to understand the causes of phenomena. The presumed cause in a cause-effect relationship is called the independent variable, and the presumed effect is called the dependent variable (Polit et al., 2001; Vogt, 1993). Researchers consider these two variables as the consisting pillars of most research studies.

6.1. The Independent Variable (Manipulated/ Experimental Variable). The Oxford dictionary of statistical terms (2003) defines the independent variable as the variable that

is changed or controlled in a scientific experiment. It represents the cause or reason for an outcome. Dawn et al. (2009) assert that the independent variables are the ones that the experimenter changes to test their dependent variable. A change in the independent variable directly causes a change in the dependent variable. In the present investigation, the independent variable (IV) is the integration of asynchronous e-learning in EFL grammar classes.

6.2. The Dependent Variable (the Outcome /Measured Variable). As its name suggests, the dependent variable depends on another variable. It is hypothesized that it changes depending on the independent variable, and the researcher is usually most interested in understanding and possibly interested in predicting it (Cargan, 2007). In this study, the dependent Variable (DV) represents the EFL students' grammar achievement scores. In the same line, De Frederick (n.d.) confirmed that an experiment usually involves manipulating one variable, measuring a second variable, comparing the scores between treatments and controlling all other variables. The investigator should watch out the extraneous variables along with the previous ones when running an experiment. These undesirable variables might influence the outcomes and the scores of the treatment. Extraneous variables should be controlled were possible because they may become confounding, and they could go on to affect negatively the results of the experiment (McLeod, 2019).

Accordingly, the extraneous variables in the present study were previously identified and controlled to avoid any disturbing internal or external factor which may muddle the results. In this regard, we listed these variables as follows:

6.3. Participant Variables. it is sometimes tempting to see all students similar in the same classroom. Yet, there are marked differences, not only in terms of their age, but also in terms of their individual abilities such as knowledge, intelligence (IQ), learning styles,

and preferences, educational and cultural background. As indicated in (table 12, page 136), all participants in both groups show approximately the same characteristics so that such interferences were minimize.

6.4. Situational/Environment Variables. It is essentially difficult to attain an ideal environment that covers identical conditions for both control and experimental groups. Researchers often depict small changes in the environment and setting designed for the participants similar to (weather, lightning, noise, time in the day, duration of the course...), and control the environmental stimuli that participants experience. Since the goal is to measure the same individuals under identical circumstances, both samples were taught in the same manner. Again, as (table 12, page 136) shows, all students took their grammar courses the morning at 8.30 a.m., and in resembling settings and atmosphere. Also, tests were submitted to both samples during the experiment definitely the same way (Further details will be forthcoming in the Experiment Procedures section).

6.5. Experimenter Variables (experimenter-expectancy bias). The experimenter can be a source of extraneous variability, including experimenter bias in observations, experimenter effects, enhancement of demand characteristics, and enhancement of evaluation apprehension (Lammers, 2005). In plain language, throughout the present study, the investigator made all efforts to act professionally. In summary, there can be no denying that despite all the strict arrangement and the tricky strategies planned to control the mentioned variables, it remained unachievable to make an absolute elimination of every single factor which might affect the experiment results. De David et, al. (2011) asserted that a perfect experiment would have the dependent variable entirely controlled with the independent variable. In practice, this is not very likely. All experiments contain error, which can be defined as other uncontrolled influences that alter the dependent variable.

7. Validity Threats

When conducting experiments, investigators need to be aware of potential internal validity threats (Morrison, 2003). These threats represent the extraneous variables that are difficult to be controlled. Thus, they hinder the course of the experiment and shake its validity. In this regard, Campbell and Stanley (1963) identified different classes of such threats: selection bias, history, instrumentation, diffusion of the treatment...etc

7.1. Selection Bias

It occurs when the selection of subjects results in dissimilarities between groups that are related to the different variables being studied. This difference can cause a selection bias (Brill, 2018). Selection bias arises in non-random samples when unobserved factors are correlated both with the probability of being selected in the sample and with the explanatory variables (Deschacht & Goeman, 2015). Since the present study applies the random assignment on groups rather than individual subjects to treatment, the selection bias was reduced. Attesting to this, the researcher studied the characteristics of all subjects through the preliminary questionnaire (see Appendix B) and the preliminary test (see appendix A). from the results, displayed respectively on table 12 on page 136 and table 32 on page 191), it seems that there is no significant differences in subjects' abilities and characteristics between the two groups being compared. Therefore, the two groups are almost equivalent in terms of students' characteristics.

7.2. The Hawthorne Effect

Throughout the experimental study, participants may have the inclination to change or refine their performance being evaluated only because they know that they are under study and not because of real changes in the experiment parameters or stimulus (Hansson & Wigblad, 2006). To avoid this effect in the current study, the researcher intentionally presented the grammar courses and tests as ordinary tasks so that students could perform naturally. .

7.3.History

This validity threat is also called ‘experience’ by Campbell. It is present when events, other than the treatments, occur during the experimental period and influence results (Campbell, 1957; Morrison, 2003). In this study, the researcher investigates the effect of implementing an AEL program (treatment) vs. conventional instruction (control) to grammar classes. Before the experiment, students of both groups received the same in-class lessons. However, at the beginning of the treatment, the teacher begins to support the experimental group with AEL program (lessons on a Google Classroom platform). Due to history threat factor, the treatment group students still rely on traditional learning because it seems more familiar to them.

7.4.Instrument Decay

When the procedure for administering the instrument is changed or the instrument itself is inconsistently used over a period of time is made of testing instruments, or even when the pre-test and post-test are uneven in difficulty, the validity of the experiment is threaten (Brill, 2018). To avoid the instrument threat, the researcher checked in advance the validity and the reliability of all the instruments throughout the experiment. Students who received the AEL treatment might face problems of access to the asynchronous platform because of the instrument unavailability or inaccessibility (Poor internet connection, lack of computer devices...etc.). Fortunately, the flexibility of time frames of the AEL program did not oblige the students to study at the same online learning time, as a result, students could access when internet was available. In this case, the researcher suggested that students enter at least 2 times a week so that they could download their courses or check their assignments. Although access to digital devices like tablets, laptops and smartphones was even more widespread, low-income students often did not have access to devices at home. It is luckily again that the survey showed that only two (02) students from the whole sample did not possess any digital device. The researcher recommended that they worked collaboratively with their classmates in a manner that

accommodated all of them. Moreover, the pre-test and post-test were also similarly designed in a way that made them equal in difficulty.

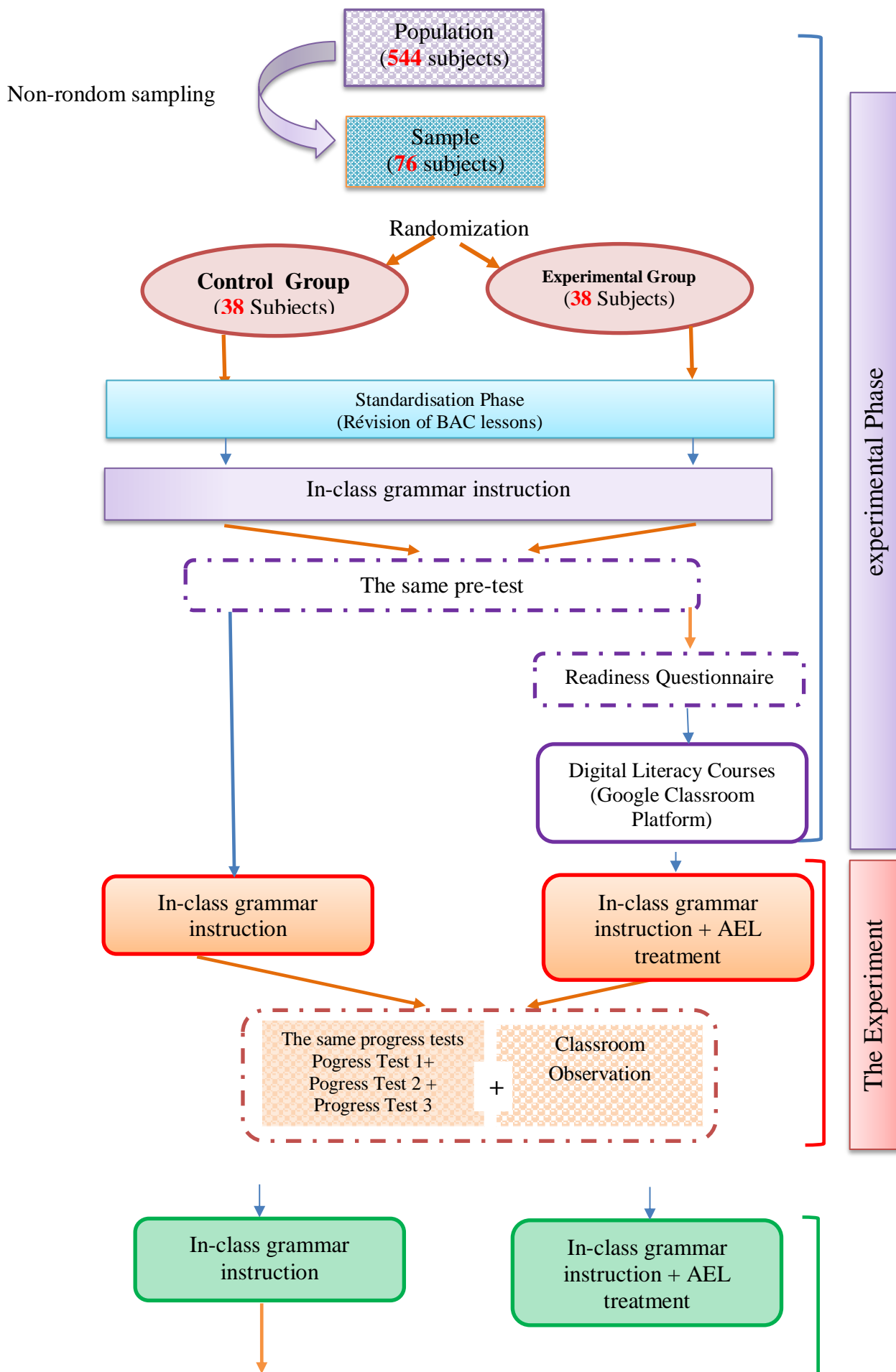
7.5. Diffusion of the treatment

It occurs when the implementation of a particular treatment influences the control group subjects. For the same line, Borg (1984) clarifies that diffusion could happen when individuals in the control groups and treatment groups talk to each other about the treatment. As such, this is usually an issue in research involving training or informational programs. In the current study, the control group was exposed to only traditional grammar instruction while the experimental group benefited from the same lessons assisted by the electronic ones. The students of the control group however, accessed the Google Classroom platform to profit also from the lessons and the assignments delivered on. By this way, the perceptions and attitudes of the control group were negatively influenced. As a result, the experiment validity is shaken too. Later on, the investigator recommended that students of the experimental group must use their real names instead of pseudo/ fake names to avoid parasite members from the control group.

8. Research Design

A good design is the one in which the components work harmoniously together. It promotes efficient and successful functioning. Flowed design leads to poor operation or failure (Joseph & Maxwell, 2005). In this regard, the actual dissertation is bifurcated into theoretical and empirical sections which are intentionally designed to complete each other. The first covers a deep understanding of the research topic through providing a range of previous theories in the subject area, elucidates how they have been explained and developed. Also, it presents the cardinal criticisms which have been made in the same line of inquiry. The empirical section, on the other hand, incorporates the pursued methodology and the necessary procedures taken to precisely justify the approach opted for the experiment, also the process to check the hypothesis.

Although the researcher preferred to use a true-experimental design which allows to randomly assigning each participant to an experimental and control group, thus minimizing the differences between groups. Unfortunately, the English department system at Batna 2 University did not allow for changing the formed groups in sections. As a result, the researcher used the quasi-experimental design, in which the subjects who took part in the treatment phase were not randomly selected in the sense that the target groups were previously clustered by the administration to their names' alphabetic order at the starting of the year. Quasi-experiment is one where the treatment variable is manipulated but the groups are not equated prior to manipulation of the independent variable (Al-Jarrah, 2019). To this end, both groups received the same in-class grammar instruction during the standardization phase to ensure a common starting background for all students. Accordingly, the study examined grammar achievement among first year students in a control and another experimental group. It is worth to state that both groups ought to be of the same level of training (or approximately with the equal marks in a given matter being taught), same age (or approximately the same), at least concerning those variables possibly controlled at the beginning of the test. After the treatment reserved for the experimental group, they were both tested through the same test. Both were given pre- and post-tests while only the experimental group participated in six online grammar lessons after receiving some digital literacy courses that helped them to effectively manipulate Google classroom platform through which they took their asynchronous courses. The outcomes of the tests, the questionnaires, observations about students' performance were then analysed and discussed. The quasi-experiment is represented diagrammatically as follows:



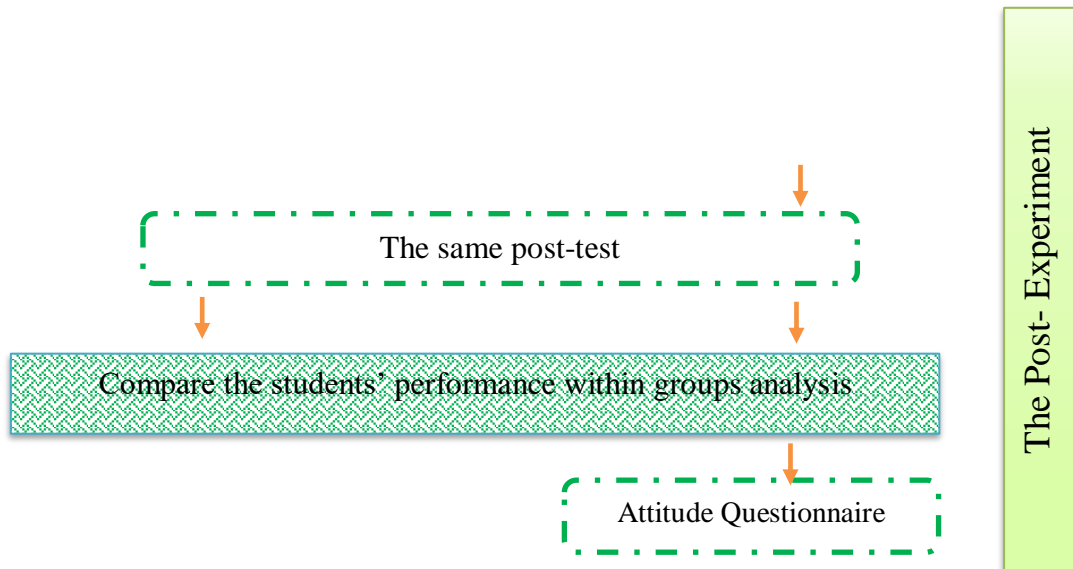


Figure 05. Diagram of a the Study Design

Stating that:

N= Non-random;

O = Pre-test;

X= intervention;

O2 = Post-test,

The following table explains the quasi-experiment design for both groups;

Table 13
The Two-Group Pre-test-Post-test Design

		Pre-test	Experiment intervention	Post-test
Control group	N	O	-	O2
Experimental Group	N	O	X	O2

9. Triangulation of Data

9.1. Instrumentation

It is crucially important to select suitable instruments and tools to gather new facts or explore necessary data in research. The nature of research together with the methods adopted in research have a straightaway influence on the right choice of the tools selected. The investigator may use one or more of the tools in the same research. However, opting for multiple tools further facilitates the validation of data through cross verification from diverse sources.

In this section, we try to surround every single research instrument used throughout the study, explain its advantages, the merits, the shortcomings and the suitability of each so that we clearly justify its choice outweigh many others. The following is a detailed list of those instruments:

9.1.1. Questionnaire

As the term generally used in educational research, the questionnaire refers to the research tool that consists of a sense of questions or statements to which individuals are asked to respond frequently. The respondents may be asked for facts or their opinions, attitudes or preferences (Singh, 2006). Questionnaires have been centrally used in educational research works. A lot of researchers have tempted to implement questionnaires in their educational studies for a number of reasons: (a) collect vast quantities of data from a variety of respondents, (b) findings are usually easy to be constructed and developed, (c) they can be easily and quickly analysed once completed, (d) possibility of asking the same questions to all respondents (e) collecting both quantitative and qualitative information (Wilkinson & Birmingham, 2003).

Unlike the above advantages, the questionnaire has also some limitations that are briefly presented in the following points:

- The information obtained is limited to the written responses to the prearranged questions. This may result in more “don’t know” answers and incomplete information. (Cargan,2007)
- There is a very high chance that emailed questionnaires may not be answered or returned back
- Whether a questionnaire is sent in person or via email, the probability is still high that some questions will be ignored, incorrectly completed, instructions may be misinterpreted and some answers will be inadequately detailed (Hicks, 2009).

9.1.1.1. Description of the questionnaires

The study calls for three different questionnaires:

a) Teachers' Questionnaire

In the course of the pilot study, a questionnaire was emailed to the sample of teachers (22) of the English department at Batna 2 University during the academic year 2017/2018. It comprises a series of questions of about (15) items, divided into four (04) sections. The questionnaire's findings helped the researcher to gain the desired information where the first section covers the teachers' general information (Q1, Q2 and Q3). The second includes the methods and materials that those teachers use to teach (Q4, Q5, Q6, Q7 and Q8). The third section seeks to survey the teachers' opinions about their students' level in grammar (Q9, Q10, Q11, Q12, Q13 and Q15). Finally, the fourth section addresses questions to the informants about the possibility and efficacy of presenting the grammar courses through an asynchronous e-learning program (Q16, Q17 and Q18).

b) Students' Readiness Questionnaire

It was distributed only to the experimental group students during the pre-experimental phase in order to check their readiness to learn asynchronously. The questionnaire includes thirty (30) items, split over three (03) sections. As is so often, the first incorporates the general background information about the respondent (Q1 and Q2). The second section covers questions relevant to the informants' digital ownership and accessibility (Q3, Q4, Q5 and Q6) while the third section is a 5-point likert scale divided into four (04) parts entitled and arranged as follows:

(A) My self-management (from S1 to S5). It assesses the informants' ability to manage an online course.

(B) My Learning Style and Abilities (from S6 to S11). It surveys their styles and abilities of learning a foreign language.

(C) My Digital Skills (from S12 to S18). This is particularly planned to evaluate the respondents' skills of manipulating the different learning digital tools and programs.

(D) My digital Equipment's Quality (from S19 to S22). This part aims to check the informants' digital tools quality.

The informants' answers of the whole questionnaire helped the researcher to take an overview about their willingness, readiness and manipulation of asynchronous e-learning programs.

c) Students' Attitude Questionnaire

This questionnaire was also emailed to only the experimental group students after their experience of learning asynchronously. It is aimed to collect significant data of their positions towards the new technological technique used in their grammar courses.

The whole questionnaire is a form of a 5-point Likert scale divided over five (5) sections. It allows respondents to indicate their strength of agreement or disagreement regarding the statements of each section. The sections are categorized in this way:

Section I: The Pedagogical and Functional Effect of Asynchronous E-learning (from Statement 'a' to statement 'h').

Section II: Social Interaction and Collaborative Work Effect (from statement 'a' to statement 'i').

Section III: The Organization and Management of Learning Effect (from statement 'a' to statement 'g').

Section IV: Knowledge and Cognitive Processes Effect (from statement 'a' to statement 'g').

The three questionnaires were carefully designed with a focus on the study objectives and requirements. They were created on an online website to be convenient for respondents since they can be easily submitted, filled and analysed. Moreover, the new terms were obviously

defined and abbreviations/acronyms are clarified so that ambiguity could be avoided. The questions are varied between open-ended and close-ended questions. While the first are (verbatim) brace which provide a free space, and permit explanation, but responses can be difficult to summarize and tabulate (Singh, 2006), the second type is called dichotomies, a more restricted type of questions where the respondent is asked to answer questions with a determined choice in which (Sleek, 2012) Pointed to dichotomous questions which have only two possible answers multiple choices and checklists. Besides, orderly Likert scales are also included, from which respondents select the option that best supports their opinion.

Each questionnaire starts with a description box that puts the respondents in the scope of the topic. The answers were all anonymous since respondents were not asked to be identified. Both quantitative and qualitative data were collected through these questionnaires.

9.1.1.2. Piloting the Questionnaire

a) Validity of the Questionnaires

To check whether the questionnaires will be administered to the right population and will provide accurate data, they were first piloted by a small sample size of 04 teachers from the English department at Batna 2 University. These teachers had a considerable experience in the domain of teaching English grammar, oral and written expression, therefore, making sure that all the main topics have been included and preventing problems that concern inappropriateness of questions to the target population. The expert teachers attempted to answer the following questions:

- Whose wording may be ambiguous?
- Are the questions being asked appropriate for the people being surveyed?
- What is the length of time necessary to complete the instrument?
- Are the instructions presented clear enough to be administered to the target population?

- Which question should be eliminated because it is contrary to the initial expectations or it is irrelevant? (Dörnyei & Taguchi, 2010).

Table 14
The Three Questionnaires' Piloting Results

	Expert Teacher 1	Expert Teacher 2	Expert Teacher 3	Expert Teacher 4
Q1	No ambiguity	No ambiguity	No ambiguity	No ambiguity
Q2	Yes	Yes	Yes	Yes
Q3	15 min for each	15 min for each	-	-
Q4	Yes	Yes	Yes	Yes
Q5	No one	No one	No one	No one

Taking into account the expert teachers' answers (presented in table 14 above), the questionnaires seemed appropriate and ready to be rendered. The same method was used for students' readiness questionnaire and their attitude questionnaire. The results were approximately the same. The expert teachers validated all the items in each. However, they suggested to add some questions in the students' attitude questionnaire relevant to the quality of the used digital tools (See Appendix E).

b) Reliability of the Questionnaires

Another concern is to measure the extent to which the questionnaires are reliable by checking the format of the questionnaire, the clarity of the questions being asked, and whether those questions were clearly constructed to avoid misunderstanding. In this study, reliability was established using a pilot study by collecting data from 25 students who were not included in the sample but with the same characteristics. The collected data were analysed using SPSS (Statistical Package for Social Science), version 26, via alpha Cronbach coefficient. The results are shown in the table below:

Table 15
Reliability of the Research Questionnaire

The questionnaires	Number of items	Cronbach Alpha
Teachers' questionnaire	21	0.82
Students' Readiness questionnaire	30	0.83
Students' Attitudes Questionnaire	31	0.79

As shown in table 15, the overall reliability of the teachers' questionnaire on standardized Cronbach Alpha is 0.82, the students' readiness questionnaire is with a coefficient of 0.83 and the attitudes questionnaire with 0.79. This indicated that the internal consistency between each questionnaires items is high.

9.1.2. Grammar Tests

In language classrooms, the term 'test' refers to a measuring device, no different in principle from a ruler, a weighting scale, or a thermometer that measures learners' language ability (Douglas, 2014). Tests cover the specific procedures that teachers and examiners employ to measure ability in language, using what learners show they know as an indicator of their ability (Hedge, 2014). Not all language tests of the same kind. In 2015, Jeremy Harmer summed up language tests into five main categories, depending on the purpose for which are designed. If the purpose is to place the learners in the right place, and determine which class they should go into, teachers and test designers should go for *placement tests*. Second, *progress tests* are arranged to measure how students are getting on mid-course, and how learners' language and skill progress in relation to the syllabus they have been following. Depending on the students' performance in the test, teachers can decide what needs to be done in the future. Third, *proficiency tests*, whose motive is to give a general 'snapshot' picture of a students' knowledge and ability. In other words, proficiency tests help to show how well the learner can 'drive' in the language (Thornbury, 2016). Fourth, *Portfolio assessment* is another type that many educational institutions tend to use in order to provide evidence of student's effort. Finally, *achievement tests*, also called exist tests (Harmer, 2015, p.166) which are pointedly given to

students at the end of a course of a study to see how well the students have learnt what they have been studying.

According to Bachman (2011), once designing any language test, teachers should make into account five essential characteristics:

- **Transparency:** The tests administered to students should be written in a clear language and in a way that all test takers have access to the test statements.
- **Practicality:** It refers to the easiness to manage, to score and to interpret a test. It is also enclosed by means of time constraints and financial limitations.
- **Reliability:** The term reliability refers to the consistency of the test results. Alternatively stated, a given test should present the same scores or results when it is administered in the same conditions.
- **Validity:** The most important quality of test design is validity. A test tends to be valid if it tests what is supposed to test. This implies the extent to which the inferences or decisions we make on the basis of test scores are meaningful, appropriate, and useful (American Psychological Association, 1985)
- **Washback /Backwash Effect:** It occurs when teachers see the form of the test that their students are going to have to take and then, as a result start teaching for the test (Harmer, 2015). In other words, teachers concentrate on introducing the techniques for answering certain types of test questions rather than explaining the lessons in general.

Grammar, as a part of language, is typically designed respecting the same elements and characteristics of a language test. “Grammar tests test the ability to either recognize or produce correct grammar and usage; they do not test the ability to use the language to express meaning. However, it can be argued that a basic knowledge of grammar underlies the ability to use language to express meaning, and so grammar tests do have an important part to play in language programs” (Kitao & Kitao, 1996).

In this investigation, the tests used were planned to check the 1st year students' grammar achievement after one term of grammar courses respecting the academic syllabus for the purpose of confirming, partially confirming, or rejecting the formulated hypothesis of this research. As such, a grammar achievement pre-test and a post-test were administered at the beginning and at the end of the treatment respectively. It is also worth to mention that the researcher used other three progressive tests along the treatment phase so that the analysis of the students' progress or regress can be detected. At the end of the experiment, a paired t-test was applied to compare the means of the group's scores. T-test aims at knowing whether the means of the two groups are significantly different from one another. It also identifies the relationship between the treatment group and its outcomes after experiencing the AEL mode (Burns, 2010, p. 13). (Supplemental details are reported throughout the coming pages)

9.1.3. Classroom Observation

In research, observation refers to the scientific method of collecting data through which researchers see things like objects, processes, relationships, events and formally record information (Simister, 2016). Under the observation method, the information is sought by way of investigator's own direct observation without asking from the respondent (Kothari, 2004). This means that the researcher observes the behaviour of an individual or a group of individuals in order to witness first-hand their behaviours under certain circumstances. Additionally, observational data may be useful for recording non-verbal behaviour in natural or contrived settings, and longitudinal analysis (Bailey 1994). As cited in INTRACK (2017), researchers distinguish between two main types of observations:

- ***Participant Observation***. It occurs where the investigator takes part in the life of the observed group to experience what the members of the group experience, and to gain a closer picture of what is happening and what is changing over the experiment. The

rationale is that a participant observer strengthens trust over time, and can therefore acquire much more detailed information from a community.

- ***Non-participant Observation.*** Where the investigator observes the behaviour of a group but he is detached from it.

Additionally, both types can be conducted either:

- ***Overtly.*** where the observed group members are aware of the observer presence.
- ***Covertly.*** where the observed group members are unaware that they are being observed and they don't feel the observer presence.

While in terms of formality, observation methods are classified into:

- ***Informal observation.*** is a method that investigators can collect data about a research subject progress and development without relying on scientific and systematic reports.
- ***Structured /Direct Observation.*** is a more systematic process where the purpose is enabling the researcher to generate data from the observations. In this line, Garbutt et al. (2017) further insisted that the observer researcher should follow four main steps:
 - (1) Define what needs to be observed, and why?
 - (2) Select an observer or group of observers.
 - (3) Record data in a log book or diary.
 - (4) Discuss the observations and draw conclusions.

To record the required data from the structured observation, researchers use checklists, rating scales, and coding sheets (Ary, Jacobs & Sorensen, 2010).

In terms of observation's environment, Kathari (2004, p.97) classified observation into controlled and uncontrolled:

- ***Controlled Observation.*** when observation occurs in a natural setting without pre-planned and definite setting.

- *Uncontrolled Observation*. It occurs in a natural surrounding without the influence of external or outside control.

Next to the grammar tests and the questionnaires used in this study, classroom observation was also exploited to triangulate information through the other data. It helped to explore how the CG and EG members behaved along the study period from the pre-experimental phase to the post-experimental one. It was purposely planned to provide a qualitative interpretive framing of students' grammar progress. Acting as both a researcher and a teacher imposed us to opt for participant observation because it served to reflect upon different issues that encountered the students during that period including learners' performance quality and progress in a grammar class. However, the researcher participated covertly to ensure a high validity of the instrument because students were observed in a controlled surrounding (a pre-arranged grammar class), and unaware of being observed. Thus, their performance was more candid.

The research observations were also a mixture of structured and informal designs. Structured, in the sense that pre-determined statements were used in a checklist to record information quickly about how students in both groups were performing in relation to their grammar achievement with and without the AEL treatment. Also informal because the observer recorded additional comments on the context which might not be included in the checklist.

The observation grid is categorized into four levels ranked respectively as follows: knowledge, understanding, application, and skill appertaining to blooms' taxonomy achievement framework. It is charted in columns where the observer can fill in with a plus (+) or a minus (-) depending on the student's performance in each of the mentioned levels. Besides, free spaces are placed at the bottom of the grid for marginal comments. The observation grid includes also the group category, a log diary, the name and the number of the lesson, and timing so that data can be systematically recorded.

The researcher selected ten (10) students to be observed in a single grammar session due to time limitations. The same procedures were followed in the asynchronous sessions via Google Classroom platform (GCRP). The observation tools were further expanded to record number of students in each session, the volume, frequency and level of seriousness of their conversations in terms of grammar so that their achievement will be intensely assessed and compared to students in the CG. The recorded observations were discussed in order to draw conclusions and to make recommendations eventually.

10. Ethical Approval

Scientists and researchers must always adhere to certain ethical principles when carrying out their studies particularly to educational and social ones to ensure that the function and the information are not brought into disrepute and that the rights of the research subjects are not violated in any way (Bhandari, 2021; Gregory, 2003). Recently, several ethical considerations across the research community have come to the forefront. This is partly a result of the greater awareness of human rights and data protection, also a result of increased public concern about the limits of any inquiry (Pearson, 2010). The following ethical standards were applied and examined at every stage of the study:

10.1. Informed Consent

The concept is described as the process for getting permission before conducting research (no author, 2011). In other words, human participants should be informed about all aspects of the experiment so that they take educated decisions and give consent to enter research voluntarily. This ethical dimension was apparent in students' and teachers' questionnaires of the current study, where the required information was explained to the respondents in a form of a written consent at the description box of each questionnaire (see Appendix B, D and E).

Whilst it has been proved that it is more convenient to ask students' permission of taking part before any study, it seems risky in some situations to do so, especially when there is a

conflict of the dual role of the teacher as a researcher and the student as a participant. In this context, Tulyakul and Meepring (2020) supported the idea that educators may face an ethical dilemma when controlling research by using their students as participants because the nature of pedagogic research itself can present a risk to voluntary participation since the distinction between practice development and the research itself is not always obvious (Regan, n.d). This is what exactly happened in the present study in the sense that the researcher, who was herself the teacher of the CG and EG, preferred to violate this ethical principle and to hide the fact that the tests which students received through the whole trial were part of it because they might feel reluctant or negligible to answer.

10.2. Privacy, Anonymity, and Confidentiality

The maintenance of privacy and confidentiality in research refers to the security of private information and the protection of participants from any potential harm and treating them as autonomous subjects to the fullest extent possible (UCI Office of Research) while privacy is the characteristic of having control of others' access to information about someone (Johnson & Christensen, 2000).

Participant anonymity and participant confidentiality are two terms commonly used synonymously when in fact they are different (Fleming & Zegwaard, 2018). Alternatively stated, anonymity appears when the participant's identity is kept unrevealed to everyone including the researcher. For example, the researcher in the current study did not ask the respondents to provide their names on because anonymity lets them feel freer to give information or opinion.

On the other side, participant confidentiality excepts the researcher, as in the case of interviews, where the participant identities are known to the researcher. In this study, particular attention is devoted to sustaining the confidentiality, anonymity, and privacy of the participants and information at each stage of the experiment. Further elaborated, the researcher in this study

confirmed that the identifiability of respondents would be hidden to anyone other than the researcher who analysed and interpreted the respondents' answers and scores by only citing code numbers instead of their names because what mattered more was the data with which the researcher could make useful and correct conclusions.

10.3. Integrity and Transparency

Integrity and transparency considerations of data are very vital in any research because they ensure valid conclusions. Therefore, all the disseminated data and the discussed results throughout the whole research process were not distorted but honestly presented. Besides to that, any work of other authors used in any part of the dissertation is explicitly acknowledged with the use of the APA referencing system.

11. The Pilot Study

Before starting straightaway the first stepping stones in an experiment, researchers should check the feasibility of the experiment design in which the sample size is concerned too. Thus, researchers identify the possible problems that may affect the validity of the results. As Maxwell (n.d.) cited, "no design is ever so complete that it cannot be improved by a prior, small scale exploratory study". He also added, "Pilot studies are almost always worth the time and effort (p.57) because they will give the investigator an indication of whether the undertaken project will work".

In the ongoing research, the pilot study was conducted before diving in the treatment process and prior to the final submission of the tests, the students' and teachers 'questionnaires. The pilot study design was very comparable to the main experiment intentionally to get prepared, also to avoid the risky disastrous mistakes that could be discovered during the pilot study and later minimized and corrected in the principal one. In this context, De Lucienne et al. (2009) claimed that the setup of the pilot study should be as close as possible to the setup of the intended study.

For this reason, the pilot study was put in place one year preceding the real experiment, exactly during the academic year (2017/2018), with 1st year students in the department of English at Batna 2 University. The participants shared the same characteristics of the intended one. After completing the whole process of this study, the researcher recognized valuable remarks that were put later into account to reformulate the experiment design. These remarks are noted below:

- Adding some questions in the students' attitude questionnaire that the researcher had not realized were important (See appendix E).
- Reformulating some questions which seemed to be vague in the pre-test and progress test 02.
- Discovering other extraneous variables, and attempting to find out a strategy to control them.
- Redesigning some lessons instructions to fit the learners' needs.
- Adjusting the right time allocated to the experiment.

A successful pilot study does not ensure the success of a research project. However, it does help the researchers assess their approach and practise the necessary techniques required for their project (Prieler, 2020).

The pilot study also covers the preliminary grammar test that was designed for the sake of proving the existence of the research problem at the area of investigation. Accordingly, the researcher scrutinized 56 exam copies of grammar and written expression of 1st year students. The results confirmed that 89.23% of the examined papers contained grammatically-ill sentences, inappropriate verb tenses, spelling mistakes, misplacing words. Additionally, the students' grades in grammar were unsatisfactory among which 49.09 % of the scores were under the average (<10).

At the same line, a questionnaire was addressed to grammar, written expression and oral expression teachers to survey mainly their opinions about their students' grammar achievement.

The Experiment Design

12. The Pre-experimental phase

12.1. The standardization phase

Since the study was conducted on 1st year students, who came from different high schools, variant streams (Literature, scientific, mathematics and statistics streams...), and were taught certainly by different teachers, we intentionally planned for an inclusive review of all the lessons that students took in their last year in high school (baccalaureate English grammar lessons). This task was deliberately done so that all students enter the experiment with the same starting point background. The standardization phase lasted 3 sessions (9 hours).

12.2. Pre-test

As its name indicates, the pre-test takes place before the experimental manipulation. At this stage, the researcher designed the test respecting the characteristics of a good test, which were abovementioned on page (153). It must also be noted that the time suggested for the test was carefully estimated to make it more practical. The same pre-test was simultaneously distributed over students of both groups (CG and EG) as a means to detect their initial level before starting the treatment. Students' answers to the pre-test would provide a clear idea about the two groups' grammar level.

It was not handed straight to the participating students but it had been first be presented to expert teachers of grammar in the same department in order to validate the test items, content, and format. It was a handwritten test that had to be completed in the classroom. It focused on different grammar activities comprising the lessons' elements taught in the review sessions.

The test questions were varied between knowledge, understanding, application and skill questions.

During the pre-test, we tried to create a sort of classroom atmosphere in which students could feel confident and comfortable so that they reached the desired outcomes. In this perspective, Burgess and Head (2005) stated that most students start with a strong belief that they can succeed, and we need to support them by understanding and supporting that belief, especially when they are becoming anxious. Once the allotted time of the pre-test, which lasted 60 minutes, was over, the invigilator collected their papers to be analysed, and scored with the help of a scoring key prepared by the examiner.

12.2.1. Scoring procedure

Thornbury (2016) stated that the more problematic is the validity of the scoring system itself and particularly the weighting given to the different categories. Investigators generally depend on standard scales scoring and rubrics to regularly assess their students' copies, or in other cases, they just make an equal distribution of marks between the different parts of the test which is the choice that we opted in scoring the students' pre-test and other tests copies in the present study.

12.2.2. Standardization of the Pre-test

Twenty (20) items made up the final form of the Pre-test. It was further standardized by experimental validation of the test that called for establishing reliability and validity.

a) Pre-test Validity

One of the most important ethical uses of a language test is ensuring its validity. It concerns the appropriacy of the inferences made on the basis of test performance (Douglas, 2012). Validity denotes accurately how a method measures something. If a method measures what it claims to measure, and the results closely correspond to real-world values, then it can be considered valid (Middleton, 2012). There exist four main forms of validity:

- **Construct validity.** The extent to which the test may be said to measure a theoretical construct or psychological variable.
- **Content validity.** The extent to which a test is representative of what it aims to measure. It is the degree to which a test matches a curriculum and accurately measures the specific training objectives on which a program is based. Typically it uses expert judgment of qualified experts to determine if a test is accurate, appropriate, and fair (Richard J. McCowan & Sheila C. McCowan, 1999)
- **Face validity.** The extent to which a test appears suitable to its aims?
- **Criterion validity.** The extent to which a test can predict a concrete outcome, or how well the results of a test approximate the results of another test.

In all the study tests, we opted for both content and face validity. To estimate the face validity, we presented the final draft to two (02) English grammar teachers from Batna 2 University, who have an experience of more than 10 years in teaching grammar. The teachers compared the pre-test items to the content of the revision lessons along with the scoring scale distributed to each exercise. After discussing all the mentioned points with the expert teachers, we validate immediately the test, and we administered it to the test takers at the planned time.

The content validity however, is designated to measure whether learners had understood the grammar lessons presented in the classroom. Thus, evidence could be gathered to show that students who studied well the lessons did all the test exercises successfully also resulting high scores, and vice versa. To gauge this validity, the researcher followed the following steps

- **Pre-test Item Analysis.** To assess any test quality, effectiveness and fairness, researchers usually examine its item analysis. It refers to a statistical technique which is used for selecting and rejecting the items of a test on the basis of their difficulty and discriminative values (Poonam & Sharam, 2019). This technique is done to hold the most adequate items of the final test version and reject the irrelevant ones. Before

categorizing the test items to satisfactory or inadequate, the investigator analysed first the student responses to individual exam questions with the intention of evaluating exam quality (Lee, 2019).

After determining the objective assessment items and designing the first version of the pre-test, the researcher submitted it to a small group of students (N=10) who were randomly selected away from the control and the experimental groups, but who received the same grammar lessons under the same conditions. The aim was to evaluate whether the test items were appropriate and valid in terms of difficulty and discrimination. The coming lines present the three steps that were followed in analysing the test items. The same steps were used also for the progress and the post-test of this study.

- a) **Arranging students' answer sheets.** In a regular classroom, the ten (10) selected students took the pre-test over 90 minutes. After gathering the students' answer copies, they were scored and organized in a descending order.
- b) **Difficulty Value.** The difficulty value is defined as the proportion or percentage of the examinees who have answered the items correctly, also referred to as the p-value (Guilford, 1967). The formula of the difficulty value (*DV*) is as follows:

$$DV = \frac{R^u + R^l}{N^u + N^l}$$

Where,

DV = Difficulty value.

R^u = the number of students in the upper group who responded correctly.

R^l = the number of students in the lower group who responded correctly.

N^u = the number of students in the upper group.

N^l = the Number of students in the lower group.

The pre-test was composed of twenty (20) questions distributed equally over four activities (Appendix F). The table below show the ten students' scores of the pre-test ranked from the

highest to the lowest. The number "1" indicates that the answer was correct while "0" indicates that it was incorrect.

Table 16
Students' Pre-test Scores in the Pilot Study

	Q.01	Q.02	Q.03	Q.04	Q.05	Q.06	Q.07	Q.08	Q.09	Q.10	Q.11	Q.12	Q.13	Q.14	Q.15	Q.16	Q.17	Q.18	Q.19	Q.20	Total
Student 1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	1	1	1	17
Student 2	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	17
Student 3	1	1	1	1	1	0	0	1	1	0	1	0	1	1	1	0	1	1	1	0	14
Student 4	1	1	0	0	0	1	0	1	1	1	0	0	1	1	1	0	1	1	1	1	13
Student 5	0	1	1	0	1	1	1	0	0	1	1	1	0	1	1	0	1	1	0	1	13
Student 6	1	0	0	1	0	1	0	0	0	1	0	1	1	1	0	1	1	1	0	0	10
Student 7	1	0	1	0	0	0	0	1	0	1	0	0	0	1	1	1	1	1	0	0	9
Student 8	0	1	1	0	1	0	0	0	1	1	1	0	0	0	1	1	0	1	0	0	9
Student 9	0	0	0	0	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	1	7
Student 10	0	1	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	1	7

At the second step, the investigator analysed the test difficulty indices using the Henning guidelines. Henning (1978) proposed that items with a proportion of correct answers that is less than 0.33 are high difficult whereas those with a proportion that is greater than 0.67 are too easy items. According to Henning, it is preferable that items at the extreme tails of the difficulty continuum should be excluded or revised but items with a proportion between 0.34 to 0.66 are moderate and acceptable. All these details are summarised in the following table:

Table 17
Henning's Guidelines (Difficulty Value)

High Difficult	Medium	Low (Too easy)
≤ 0.33	0.34-0.66	≥ 0.67

c) **Discrimination Power.** It is also called discrimination index. It refers to the ability of an item in the basis of which the discrimination is made between superiors and inferiors (Blood & Budd, 1972). In the same year, Marshall and Hales described discrimination power of an item as the extent to which success and failure on that item indicates the possession of the trait or achievement being measured. The formula that represents the discrimination index is as follows:

$$Dp = \frac{N^u - N^l}{N/2}$$

Dp = Discrimination power.

N^u = Number of students of higher group answering the item correctly.

N^l : Number of students of lower group answering the item correctly.

N = Total number of students.

Ebel's (1979) arranged a table that covers the criteria and guidelines for categorizing discriminating indices.

Table 18
Discrimination Powers Description

Discriminating Powers	Description
0.40 and above	The item is functioning quite satisfactorily
Between 0.30-0.39	Little or no revision is required
Between 0.20-0.29	The item is marginal and needs revision
≤ 0.19	The item should be eliminated or completely revised

To estimate the difficulty and the discrimination power values of the pre-test, the investigator applied the above-mentioned formulas, and insert the results in the following table:

Table 19
The pre-test Difficulty and Discrimination Power values

Questions	Correct Upper Group	Correct Lower group	Difficulty (p)	Discrimination V
Q 01	4	2	0,5	0,4
Q 02	4	2	0,6	0,4
Q 03	4	3	0,7	0,2
Q 04	3	1	0,4	0,4
Q 05	4	2	0,6	0,4
Q 06	3	2	0,5	0,2
Q 07	3	1	0,4	0,4
Q 08	4	2	0,6	0,4
Q 09	4	1	0,5	0,6
Q 10	3	5	0,8	-0,4
Q 11	4	2	0,6	0,4
Q 12	3	2	0,5	0,2
Q 13	4	1	0,5	0,6
Q 14	5	3	0,8	0,4
Q 15	5	2	0,7	0,6
Q 16	1	2	0,3	0,2
Q 17	2	5	0,7	-0,6
Q 18	5	3	0,8	0,4
Q 19	3	1	0,4	0,4
Q 20	4	2	0,6	0,4

It is remarked from the table 19 above that when the test item is correctly answered by the upper group students and incorrectly by the lower one like in (Q01, Q02, Q03, Q04, Q05, Q06, Q07, Q08, Q09, Q11, Q12 Q13, Q14, Q15, Q18, Q19 and Q20) than the item is alleged to have positive discrimination power; however, when the test item is correctly answered by lower group students and incorrectly by the upper one (as Q10 and Q 01) than the item is a negative discriminator. It happens sometimes that a test item is answered correctly by an equal number of upper and lower group students. In this case the item shows zero discrimination. Suruchi and Rana (2014) explained that an item with negative discrimination decreases the validity of test and thus must be discarded or replaced by a more adequate one.

Table 20
The First Version of the pre-test Discrimination power

Discriminating Powers	Items	Frequency	Remarks
0.40 and above	14	0.7	Very Good Items
Between 0.30-0.39	0	0	Reasonably Good Items
Between 0.20-0.29	4	0.2	Need Improvement
<0.19	2	0.1	Very Poor Items
Total	20	1	/

Table 20 presents the number and the frequency of items in each level with remarks of the discrimination indices. The results showed that more than the half number of items (14) were classified as very good ones. Four (04) items needed adjustments and improvements while only two (02) should be completely dismissed because they were poorly designed. It is also remarked that there was no question item with reasonably acceptable discriminating power.

To facilitate the evaluation of the pre-test item analysis and determine which item should be kept and which one should be eliminated, results are grouped in the table below:

Table 21
Pre-test item Analysis Results

Level of Difficulty Discriminating Index	High difficult (≤ 0.33)	Moderate (.34-.66)	Easy (≥ 0.67)	Total
0.4 and above	0	11	3	14
Between 0.30-0.39	0	0	0	0
Between 0.20-0.29	1	2	1	4
≤ 0.19	0	0	2	2
Total	1	13	6	20

Results from table 21 above show that the majority of the test questions were moderate (13 questions), (06) were easy while only (01) questions is classified as very difficult. In this case the researcher should select attentively the required level of questions to meet the experiment objectives.

The next phase of evaluating the pre-test effectiveness is the analysis of the quality of each item that shows irrelevance or inappropriateness, using the following questions from Gronlund and Linn (1990) that we categorise them in the following table:

Table 22
Pre-test Items: Problems and Irrelevance

The problem	Items
-------------	-------

	a. Is the item format appropriate for the learning outcome being measured?	All items
Clearness and consistency	b. Does the knowledge, understanding, or thinking skill called forth by the item match the specific learning outcome and subject-matter content being measured?	All items except 1, 5
	c. Is the point of the item clear?	
	d. Is the item free of excessive verbiage?	All items except 1, 5 & 7
	e. Is the item of appropriate difficulty?	
	f. Does the item have an answer that would be agreed upon by experts?	No item
	Technical	g. Grammatical inconsistencies.
h. Verbal associations.		No item
i. Specific determiners.		
Mechanical features	Is the statement of the item too long?	Item 5
	Is the item poorly structured?	No item
Ethical features	Is the item free from racial, ethnic, and sexual bias? (pp. 230-232).	No item -

After examining the items' deficiencies, checking and revising the adjustments with the expert teachers, the final calculation of the item analysis data are presented in the following table. There are (14) questions that are well designed. So, they are kept as they are while the other (06) need improvement.

Table 23
Data of the final draft of the pre-test

Level of Difficulty →	Moderate	Remarks	Total
Discriminating Index ↓	(.34-.66)		
.40 and above	14	Well-designed items	20
Between 0.30-0.39	6	Need improvements	-
Total	20	-	-

Taking all the previous remarks into consideration, the researcher re-designed the pre-test to its final version that is in (Appendix E). The same course of actions was followed with all the subsequent tests of the study.

b) Pre-test Reliability

Douglas (2012) mentioned that the reliability of any test refers to the extent to which this test provides accurate measures of whatever abilities that it is designed to measure. He added, whatever the causes of inconsistent test performance, we have an ethical responsibility to make our tests as accurate as possible to give our students as fair measurement of their abilities as we can (Douglas, 2012, p.10). For this reason, we intentionally submitted the same test twice to the same students and under similar conditions with an interval of 21 days between the first and the second day of the exam. The scores obtained were all charted in the SPSS program to compute the Cronbach's alpha. The statistics showed that the reliability coefficient is equal to 0.85.

Table 24
Pre-test Reliability Coefficient

	Number of items	Cronbach Alpha
The Pre-test	20	0.85

From table 24 below, we can arrange that the final version of the test reaches good reliability.

Table 25
Coefficient Reliability Interpretation

Coefficient Interval	Interpretation
$X > 0.9$	Excellent reliability
$0.8 < x < 0.9$	Good reliability
$0.7 < x < 0.8$	Acceptable reliability
$0.6 < x < 0.7$	Questionable reliability
$0.5 < x < 0.6$	Poor reliability

13. The Experimental Phase

It is quite wise to properly design a research experiment and to ascertain that the data gathered from this experiment are available enough to effectively answer the research questions and check the hypotheses suggested. As cited earlier, this research is mainly conducted to determine the effectiveness of integrating a technology technique, called asynchronous e-learning, in foreign language classrooms to improve learners' grammar achievement. From this standpoint, we organized an experiment right after the pre-test analysis to check out the casual relationship between the independent and the dependent variable of the running study. The course of the treatment ran only over the experimental group while the control group received no treatment. It endured around six (06) weeks. All the treatment steps will be debated in the discussion that follows.

13.1. Teaching the Control Group (CG)

In a traditional classroom, the control group students received 1st year grammar courses respecting the academic syllabus program with an average of 3 hours a week every Sunday morning from 08.00 to 10.00 o'clock. All sessions were through direct face-to-face.

13.2. Teaching the Experimental Group (EG)

The experimental group received the same in-class grammar courses as the control group did with a support of digital courses, homework and assignment on Google Classroom Platform (GCRP).

13.3. Lesson Plan

The preparation of each lesson was split up into three (03) steps: Preparation, the lesson plan and finally the homework or the assignment.

Step 1: Preparation for the Grammar Lesson

As a first step, the teacher consults a variety of grammar reference books and websites to gather as much information as possible about grammatical concepts and rules, where and how

they are used, and search for any exceptions governing their use. The variance of references ensure a rich lesson but a delimitation of information is needed so that the lesson content matches the objectives and the students' abilities.

Step 2: The Grammar Lesson

At the second step, the teacher submits the grammar lesson which is made of four stages:

a. Presentation of the Grammar Lesson

The teacher selects attentively the approach and the techniques through which the lesson could be presented. The choice of the approach depends mainly on the lesson subject, the learners' preferences and the class time. According to these factors, the lesson can start with a general rule which is then applied to specific language examples and honed through practice exercises (deductive approach), or students are asked first to detect and work out a 'rule' for themselves before they practise the language (inductive approach). All the lessons were presented in traditional face-to-face classes for both groups while the electronic versions are exceptionally delivered to the EG through GRCP as supporting materials.

b. Focused Practice

At this stage the learner manipulates the rules through different practices from the easiest to the most difficult. The teacher designs the activities based on Bloom's taxonomy pyramid to check the students' knowledge, understanding, applying, analysing, evaluating and creating of rules. The aim behind these practices is to treat independently the language elements. In this line, Celce-Murcia and Hilles (2019) proved that "this stage allows learners to gain control of the form without the added pressure and distraction of trying to use the form for communication". Due to time constraints and large class size in the traditional grammar course, the number of exercises is very limited. However, students in the EG have more opportunities to practice electronic exercises on the GCRP.

c. Communicative Practice

To profoundly evaluate the students' manipulation of the grammar rules, the learner practises the target items through specific communicative tasks (dialogues, role-plays, speech, movies...etc). Again the opportunity to take part in similar activities is always insufficient in the classroom because of the short space of time.

d. Feedback and Correction

“Feedback is a crucial section belonging to the second language teaching and learning, which will influence the motivation and linguistic accuracy of learners” (Ellis, 2009). During the experiment, the CG received predominantly immediate feedback and correction when doing their grammar tasks as the case of focused practice activities, or delayed after communicative practices in a physical classroom by keeping students on track to meeting their real reactions. For the EG, the teacher focuses more on the e-feedback by sending emails, providing audio recordings of comments, and setting up online chats.

e. Homework and Assignments

At the end of each session, the teacher scheduled between 15 to 30 minutes of exercises to practise what they have learned during the lesson. Moreover, at the end of the unit, the teacher organizes a series of relevant exercises categorised into focused and communicative practises, and manage them with deadlines. A session of three (03) hours is scheduled to discuss the answers with the students. Once more, due to the limited class duration, they sometimes fail to do accomplish all the tasks. On the other hand, students in the virtual classroom could access and share supplemental lessons, exercises, assignments, books, podcasts and videos upload on the platform and address any questions or concerns they might have. The teacher remained in touch with the EG asynchronously even after classes. The major aim behind applying the cited treatment was to make students able to practise more grammar rules, and have supplemental opportunities for collaboration and communication between themselves as well as with their teacher.

Table 26

Licence 1st Year Grammar Syllabus Course Plan of the First Semester

Units	Lessons	Content
01. The Sentence	Sentence Components	Subject – verb – Object- Direct object- Indirect Object- predict- complement-
	Types of Sentence	Simple- compound – complex- compound-complex- the dependent clause- the independent clause
02. Parts of Speech	Nouns	Common vs. proper Countable vs. Uncountable Singular Vs. plural Collective nouns Compound nouns Possessive nouns
	Pronouns	Personal- personal object -Reflexive – Relative- Interrogative- Demonstrative Reciprocal Possessive pronouns
	Articles	Definite article- indefinite article- Zero article
	Determiners	Specific /general determiners Possessive determiners Numbers- distributives- Difference words- Pre-determiners- Zero determiner-
	Quantifiers	Some –few- little- more- fewer-less- all-each-every- enough- another- both- either-neither- Quantifiers with determiners Quantifiers in conversation
	Adjectives	Forms of adjectives – Before or after – Descriptive - Coordinate - Compound - Proper a- Demonstrative - Distributive - Indefinite - Interrogative adjectives- Possessive - Predicate adjectives- Quantitative - Article adjectives- Comparative / Superlative Adjectives- Adjectives order in a sentence- Adjectives with intensifiers- Gradable / ungradable adjectives Mitigators-

Table 27

The Experiment Plan Diary

Date	Activities	Durations
16/ 09/ 2018	<u>Standardization Phase</u> Revision of the baccalaureate grammar lessons	09 hours
30/09/2018	<u>Pre-test</u> The test covers the items studied in the revision	90 minutes

14/10/2018	<u>Unit 01</u>	06 hours
21/10/2018	Sentence patterns – Types of Sentences	
28/10/2018	<u>Practice Session</u>	03 hours
	A series of focus activities relevant to lesson 01 and 02	
04/11/2018	<u>Progressive Test 01</u>	90 minutes
	The test covers the first two lessons of the first unit	
11/ 11/ 2018	<u>Unit 02</u>	06 hours
18/11/2018	Nouns - Pronouns	
25/11/2018	<u>Practice Session</u>	03 hours
	A series of Focus and Communicative exercises relevant to lesson 03 and 04	
02/11/2018	<u>Progress Test 02</u>	90 minutes
	The test covers lesson 03 and four from Unit 02	
09/12/2018	<u>Unit 02</u>	06 hours
06/01/2019	Articles - Determiners	
Winter Holidays		
13/01/2019	<u>Practice Session</u>	03 hours
	A series of focus and communicative practices relevant to lesson 05 and 06	
20/01/2019	<u>Progress Test 03</u>	90 minutes
27/01/2019	<u>Unit 02</u>	06 hours
03/02/2019		
10 /02/2019	<u>Practice Session</u>	03hours
17/02/2019	<u>Post-test</u>	60 minutes
Spring Holidays		

13.4. Progress Tests

As cited earlier, each unit in the grammar program comprises a number of lessons. At the end of each lesson, the teacher scheduled a progress test to measure the students' progress in relation to the syllabus they have been following, and to detect what more still to be done in the coming sessions of the treatment. The teacher designed the progress tests (see Appendix G, H and I) respecting the same criteria of the pre-test. After printing the final form, the test were administered to both groups expecting to get positive effect on the experimental group scores.

Until the end of the experiment course, the process of teaching grammar remained as it began. Each time, the progress tests copies were gathered, analysed, scored and charted to be discussed.

The type of questions vary between knowledge, understanding, application and skill questions relying on bloom's taxonomy. In the table below, the action words help determine the category of the test question.

Table 28

Objectives & Action Words from Bloom's Taxonomy (Gupta, 2017).

Objectives	Action words
Knowledge	Define, Recognize, Names, State, Write, Examine
Understanding	Identify, Explain, Indicate, Demonstrate, Convert
Application	Choose, Change, Fin
Skill	Select, Separate, Replace, Integrate, Combine

13.1.3. Validity and Reliability of the progress tests. Similar procedures to those of the pre-test were followed to check the validity and reliability of the progress tests. The results are exhibited in the table below.

Table 29

Validity and Reliability of the Progress Tests

	N° of Items	Validity	Coefficient Reliability
Progress test 01	20	<i>Valid</i>	0.88
Progress Test 02	20	<i>Valid</i>	0.79
Progress Test 03	20	<i>Valid</i>	0.80

14. The Post-experimental Phase

14.1. The Post-test

By the end of the treatment, the teacher designed a final achievement test (see Appendix J) administered concurrently to both groups. This time, the teacher intended to inspect whether

the group of students who received the treatment had really benefited from the suggested technology technique, and marked positive performance or not. The validity, reliability and assessment of the post-test track the same operations adopted in the pre-test. In terms of format, content and degree of difficulty, the pre and the post tests were closely similar except the fact that the first examines the students' grammar achievement pertaining to lesson taken at the beginning of the semester (Types of sentence, structure of sentence, Subject-verb agreement, clauses) while the posttest contains the items tackled at the end of the semester (Nouns, pronouns, adjectives, verbs, prepositions).

Results in table 27 above confirmed the validity and the reliability of the test.

Table 30
Validity and Reliability of the Posttest

	N° of Items	Validity	Coefficient Reliability
The posttest	20	<i>Valid</i>	0.85

15.Descriptive and Inferential Statistics

15.1. Descriptive Statistics

They are measurements that describe or summarize features from a collection of information quantitatively (Mann & Prem, 1996).

a) Mean

$$\bar{x} = \frac{\sum X}{N}$$

With \bar{x} = mean

$\sum X$ = the sum of all group scores

N = Number of students

b) Standard Deviation

It measures the dispersion (the extent to which a set of scores varies in relation to the mean). The formula of this statistic is as follows

$$SD = \frac{\sum(x - mean)^2}{N}$$

With SD = Standard Deviation.

Σ = The sum of.....

N = Number of students.

X = Individual score.

N = Number of students.

c) Variance

It measures how far a data set is spread out. Its mathematical formula is as follow:

$$S^2 = \frac{\sum(x_1 - mean)}{N - 1}$$

With : S^2 = Variance

Σ = The sum of

X = Individual score.

N = Number of students.

15.2. Inferential Statistics: They assess whether the obtained data can be generated over the whole population of the study.

d) T-test

A t-test is a statistical test that is used to compare the means of the CG and EG groups. It is usually used in hypothesis testing to determine whether a process or treatment actually has an effect on the population of interest, or whether two groups are different from one another (Douglas, 2012). Its calculation formula is shown below:

$$t = \frac{\text{Mean CG} - \text{Mean EG}}{\sqrt{\frac{\text{VarCG}}{nCG} + \frac{\text{VarEG}}{nEG}}}$$

With : t = t score between the control group and the experimental group.

Mean CG = Average of scores of students of the control group.

Mean EG = Average of scores of students of the experimental group.

VarCG = Variance of control group.

VarEG = Variance of experimental group.

nCG = Number of students of the control group.

nEG = Number of students of the experimental group.

- e) **Degree of Freedom:** It indicates the number of independent values that can vary in an analysis without breaking any constraints (Frost, 2011)

$$Df = 2N - 2$$

16. Data Analysis Procedures

16.1. Data Analysis Procedures for the Quantitative Part

Analysis of data means studying the tabulated material in order to determine inherent facts or meanings. It involves breaking down existing complex factors into simpler parts and putting the parts together in new arrangements for the purpose of interpretation (Singh, 2006). In quantitative data analysis, the researcher is expected to convert the raw gathered information into meaningful number-based data and codes through the application of rational descriptive and inferential statistics. The aim behind applying a quantitative analysis in a research study is to find out evidence to either validate or reject hypotheses formulated beforehand.

In the present study, the analysis of data includes comparison outcomes of the various treatments (tests, questionnaires, observations) and measures differences between the CG and the EG. After administering and scoring research instruments scripts, the numerical and the

categorical data relevant to the hypothesis are assembled in quantitative form and tested to determine whether or not there is a significant difference in the results obtained from the groups under study (Singh, 2006.p.231).

Since quantitative data analysis is mainly concerned with analysing numbers, it is therefore expected that it entails statistical analysis methods. These statistics vary between descriptive that describe and present data related to the sample (the mode, the mean, minimum and maximum scores, the variance, the standard deviation and the standard error) and inferential statistics by contrast, strive to make inferences and predictions based on the data gathered (Cohen et al., 2007). These include for example: (correlations, regression, multiple regression, difference testing, t-tests and analysis of variance, factor analysis....)

These statistics were calculated using manual and computerized software techniques such as SPSS, version 26.0 and Excel spread sheets. The data were exposed through tabular and graphical presentation.

16.2. Data Analysis Procedures for the Qualitative Part

Unlike the quantitative data, the qualitative focuses on words, expressions, descriptions or thoughts. The findings gathered from the open-ended questions of the questionnaires besides to the marginal descriptions in the observation sheet represent the qualitative data of the study.

The study at hand adopts the traditional method (not the software) of analysing the qualitative findings through content analysis where the focus is on the subjective interpretation of the data.

In both cases, the researcher follows the following process.

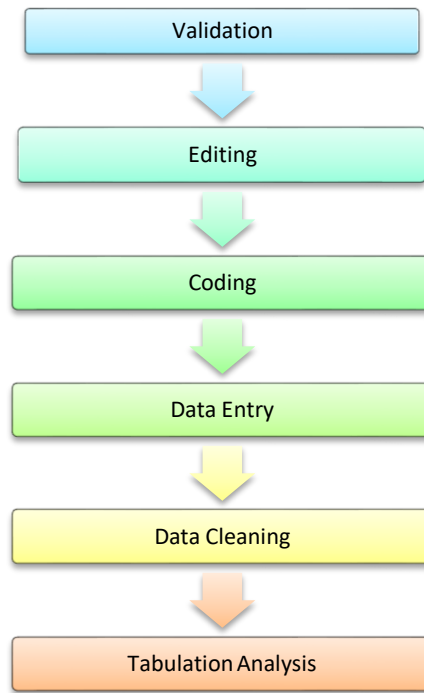


Figure 06. *Data Analysis Process*

- ❖ **Validation.** The process of confirming the submission of the research instrument.
- ❖ **Data Editing.** The process of ascertaining that the instrument is properly used and completely filled out. It is also important to check the tool's completeness, accuracy, clarity and uniformity (Reynolds, n.d.)
- ❖ **Data Coding.** The process through which the collected data are categorized and altered into symbols that may be tabulated and accounted.
- ❖ **Data Entry.** The data was typed either on sheets of papers or entered in a computer using a statistical software (SPSS, Nvivo, Excel....)
- ❖ **Data Cleaning.** The process of preparing data for analysis by removing or modifying data that is incorrect, incomplete, irrelevant, duplicated, or improperly formatted (Wu, 2013).
- ❖ **Tabulation Analysis.** The gathered data are arranged and organised in tables with respect to data characteristics so that the analysis of the relationship between variables would be easier.

Table 31
Type of Analysis of the Obtained Data.

Research Instrument	Data	Type of Analysis
Teachers' Preliminary Questionnaire	- Closed-ended questions	- Quantitative
	- Open-ended questions	- Qualitative
	- Likert scale	- Quantitative
Readiness Questionnaire	- Closed-ended questions	- Quantitative
	- Likert scale	- Quantitative
Grammar Tests	- Scores and grades	- Quantitative
Students' Attitude Questionnaire	- Likert scale	- Quantitative
Structured Observation	- Number of participant students	- Quantitative
	- Volume of Conversations	- Quantitative
	- Frequency of Conversations	- Quantitative
	- Level of Seriousness	- Quantitative
Informal Observation	- Students' behaviour	- Qualitative
	- Type of interaction	- Qualitative
	- Mode of Interaction	- Qualitative
	- Style of the used language	- Qualitative
	- Tone of interaction	- Qualitative

Conclusion

The chapter starts off by explaining the paradigm of the research which clarifies the theoretical and the philosophical ground of the planned procedures besides to the research approach and method used for the collection and interpretation of data. The next section of the chapter covers the context, the area within which the proposed experiment took place, the population under study and the sampling techniques. This will be then followed by identifying the research variables that the researcher attempted to measure, listing in detail the different data collection tools together with their validity and reliability. Anonymity, self-determination and confidentiality were ensured during the collection and the reporting of data. Explanations

were also provided on how data was coded and analysed. Next, an outline of the research plan and design is described to determine the framework of the study. Finally, the chapter ends by presenting relevant ethical approval and consideration of issues.

CHAPTER FOUR
RESULTS AND DATA ANALYSIS

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Introduction

As presented previously, the study aims to investigate the effect of asynchronous e-learning on EFL students' grammar achievement. To empirically match between the variables of the study, the researcher opted to use a variety of database tools to collect the required results.

Thereby, this chapter is devoted to cover a detailed presentation of quantitative and qualitative data gained from the questionnaires, grammar tests and the classroom observation which have been manipulated throughout the whole study. In accordance with the research objectives, the numerical and descriptive data are systematically stated with the aid of tables, graphs, percentages and other statistics. Further descriptions, summaries and textual comments are also provided to handle the qualitative findings. Moreover, the chapter discusses the interpretation of the gathered data through analytical and logical reasoning to determine patterns, relationships and implications between the variables. The Method used to analyse the data is already discussed in the research methodology chapter starting from the validation of the research instrument to the tabulation analysis.

Notably, this chapter is considered as a sturdy ground that might impart authentic evidences which help the research establish valid answers to the research questions, affirm or reject the assumed hypothesis and draw conclusions that will be later generated on the whole population of the study.

1. Pilot Study

1.1. Teachers' Questionnaire Findings

In regard to the content of questions and statements, the questionnaire was divided into 3 sections. The first covers the teachers' general background, the second includes questions about the methods and materials used in teaching, and the third section is a 5-point Likert Scale helps the investigator determine teachers' prevailing attitudes relating to the importance of teaching grammar, their students' grammar level, the problems that encounter their students when learning and teaching digital grammar. The questionnaire was emailed to 30 teachers, only 22 responded. The findings are presented in the coming tables and graphs.

1.1.1. Analysis of the Teachers' Questionnaire Finding

Section One: Teachers' Background Information

Item 1: Determine your gender.

Table 32
Teachers' Gender

Responses	Male	Female	Total
Frequency	6	16	22
Percentage	27.27 %	72.73 %	100 %

Table 32 above represents the gender categories of teachers who received the preliminary questionnaire during the pilot study. The table reveals that the majority of them were females (72.73%) while males represented only (27.27%) of the whole sample. This difference is quite normal because the whole population of teachers at the department of English at Batna 2 University during the academic year 2017/2018 contained more teacher females than males.

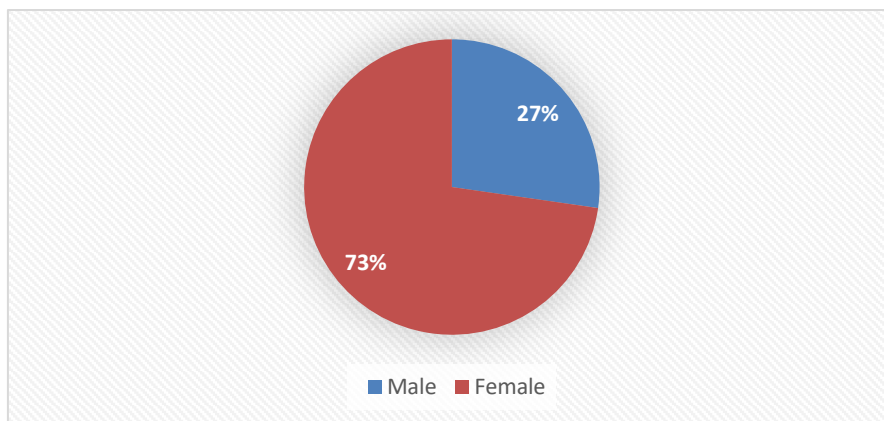


Figure 07. Teachers' Gender

As a matter of fact, the number of female teachers outstripped the one of male teachers in other departments too (Source: University Rectorat, 2018). Looking further broad, the Algerian society structure knows recently an increase of females 'number that is clearly remarked in all sectors. Also, reason is the tendency of females to study and teach foreign languages more than men do (Figueredo, 2013).

Item 2: Determine your Age

Table 33
Teachers' Age

Responses	25-30	31- 40	41 – 50	>50
Frequency	3	10	8	1
Percentage	13.64 %	45.45 %	36.36 %	4.55 %

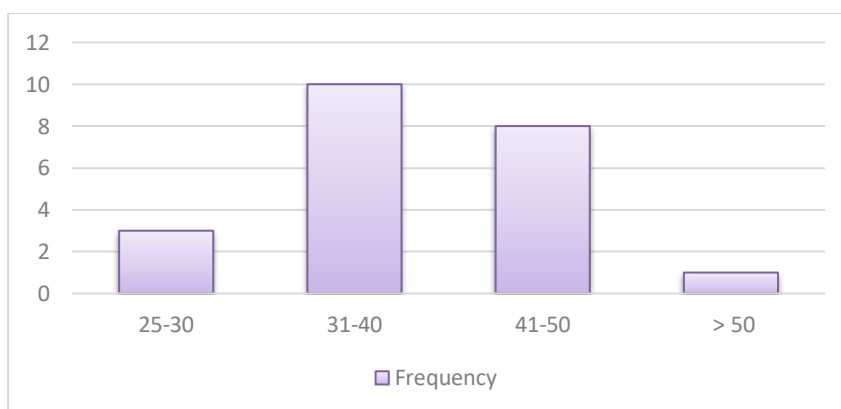


Figure 08. Teachers' Age

Table 33, and figure 08 above display the teachers' age intervals. As remarked half of the respondent teachers (10 out of 22) were between (31 and 40) years old, four were between (41 and 50) years old while three were in their twenties but only one was aged more than (50) years old.

The age of teachers have a strong relationship with their teaching experience. Generally believed, the more teachers are old, the longer experience they have. But it is not always the case, some teachers start teaching at a late age, so they can be considered less experienced in teaching. Moreover, teachers' age is deemed to be another indicator that signals their intention to use educational technologies. Authentically, young generation is more likely to well-manage these tools better than the olds do.

Item 3: How long have you been teaching?

Table34
Teachers' Teaching Experience

Responses	1 - 5	6 - 10	11 – 20	>20
Frequency	3	8	10	1
Percentage	13.64 %	36.36 %	45.45 %	4.55 %

As indicated by table 34 above and figure 09 (on page 188), the teachers' sample varied in terms of teaching experience. The majority (45.45 %) had between (11 to 20) years of experience, eight of them (36.36 %) had (6 to 10) years. The other three (13.64 %) have taught between (1 to 5) years. Meanwhile, only one teacher marked the longest teaching experience with more than 20 years.

The obtained results ensure that the vast majority of the asked teachers were experts so that they were able to provide credible answers of the rest questionnaire's questions. In view of the fact that experienced teachers are positively associated with the exact knowledge about their students' level, performance, behaviour and academic achievement, less competent teachers however, show insufficient expertise to understand their students' comporment.

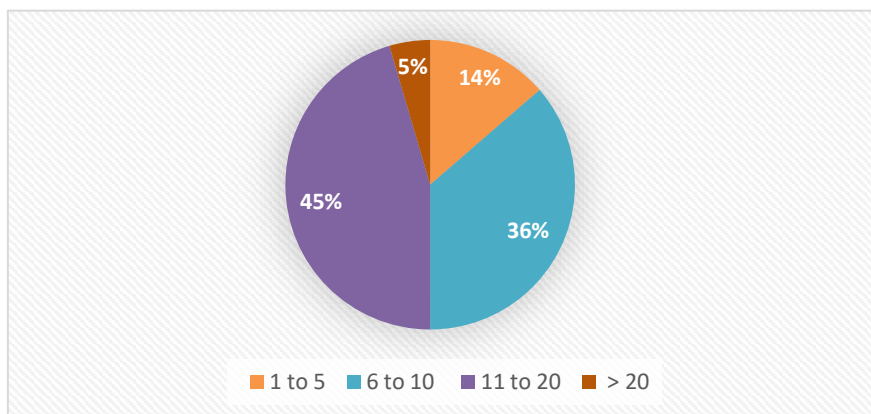


Figure 09. Teachers' Teaching Experience

Section Two: Teaching Methods and Materials

Item 4: How do you usually teach your courses?

Table 35
Teachers' Frequent Teaching Mode

Responses	Conventional	Online	Blended	Total
Frequency	20	0	2	22
Percentage	90.91 %	0 %	9.09 %	100 %

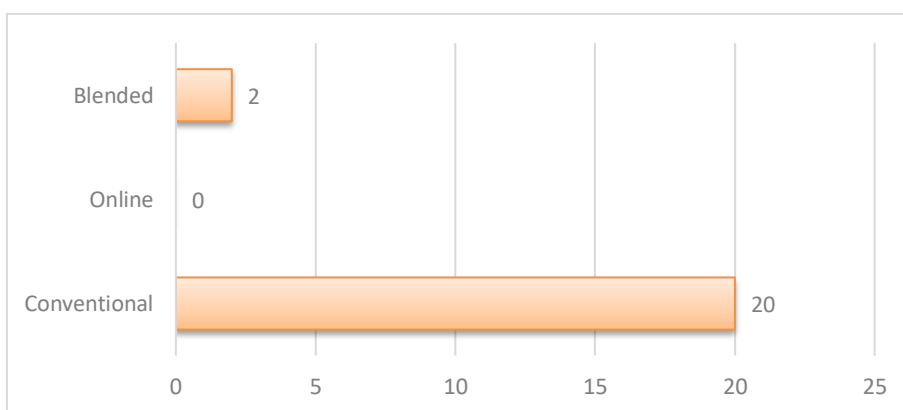


Figure 10. Teachers' Frequent Teaching Mode

As table 35 and figure 10 above demonstrate, there is a statistically significant difference between the number of teachers who delivered conventional in-class courses (90.91%), those who taught completely online course (0 %) and finally the ones who tended to blend both

traditional and virtual courses (9.09 %). This denotes the partially or the complete absence of e-learning in the department where the study took place.

Section Three: Teachers' Attitudes towards English Grammar in EFL Classrooms

Item 4: At what extent do you agree or disagree with the following statements:

Table 36

Teachers' Attitudes towards English Grammar in EFL Classrooms

The Role of Grammar Instruction							
Statements		SA	A	N	D	SD	Total
1. Grammar is necessary in learning English effectively.	F	22	0	0	0	0	22
	%	100 %	0 %	0 %	0 %	0 %	100 %
2. Grammar should be mainly practised in oral and written communication	F	22	9	0	7	0	22
	%	100 %	0 %	0 %	0 %	0 %	100 %
3. Intensive practice is of a crucial importance for learners to master the grammar rules.	F	21	1	0	0	0	22
	%	95.5 %	4.5 %	0 %	0 %	0 %	100 %
4. Learners will improve their communicative ability if they study and practise grammar.	F	3	12	0	6	0	22
	%	13.6 %	54.5 %	0 %	27.3 %	44.7 %	100 %
5. Learners should utter grammatically correct sentences.	F	21	1	0	0	0	22
	%	95.5 %	4.5 %	0 %	0 %	0 %	100 %
My Students' Grammar level							
6. My students focus on grammar rules and apply them while speaking or writing	F	0	5	0	16	0	22
	%	0 %	22.7 %	0 %	72.7 %	0 %	100 %
7. My students opt for using short English conversations because they face difficulties to form a grammatically correct.	F	20	2	0	0	0	22
	%	90.1 %	9.1 %	0 %	0 %	0 %	100 %
8. My students use simple sentences rather than complex sentence in the target language.	F	20	2	0	0	0	22
	%	90.1 %	9.1 %	0 %	0 %	0 %	100 %
6. My students will communicate successfully in the foreign language if they practise sufficiently the grammar rules	F	0	18	0	3	1	22
	%	0 %	81.8 %	0 %	13.6 %	4.5 %	100 %
Grammar Teaching/ Learning Problems							
	F	0	0	0	0	22	22

1. The time allocated for grammar lessons in the classroom is plentiful for EFL students at your university.	%	0 %	0 %	0 %	0 %	100 %	100 %
2. There is insufficient in-class controlled grammar practice for EFL students at your university.	F	22	0	0	0	0	22
	%	100 %	0 %	0 %	0 %	0 %	100 %
3. My students find the explanation of grammar rules boring in the classroom.	F	0	12	0	8	2	22
	%	0 %	54.5 %	0 %	36.3 %	9.1 %	100 %
4. My students don't feel comfortable when they receive my feedback about their grammar errors.	F	17	3	0	2	0	22
	%	77.2 %	13.6 %	0 %	9.1 %	0 %	100 %
5. My students have an equal chance to participate in the classroom.	F	0	0	0	0	22	22
	%	0 %	0 %	0 %	0 %	100 %	100 %
6. My students find the classroom environment comfortable to learn and practise the English grammar	F	0	10	0	7	5	22
	%	100 %	45.5 %	0 %	31.8 %	22.7 %	100 %
7. My students interact cosily with the teachers and with peers in the classroom	F	0	5	0	15	2	22
	%	0 %	22.7 %	0 %	68.2 %	9.1 %	100 %
Digital Teaching							
8. The digital learning mode is an atmosphere of attentiveness and openness for EFL learners.	F	4	10	0	8	0	22
	%	18.2 %	45.5 %	0 %	36.4 %	0 %	100 %
9. A supporting asynchronous platform of grammar courses greatly improve my confidence and skills in teaching grammar	F	0	15	0	3	4	22
	%	0 %	68.2 %	0 %	13.6 %	10.5 %	100 %
12. The digital courses serve as a place for sharing and consultation between students better than in-class courses.	F	10	0	0	12	0	22
	%	45.5 %	0 %	0 %	54.5 %	0 %	100 %

As table 36 above indicates, all the respondent teachers (100 %) claim that grammar is a pivotal fragment in learning a foreign language, and that students should utter grammatically correct sentences, also practise frequently its rules in their oral and written communications.

Almost all of them (95.5 %) strongly agreed that students will master English grammar only if they intensively practise its rules. However, they did not all concede that AEL can improve the students' communicative abilities'. This fact indicates that those teachers who represented (27.6 %) of the whole sample might think that grammar is not the only factor required, but it should be accompanied with other skills such as (reading, writing, listening and speaking..).

Results from the second section of the Likert scale reveals that a lot of teachers (72.5 %) were not satisfied with their students' grammar skills declaring that they did not focus on grammar rules also neglected to apply them while speaking or writing. Accordingly, (90.1 %) strongly affirmed that those students intentionally opted to use simple sentences and short conversations because they feared to construct grammatically-ill sentences.

Section three, on the other hand, uncovers that all surveyed teachers detected problems in the teaching and learning process of English grammar in conventional classrooms. They professed that "time is very limited so that not all students can participate and take part in classroom activities". They also agreed that students found the classroom atmosphere so boring and uncomfortable to learn. Concerning the students' interaction, (68.2 %) of teachers insisted that generally students are more anxious and less interactive in the classroom. The results in general denote that the traditional classroom environment, in gross, is not convenient.

The last section shows that the number of teachers who welcomed the idea of using digital teaching as a positive supporting tool to improve the teaching process exceeds the number of those who disagreed about its effectiveness. While (68.2 %) of them declared that teaching grammar online courses raises their confidence and enrich their skills of teaching, the rest completely disagreed. By contrast, the respondents were asked if the digital method of teaching is much better than traditional teaching, more than half (54.5 %) disagreed. This result demonstrates their tendency of teaching in physical classrooms rather than virtual ones because up to them real classrooms are irreplaceable

Item 5. What do you think about the grammar level of 1st year EFL students at your department?

Table 37

Teachers' Perspectives about Students' level of grammar (Pilot Study)

Options	Very high	Good	Moderate	Modest	Very Low	Total
Frequency	0	0	10	3	9	22
Percentage	0 %	0 %	45.54 %	13.63 %	40.9 %	100 %

As table 37 indicates, teachers estimated the grammar level of 1st year students at the department of English at Batna 2 university between very poor to moderate. Ten of them (45.54 %) selected the moderate level that was neither very high nor very low. Nine others (40.9 %) thought that their grammar was very poor. Just three of them (13.63 %) evaluated their levels as modest. What attracts attention is that none of the teachers considered the students' grammar level as very high or even good. This indicates that their attitude was negative.

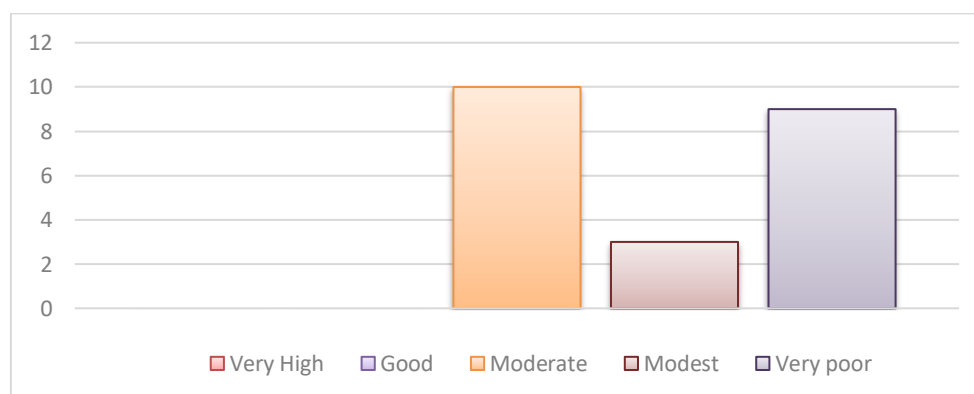


Figure 11. Teachers' Perspectives about Students' level of grammar (Pilot Study)

Item 5.1. What were the reasons behind their level?

Table 38

Teachers' Perspectives towards the Reasons behind the Students' Low Grammar Level

<i>Reasons</i>			
<i>Linguistic Issues</i>	<i>Classroom System Issues</i>	<i>Students' Behaviour Issues</i>	<i>Pedagogical Issues</i>
Difficulty of rules Many exceptions to grammar rules	Time constraints Crowded Classes Lack of practice Students' less involvement in the classroom environment.	Using informal conversations in the target language outside the classroom. Using social media language	Teacher-centred approach Long Program Lack of communication

After collecting the teachers' answers, they were classified appropriately to different categories. Table 38 above summarizes them into linguistic issues: in which the teachers think that students perform weakly in grammar because this last has complex rules and they are difficult to be applied. Besides, various exceptions escape the rules which make the student confused to practise them accurately.

Second, some other teachers thought that students were less involved in the classroom because they had few opportunities to contribute and practise the grammar rules. Their assumption was negative mainly due to the unconvincing classroom system where the classes are overcrowded (from 60 to 72 students in one classroom), and the time assigned for grammar classes is so limited (03 hours a week) as compared to the long syllabus program.

1.1.2. Discussion of the Teachers' Questionnaire Findings

In gross, the findings of the questionnaire reported that the majority of teachers discerned unsatisfied performance by their students in grammar. They confirmed that they received usually traditional face-to-face grammar courses with a series of exercises which most of the time could not be accomplished because of the class limited time. They assumed that students should excessively practise the grammar rules to achieve better results. Their attitudes were a more one reason to prove that the problem exists.

1.2. Students' Written Expression Exam Copies

Besides to the teachers' questionnaire that reported evidence on the weak level of 1st year students' English grammar, the researcher saw to expand the pilot study so that the different grammar errors can be detected.

To do so, the researcher selected randomly 56 written expression exam copies of 1st year students taken from the archive store of the department. The most repeated errors are list red in table 39 below together with two examples for each. The examples are also extracted from the same copies.

Table 39

Frequent Grammar Errors in Students' Written Expression Exam Copies

Type of Grammar Errors	Examples
Wrong tense	-Yesterday, I go with my..... -I write in the diary when my mother enters.
Subject- verb agreement	-She wear weird clothes and she goes to the..... -Human as we all know, have special characteristics....
Incorrect pronoun reference	-This is my best friend, its name is Nada. - I congratulate my friend for him success.....
Misuse of prepositions	-We arrived earlier to university, my friend said..... - I clicked at the email box, it didn't open.....
Incorrect word form	- Your work is high appreciated - It is the mainly goal.....
Inappropriate use of articles	-They are concerned of social problems..... - I address an email for my friend.
Misuse of confusing words	-Technology has many affects -it is quiet dangerous
Uncountable/Countable nouns	- much years are devoted A research of my.....

Table 40

Number of Errors in Student's Exam Copies

	Zero	1 to 5	6 to 10	> 10	Total
N' of Copies	4	12	22	18	56
Percentage	7.14 %	21.43 %	39.29 %	32.14 %	100 %

As expected, the examination of the copies confirmed that students encountered serious grammar difficulties in their academic writings. Table 40 reveals that very few copies (04) were intact with zero error. Twelve (12) copies represented by (21.43%) of the whole number contained between (1 to 5) errors. This is a small rate compared to the (22) copies that consisted between 6 to 10 error. The more frustrating is that (18) of the exam copies (32.12%) showed more than 10 grammar errors in each.

1.2.2. Discussion of the Students' Exam Copies Errors

Students' incompetence to employ the grammar rules when composing academic paragraphs and essays was also diagnosed on their exam copies. The 56 observed scripts were inundated with grammatical mistakes which enfeebled their English. This was another good

reason to conduct the current study and find out a remedial method that would help students enhance their grammar abilities and score much better in their tests.

2. The Pre- Experimental Phase

2.1.The Students' Readiness Questionnaire

2.1.1. Analysis of the Students' Readiness Questionnaire

Section One: Students' Background Information

Item 1: Determine your gender.

Table 41

Experimental Group Students' Gender

Responses	Male	Female	Total
Frequency	12	26	38
Percentage	33.33%	68.42 %	100 %

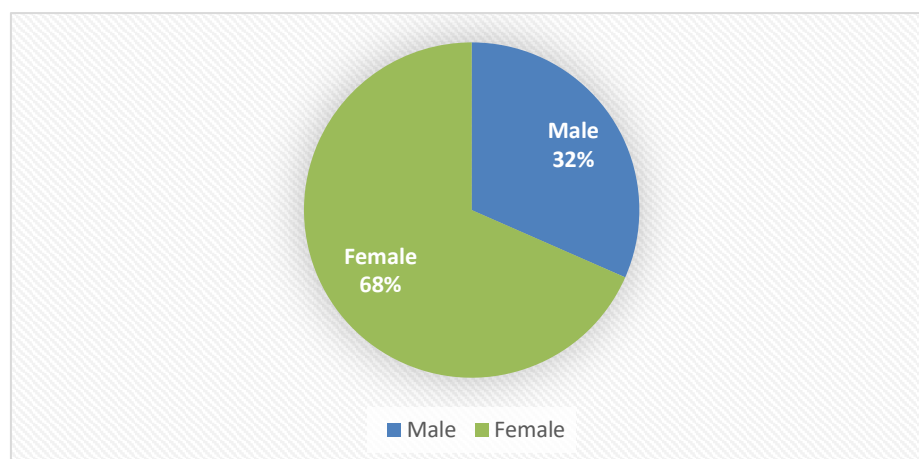


Figure 11. Students' Gender

It is obvious from the table 41, and the figure 11 above that the dominant gender in the experimental group was female with percentage of (68.42 %) of all the group while males represented only (33.33 %). Apparently, female participants were remarkably outnumbered than males due to the low number of male students who enrolled for English language field.

Item 2: Determine your Age.

Table 42

Students' Age

Responses	18 -20	21- 25	26 – 30	>30
Frequency	29	6	2	1
Percentage	76.31 %	15.79 %	5.27 %	2.63 %

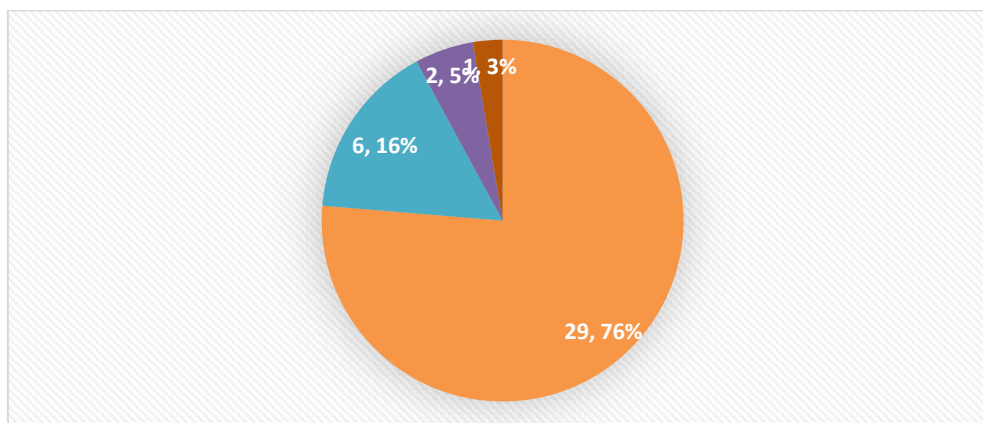


Figure 12. Students' Age

From table 42 and figure 12, it is reported that the majority of students who were part of the experimental group were aged between 18 and 20 with a frequency of 29 out of 38. This indicates that they were approximately at the same age. Two students were between 26 to 30 years old while only one student was up the thirties. As mentioned in the teachers' questionnaire, the age intervals can categorize students into new and old generations. Apparently, the young generation is more comfortable with technology devices.

Section Two: Digital Ownership, Use and Accessibility

Item 3: Which device do you frequently use to study?

Table 43

Students' Personal Ownership of Technological Devices

	Desktop Computer	Laptop	Smartphones	No device
Frequency	4	8	24	2
Percentage	10.53 %	21.05 %	63.16 %	5.26 %

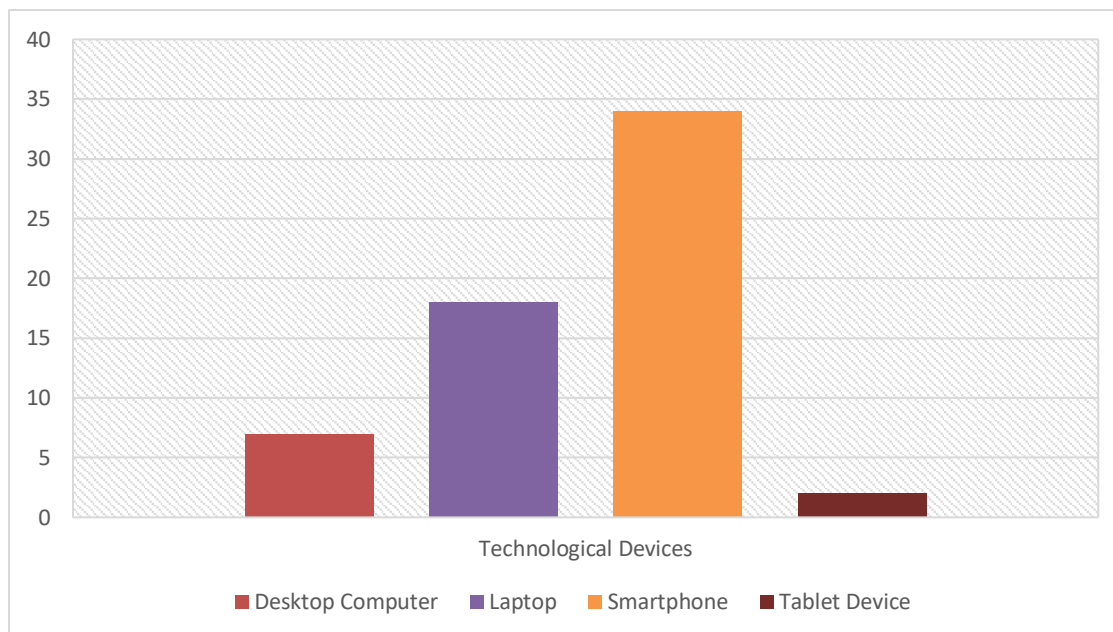


Figure 13. Students' Personal Ownership of Technological Devices.

It is plain from table 43, and the bar graph 13 that most of the surveyed students possessed at least one technology-based device to study, and only two students (5.26 %) declared that they had any. From all the mentioned devices, smartphones are the most used with a proportion of (63.16 %). It is not a surprising fact since most of the young generation of students prefer using them for their lightweight, easy usage also they are most of the time cheaper than laptops and tablets (less sophisticated phones).

Item 4: How do you prefer to take your grammar courses?

Table 45

The Students' Course mode Preferences

	Traditional	Online Courses	Blended	Total
Frequency	7	13	18	38
Percentage	18.42 %	34.21 %	47.37 %	100 %

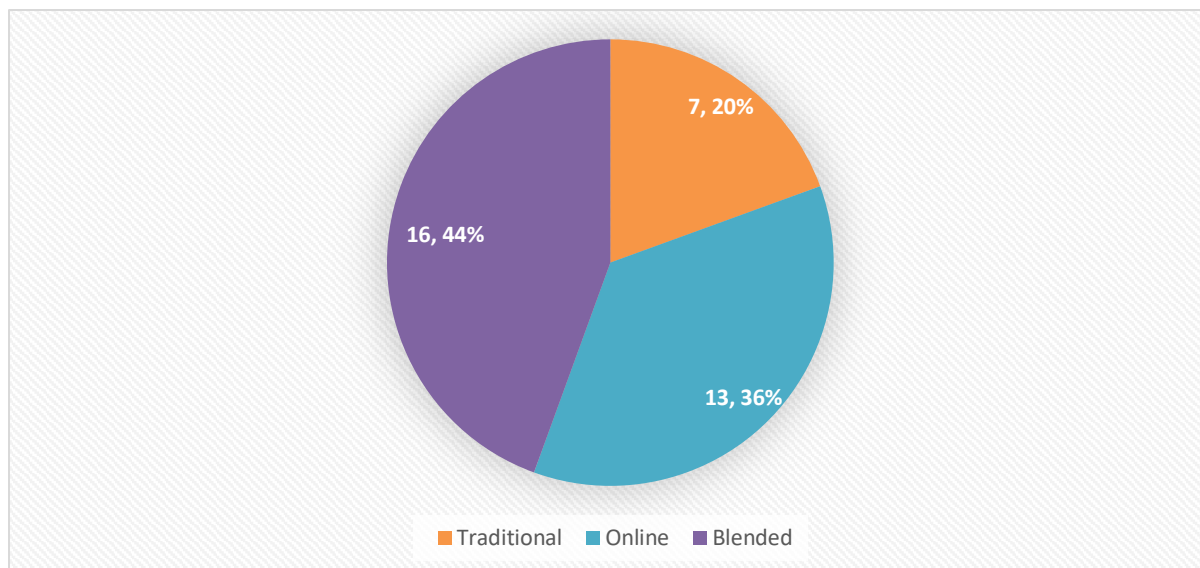


Figure 14. Students' Course Mode Preferences

As reported from table 45 and figure 14 above, the majority of students opted for blended learning with a rate of (47.37 %). A proportion of (34.21) marked that preferred purely online learning while a very small number (7) selected traditional classroom as the most favoured mode of learning. This indicates that new generations of learners are attracted by technology.

Table 46

The Average of the Time spent on Internet Related Activities

	No Access	< 1 hour	1 to 2 hours	3 to 5 hours	>5 hours	Total
Frequency	0	1	0	4	33	38
Percentage	0 %	2.78 %	0 %	11.11	86.84	100 %

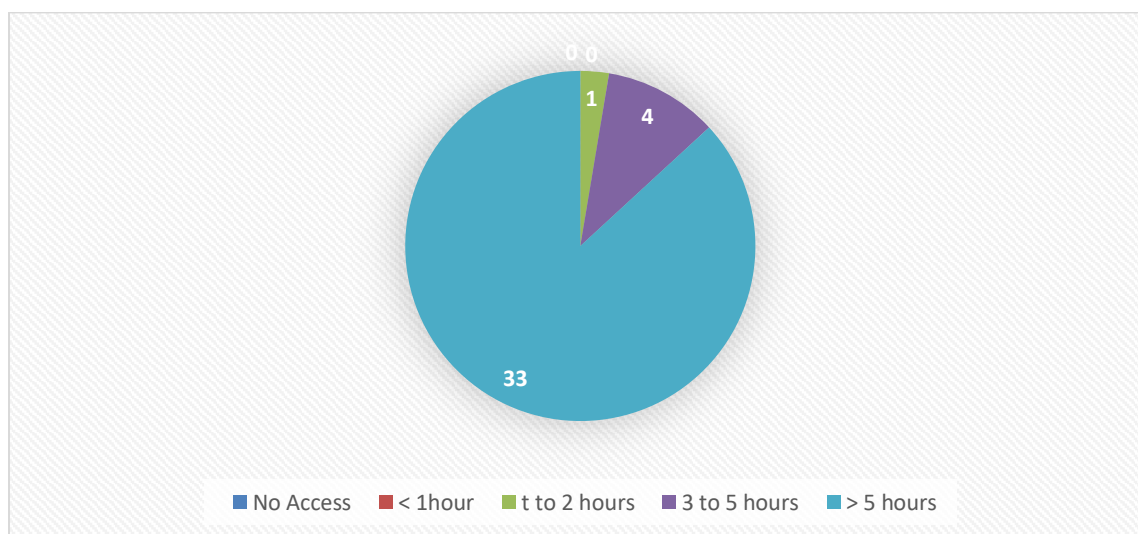


Figure 15. Time spent on Internet Related Activities

For context, the time spent by students on Internet is high. From table 46 and figure 15, it is noticed that high percentage of students (86.84) depleted more than 5 hours a day to use internet-related activities. (11.11 %) of them took between 3 to 5 hours behind their screens to connect. A tiny proportion of (2.78 %) spent less than one hour working on Internet while no one ignored using Internet. This reflects that today's students are growing up with technology which becomes an integrated part of their lives.

Item 5: Where do you access to your daily internet activities?

Table 47

Students' Most Internet Accessibility Environments

	No access	At home	At cybercafé	At University campus	In libraries
Frequency	0	26	3	9	0
Percentage	0 %	68.42 %	7.89 %	23.86 %	0 %

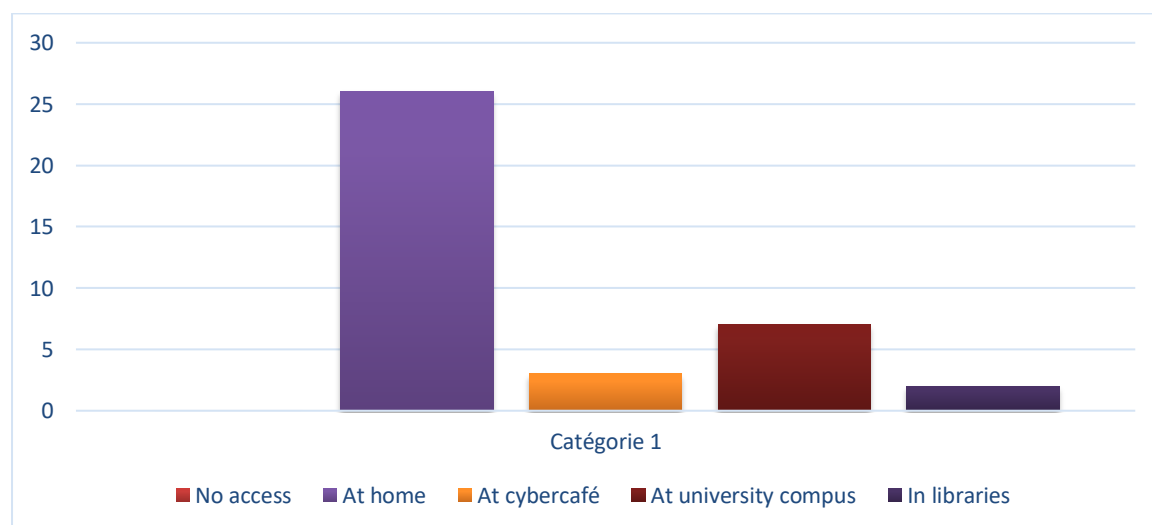


Figure 16. Frequency Distribution of the Students' Most Internet Accessible Environments

Being part of a developing country where Internet is not available anywhere, Algerian students often encounter problems of connectivity and Internet accessibility because there are very rare WIFI HOTSPOTS. For this reason, this question is raised to participant students to check the most Internet accessible environment they connected in. As table47 and figure 16 display, home is the most selected option with a rate of (68.42 %) simply because personal

homes are most of the time equipped with DIAL UP. Nine of the students (23.86 %) selected the university campus since they settled there. Three students, represented by (7.89 %) used to connect in a Cybercafé. Unfortunately, no one used to connect from the university library or even other libraries because they were not equipped.

SECTION III: Students' Willingness and Readiness to Use Asynchronous E-learning Tools.

Item 6: Are you ready to take any of the online courses?

Table 48

Students' Readiness to Study Grammar through an Asynchronous Program

	Yes	No	Total
Frequency	17	21	38
Percentage	44.74 %	55.26 %	100 %

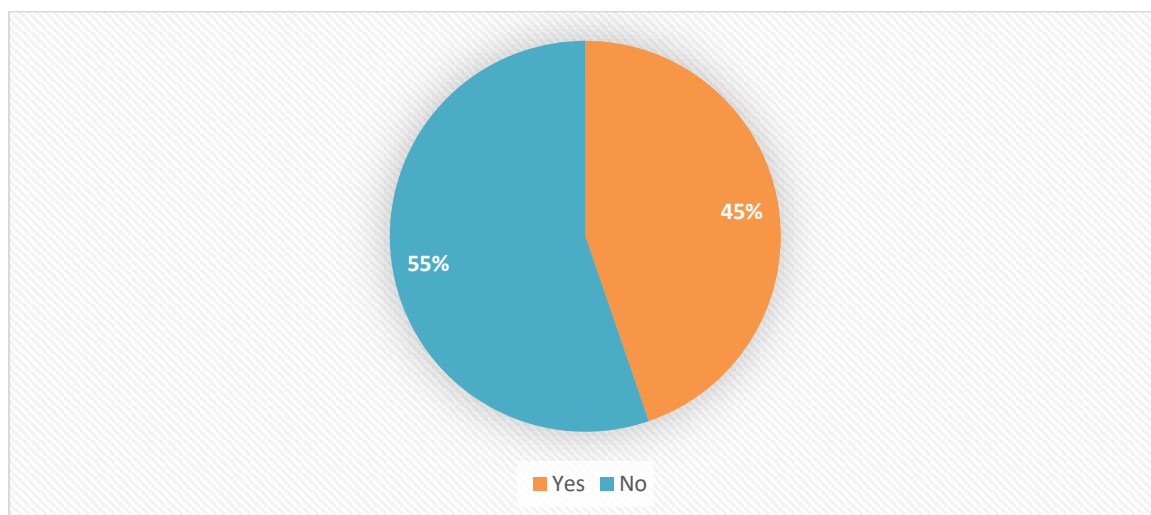


Figure 17. *Percentage of Students' Readiness to study through Google Classroom*

Despite the fact that students wish to study through an online platform, table 48 and figure 17 together show that the same students were not ready to start using this tool because they were inexperienced.

Item 7. How can you rate your skills in managing the asynchronous e-learning tools?

Table 49

Students' Dexterity in Managing Asynchronous E-learning Tools.

Degree of Dexterity	Skilled	Intermediate	Beginner	Total
---------------------	---------	--------------	----------	-------

Frequency	3	21	14	38
Percentage	7.89 %	55.26 %	36.84 %	100 %

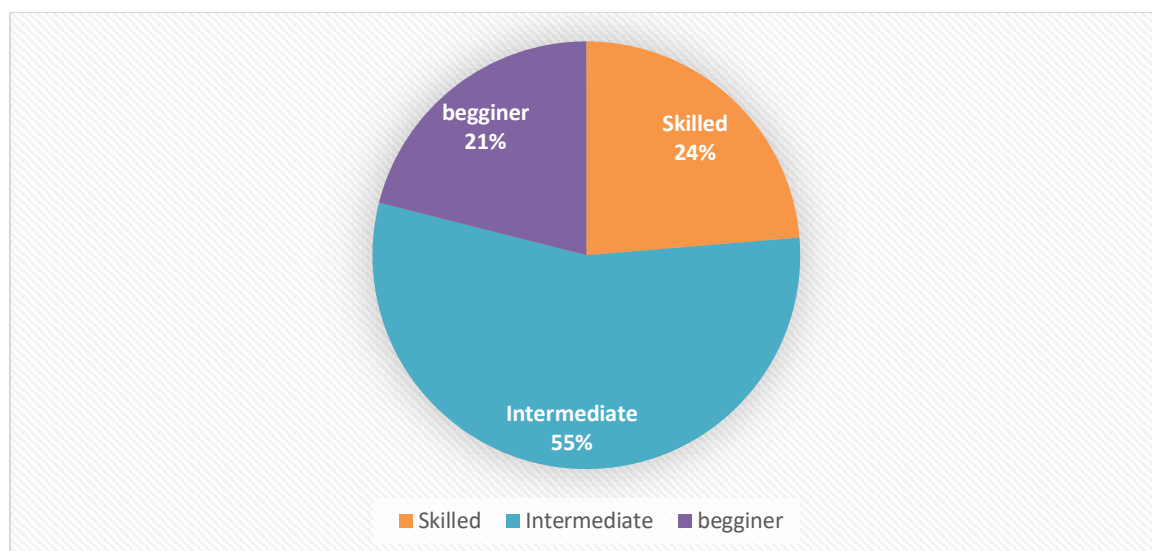


Figure 18. Students' Dexterity in Managing Asynchronous E-learning Tools

As anticipated, students were less skilled in managing asynchronous e-learning tools since in the previous question (item 6) most of them confirmed their unreadiness to start using them such as Google Classroom platform. The majority (55.26%) had an intermediate level while (36.84 %) were beginners. Noticeably, very few students were skilled representing just (7.89 %) of the whole population.

SECTION III: Students' Readiness and Usability of Asynchronous E-learning Tools.

Item 8: Choose the most accurate response to each statement in the following:

Table 50
Students' Readiness Questionnaire Results

Statements	My Self-management						Total
		SA	A	N	D	SD	
3. I am good at setting objectives and deadlines for myself.	F	4	8	0	21	5	38
	%	10.5 %	21.1 %	0 %	55.3 %	13.2 %	100 %
4. I enjoy taking an online course.	F	22	9	0	7	0	38
	%	57.9 %	23.7 %	0 %	18.4 %	0 %	100 %

5. I do not forsake just because things get difficult.	F	23	12	0	3	0	38
	%	60.5 %	31.6 %	0 %	7.9 %	0 %	100 %
6. I can keep myself on track and on time.	F	5	12	0	4	17	38
	%	13.2 %	31.6 %	0 %	10.5 %	44.7 %	100 %
7. I am good at solving problems I run into.	F	2	22	0	14	0	38
	%	5.3 %	57.9 %	0 %	36.8 %	0 %	100 %

My Learning Style and Abilities

8. I learn fairly easily	F	0	19	0	19	0	38
	%	0 %	50 %	0 %	50 %	0	100 %
9. I can learn from things I hear and see, like videos, audio recordings, PPT presentations.	F	36	2	0	0	0	38
	%	94.7 %	5.3 %	0 %	0 %	0 %	100 %
10. I have to review a course to learn it best.	F	34	4	0	0	0	38
	%	89.5 %	10.5 %	0 %	0 %	0 %	100 %
11. I learn best when I figure things out for myself.	F	5	1	0	30	3	38
	%	13.2 %	2.6 %	0 %	78.9 %	7.9 %	100 %
12. I learn better on my own than in a group.	F	16	8	0	12	2	38
	%	42.1 %	21.1 %	0 %	31.6 %	5.3 %	100 %
13. I am willing to send e-mails or have discussions with my peers or teacher asynchronously.	F	20	9	0	7	2	38
	%	52.6 %	23.7 %	0 %	18.4 %	5.3 %	100 %
14. I can ignore social media chats when I study.	F	5	1	0	1	31	38
	%	13.2 %	2.6 %	0 %	2.6 %	81.6 %	100 %

My Digital Learning Skills

15. I am fairly good at using the computer.	F	30	4	0	3	1	38
	%	78.9 %	10.5 %	0 %	7.9 %	2.6 %	100 %
16. I am comfortable surfing the Internet.	F	31	8	0	0	0	38
	%	81.6 %	21.1 %	0 %	0 %	0 %	100 %
17. I am comfortable conducting searches	F	10	12	0	15	1	38
	%	26.3 %	31.6 %	0 %	39.5 %	2.6 %	100 %
18. I am comfortable downloading files (documents and videos) from an online learning platform.	F	8	19	0	11	0	38
	%	21.1 %	50 %	0 %	28.9 %	0 %	100 %
19. I comfortable at using AEL platforms like Moodle, GCR, MOOC	F	0	3	0	1	33	38
	%	0 %	7.89%	0 %	5.26 %	86.8 %	100 %

20. I manage well AEL tools: Discussion boards, e-mailing, blogs, videos, digital library...)	F	13	8	0	16	1	38
	%	34.2 %	21.1 %	0 %	42.1 %	2.6 %	100 %
My Digital Equipment's Quality							
21. My device (computer, mobile...) runs very well without problems	F	0	25	2	11	0	38
	%	0 %	65.8 %	5.3 %	28.9 %	0 %	100 %
22. I am connected to the Internet with a fairly fast, reliable connection such as DSL or cable modem.	F	0	14	0	20	4	38
	%	0 %	36.8 %	0 %	52.6 %	10.5 %	100 %
23. I have virus protection software running on my computer.	F	16	0	2	17	1	38
	%	42.1 %	0 %	5.3 %	44.7 %	2.6 %	100 %
24. I have headphones or speakers and a microphone to use if a class has a videoconference.	F	29	0	0	9	0	38
	%	76.3 %	0 %	0 %	23.7 %	0%	100 %

F: Frequency SD: Strongly Agree, D: Disagree, N: Neutral, A: Agree, SA: Strongly Agree.

As far as students' readiness to use asynchronous tools is concerned, the results of the 5-point likert scale above show the following:

The first part denotes that students were weak self-managers because It appears from table 50 that small percentage of students (10.5 %) were good at setting objectives and deadlines by their owns; however, they showed their disability to manage difficult tasks and solve problems alone, but over five times of his proportion (57.9 %) enjoyed studying through an online course which itself requires effective self-management. Overall, it can be said that most students (71%) are not independent learners and they may find difficulties to study asynchronously.

The second part is purposely designed to detect the participants 'learning style in the sense that it determines who of them was ready to engage online learning and who was not; anticipating that, those who prefer studying at distance feel less comfortable in traditional classrooms. The results reported that the majority of students (94.7 %) were visual learners who could easily learn from things they heard and saw, like videos, audio recordings, PPT

presentations. A large proportion of the asked students (89.5 %) confirmed also their need to review the course multiple times for better learning. More than half (63.16 %) reported that they were introverted learners because they preferred to learn alone than in a group of learners. Again, many (76.31%), who strongly agreed to send e-mails or have discussions with their peers and teacher asynchronously. In total, the majority of participants confirmed their tendency to study asynchronously.

The third section seeks to survey students' digital learning skills. The overall analysis of the results reveals that most of the participants were good at using the computer device (78.9 %). Moreover, (81.6 %) were highly comfortable to surf Internet and . poorly skilled in managing learning platforms and solving computer or software problems. A big number of participants also agreed that they had abilities on making some internet-related activities such as (downloading, uploading, sharing, creating documents and files, using discussions boards and social media networks). This seems to be a helping factor for students to study electronically; However, it is remarked in the same survey that a large number (86.8 %) show their disability to manipulate AEL platforms like GCR, Moodle, MOOC and others.

Another important factor that ensures students' readiness to take the AEL courses is the digital device quality of the users. Logically, intact devices guarantee the right accessibility and use of target courses and activities. Taking into account the gathered results, it is worth to mention that most of the participants did not complain about their devices' quality. Nevertheless they did about Internet connection problems.

2.3.3. Discussion of the Students' Readiness Questionnaire

Notwithstanding a lot of students enjoying technology and favoured receiving online courses, the experimental group students were unready to start asynchronous e-learning courses immediately. Consequently, the researcher saw to plan a couple of training sessions where tips

for manipulating Google Classroom Platform were clearly elucidated using the Guide Booklet (Appendix N).

2.2. The Pre-test

The pre-test was scheduled on Sunday, the 30th of September, 2018. It was performed by 38 test-takers in each group (N=38), and covered all of the topics which have being studied during the first five sessions. The test had 20 items (k=20) varied between knowledge, understanding, application and skill questions. Each item counted for one point and the test-takers' highest possible score would be 20 points. Each student's paper was assessed individually and the final scores of the correct answers are assigned in the tables 51 and 52 below.

Results

Table 51
The control Group Pre-test Scores

<i>N</i>	<i>Score</i>	<i>N</i>	<i>Score</i>
Student 01	5.00	Student 20	15.00
Student 02	10.00	Student 21	9.00
Student 03	8.00	Student 22	4.00
Student 04	6.00	Student 23	13.00
Student 05	10.00	Student 24	10.00
Student 06	4.00	Student 25	8.00
Student 07	8.00	Student 26	11.00
Student 08	4.00	Student 27	4.00
Student 09	8.00	Student 28	12.00
Student 10	11.00	Student 29	11.00
Student 11	13.00	Student 30	13.00
Student 12	5.00	Student 31	9.00
Student 13	11.00	Student 32	10.00
Student 14	15.00	Student 33	13.00
Student 15	6.00	Student 34	14.00
Student 16	8.00	Student 35	4.00
Student 17	9.00	Student 36	11.00
Student 18	9.00	Student 37	7.00
Student 19	15.00	Student 38	12.00
$\sum X_{CG}$	<u>355</u>	<i>N</i> = 38	
<i>XCG</i>	<u>9.3</u>		

Table 52
Experimental Group Scores in the Pre-test

<i>Student</i>	<i>Score</i>	<i>Student</i>	<i>Score</i>
Student 01	9.00	Student 20	5.00
Student 02	2.00	Student 21	4.00
Student 03	3.00	Student 22	10.00
Student 04	8.00	Student 23	6.00
Student 05	9.00	Student 24	2.00
Student 06	14.00	Student 25	9.00
Student 07	10.00	Student 26	13.00
Student 08	10.00	Student 27	12.00
Student 09	13.00	Student 28	10.00
Student 10	4.00	Student 29	11.00
Student 11	9.00	Student 30	11.00
Student 12	9.00	Student 31	13.00
Student 13	11.00	Student 32	7.00
Student 14	10.00	Student 33	9.00
Student 15	3.00	Student 34	10.00
Student 16	16.00	Student 35	11.00
Student 17	8.00	Student 36	12.00
Student 18	8.00	Student 37	3.00
Student 19	17.00	Student 38	15.00
$\sum X_{CG}$	<u>346</u>	$N=$	38
\bar{X}_{CG}	<u>9.1</u>		

N = number of students; $\sum X$ = the sum of scores; \bar{X} = the mean or the average of scores

For a profound analysis, a comparison was made across the pre-test scores' mean, mode, lower and higher grades of both groups. As table 53 below displays, the highest score of this section was 17.00 points achieved by one test-taker in the EG while it was 15.00 in the CG achieved by 03 students. The lowest score was 2.00 obtained by two students in the EG while it was 4.00 in the CG achieved by 05 students. Almost half of students in both groups ($N= 19$ in the CG, and $N=18$ in the EG) scored less than the test's average (< 10) and no signal student could get an excellent score. The mode signifies that the most frequent score was 11 for the CG and 10 for the EG. Little more specific, the majority of the CG and EG students showed weak

performance in the understanding and skill grammar questions. This provided evidence that 1st year students' grammar achievement was low and far from being satisfactory.

Table 53
Overall CG and EG Performance during the Pre-test

	Central Tendency			Dispersion		
	Mean	Mode	Lower grade	<i>f</i>	High grade	<i>f</i>
CG	9.3	11	4	5	15	3
EG	9.1	10	2	2	17	1

Table 54
Mean and Difference in Means of the Pre-test Scores between CG and EG

	Pre-test	
	Control Group	Experimental Group
\bar{X}	9.3	9.1
$|\bar{X}_{CG} - \bar{X}_{EG}|$	0.2	

Obviously, from table 55 above, the pre-test scores obtained by the control and the experimental groups seem statistically insignificant and closer in terms of means.

($|\bar{X}_{CG} - \bar{X}_{EG}| = 0.2$). As for dispersion indicators (see table 52 and 53), both groups were nearly identical. This denotes first the validity of the test regarding the relative resemblance of scores, also confirms the equivalent departure of both groups to the treatment phase. Accordingly, any improvement or degradation in the coming test scores after the treatment will be considered a stoplight signal to discuss and interpret providing that the experiment course goes regularly, and all the extraneous variables are rigorously controlled.

For a more explicit graphic comparison, the histogram below (Figure 06) displays the pre-test mean scores of the CG and EG. The figure proves that students in both groups were equivalent before the study could be applied.

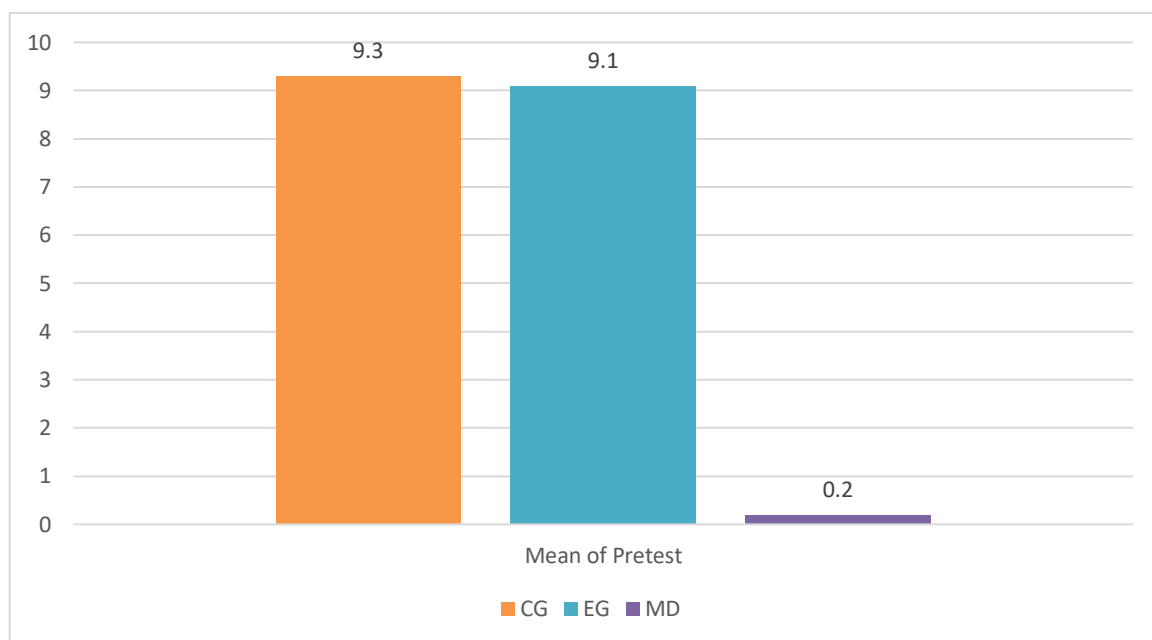


Figure 19. Difference between the Mean of the Pre-test Scores of the CG and EG

A detailed evaluation of students' responses divulge discernible deficiencies in applying the grammar rules, spelling words, constructing grammatically correct sentences, and distinguishing between different grammar items which might be attributed to the lack of practice; However, the test takers showed a fairly acceptable performance in knowledge exercises.

Overall, the pre-test was a diagnostic tool to determine the student's initial level of grammar achievement before the treatment instructions and to unveil the true symptoms that students suffer from in both groups.

Thereupon, a treatment phase of about 5 weeks was systematically designed, aiming chiefly to teach the first part of the 1st year academic grammar syllabus through implementing an asynchronous e-learning program via a Google Classroom platform (Appendix M) for the EG particularly, expecting to gain positive results at the end of the experiment course.

24.1.1. Progress tests

As has already been pointed out, the CG students were taught the 1st year grammar lessons using direct teaching (traditional teaching). The EG members, however, were taught the same

lessons using both traditional and asynchronous e-learning (blended learning). The courses were delivered during the first semester of the academic year of 2018-2019. At the end of each five lessons, a progress test is planned to evaluate the students' achievement. The number of lessons was (16). In this way, (3) progress tests were delivered. Based on an itemized evaluation of these tests, it became easier to determine the progress or the regress of the students' performance in relation to the grammar achievement. The teacher could then decide what needs to be done in the coming lectures and tests.

a) Progress Test n°1

After teaching the first (05) lessons, comprising (The sentence structure, types of sentences, subject and verb agreement, articles and nouns), and following the pre-made lesson plan detailed (on page 171) a 1st progress test was distributed to all members of both groups in order to test their knowledge, understanding, application and skill of the grammar rules they had already studied.

The first progress test consisted of four (04) activities. Each focused on one or more of the four criteria of bloom's taxonomy. Frequencies and percentages of these criteria are presented in (table 55) below:

Table 55
Frequencies and Percentages of the First Progress Test Items Criteria

Exam Activities	Exam Question Criteria	Frequencies	Percentages
Activity One	Knowledge	3	20 %
	Understanding	1	5 %
Activity Two	Knowledge	1	5 %
	Understanding	4	20 %
	Skill	2	10 %
Activity Three	Application	1	5%
	Skill	2	10%
Activity Four	Application	4	20 %
	Skill	2	10 %

Total	20	100 %
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As it can be seen in table 45 above, the exam questions include all the four criteria distributed over the four activities but with approximately the same weightage so that there will be no high gap between the exam items.

The tables below display detailed scores of the participants' in both groups in the first progress test encircling the four criteria of the educational achievement of bloom's taxonomy.

Table 57
Control Group Scores in Progress Test n°01

Students N	Knowledge	Understanding	Application	Skill	Final Score
Student 01	2	3	1	0	6.00
Student 02	4	1	1	2	8.00
Student 03	0	2	3	1	6.00
Student 04	3	1	3	3	10.00
Student 05	2	2	3	2	9.00
Student 06	0	0	1	0	1.00
Student 07	4	1	1	3	9.00
Student 08	1	1	0	1	3.00
Student 09	4	4	2	3	13.00
Student 10	4	1	0	4	9.00
Student 11	3	0	0	2	5.00
Student 12	0	3	3	3	9.00
Student 13	3	3	4	3	13.00
Student 14	4	4	3	3	14.00
Student 15	2	2	2	2	8.00
Student 16	1	2	2	0	5.00
Student 17	3	2	3	2	10.00
Student 18	5	2	3	3	13.00
Student 19	5	5	4	2	16.00
Student 20	3	2	1	1	7.00
Student 21	0	0	0	0	0.00
Student 22	4	3	4	3	14.00
Student 23	3	3	0	0	6.00
Student 24	4	2	2	2	10.00
Student 25	3	3	3	2	11.00
Student 26	1	1	0	0	2.00
Student 27	2	3	3	2	10.00
Student 28	5	5	2	3	15.00
Student 29	0	0	0	0	0.00
Student 30	1	1	1	0	3.00
Student 31	2	0	0	0	2.00
Student 32	5	0	5	4	14.00
Student 33	2	5	3	2	12.00

Student 34	4	1	0	1	6.00
Student 35	5	5	2	3	15.00
Student 36	0	0	1	0	1.00
Student 37	2	2	2	2	8.00
Student 38	5	5	2	3	15.00

Table 58
Experimental Group Scores of Progress test n°01

Students N	Knowledge	Understanding	Application	Skill	Final Score
Student 01	3	3	2	2	10.00
Student 02	2	0	0	2	4.00
Student 03	5	3	3	0	11.00
Student 04	2	0	1	2	5.00
Student 05	5	4	4	2	15.00
Student 06	1	1	1	2	5.00
Student 07	2	0	0	0	2.00
Student 08	3	3	1	2	9.00
Student 09	5	4	0	2	11.00
Student 10	3	1	1	1	6.00
Student 11	0	1	1	0	2.00
Student 12	2	2	1	1	6.00
Student 13	4	3	3	4	14.00
Student 14	5	3	5	3	16.00
Student 15	1	0	1	2	4.00
Student 16	4	0	1	1	6.00
Student 17	3	2	2	3	10.00
Student 18	4	2	1	3	10.00
Student 19	5	4	5	3	17.00
Student 20	4	2	2	0	8.00
Student 21	2	1	2	2	7.00
Student 22	4	4	2	4	14.00
Student 23	4	1	4	2	11.00
Student 24	2	2	3	2	9.00
Student 25	4	3	2	2	11.00
Student 26	1	0	0	2	3.00
Student 27	4	3	3	3	13.00
Student 28	3	3	3	3	12.00
Student 29	2	4	1	3	10.00
Student 30	3	3	2	4	12.00
Student 31	3	1	1	3	8.00
Student 32	4	2	4	2	12.00
Student 33	5	3	2	5	15.00
Student 34	0	1	1	2	4.00
Student 35	4	4	4	4	16.00

Student 36	1	0	2	2	5.00
Student 37	2	3	4	3	13.00
Student 38	3	4	3	4	14.00

As shown in tables 57 and 58, the EG scores were slightly higher compared to the CG scores. It is noticeable that test takers in both groups got more correct answers in knowledge and understanding activities than in application and skill ones. However, the overall performance of the CG decreased regarding to their pre-test while it was improved in the EG. It is claimed that students in the CG were less motivated to learn grammar. First, the university environment seemed different and unfamiliar to them besides to their lack of practice in classroom. Nevertheless, it is too precipitated to take ultimate denouement about the treatment effectiveness.

Table 59

Students' Mean Scores in the First Progress Test

Criteria ↓	Control Group		Experimental Group	
	Total	Mean	Total	Mean
Knowledge	101	2,66	114	3.00
Understanding	80	2,11	80	2.11
Application	70	1,84	77	2.03
Skill	67	1,77	88	2.32
Total score	<u>318</u>	<u>8.37</u>	<u>359</u>	<u>9.45</u>

The results shown in table 59, propped by figure 20, present that the mean scores of the EG is higher in comparison with students of the CG which indicate that the EG performed better in the 1st progress test.

Meanwhile, in accordance with the pre-test, the EG showed an overscoring in the 1st progress test while the CG made a slight degradation.

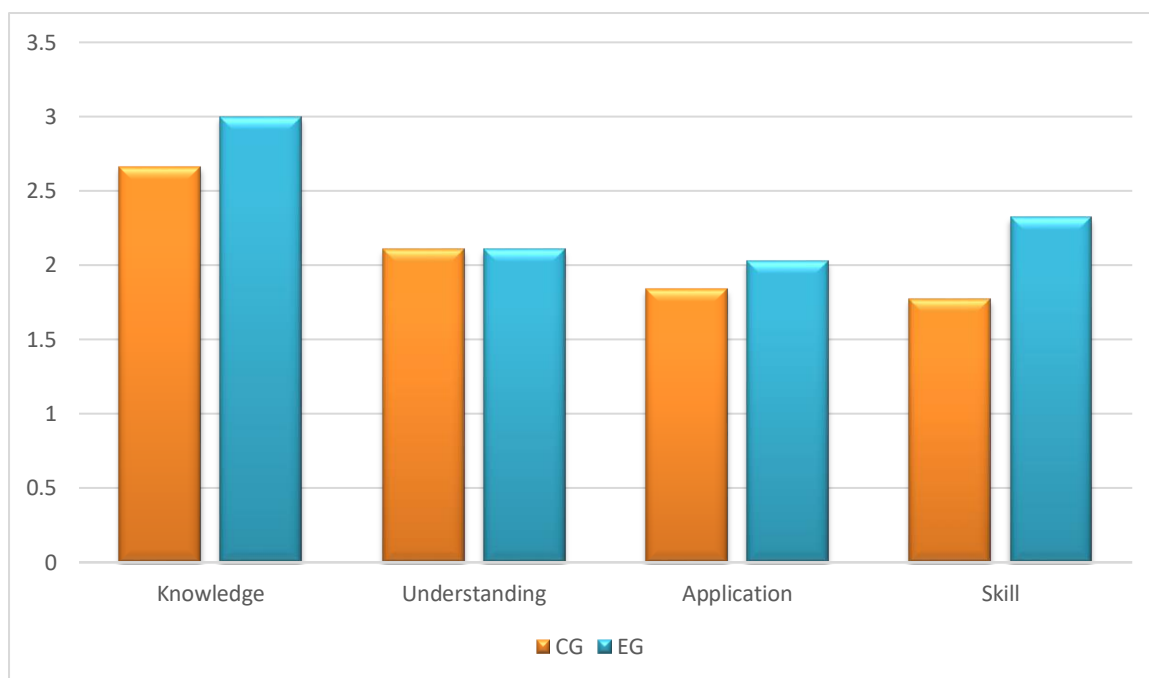


Figure 20. Students' Mean Scores in Progress Test One

Data in figure 20 revealed that the EG's scores were higher in almost all levels. Further, correct answers of knowledge questions were easily achieved because they rated significantly higher vis à vis the other questions with (M= 2.66) for the CG, and (M=3.00) for the EG. Then, understanding questions with an equal mean scores (M= 2.11) for both groups. The application questions with (M= 1.84) for the CG while is higher for the EG (M= 2.03). Finally, skill questions where students' scores decreased to (M= 1.77) in the CG group but it was upper in the EG (M= 2.32). Tersely, students in both groups marked a slight progress; at this stage however, it was too early to declare any pronouncement about the effect of the treatment.

b) Progress Test n°2:

The second progress test was scheduled after another five lectures (four weeks). Both groups

Table 60
Control Group Students' Scores in the Progress Test n° 02

Students N	Knowledge	Understanding	Application	Skill	Final Score
Student 01	0	0	1	0	1.00
Student 02	2	2	1	1	6.00
Student 03	3	0	3	3	9.00
Student 04	1	1	1	1	4.00

Student 05	2	2	3	1	8.00
Student 06	2	2	1	0	5.00
Student 07	3	2	3	2	10.00
Student 08	2	0	0	0	2.00
Student 09	1	3	0	2	6.00
Student 10	2	1	2	2	7.00
Student 11	1	2	1	1	5.00
Student 12	0	0	0	0	0.00
Student 13	2	2	2	3	9.00
Student 14	5	4	3	4	16.00
Student 15	1	0	0	0	1.00
Student 16	0	1	1	0	2.00
Student 17	2	4	3	3	12.00
Student 18	5	2	2	2	11.00
Student 19	4	4	4	4	16.00
Student 20	1	3	0	0	4.00
Student 21	0	1	0	0	1.00
Student 22	2	3	2	3	10.00
Student 23	4	2	3	0	9.00
Student 24	4	0	0	0	4.00
Student 25	2	0	0	0	2.00
Student 26	3	3	2	0	8.00
Student 27	3	1	2	2	8.00
Student 28	3	3	3	3	12.00
Student 29	1	0	2	2	5.00
Student 30	3	2	3	3	11.00
Student 31	2	0	0	0	2.00
Student 32	2	2	2	2	8.00
Student 33	4	2	2	2	10.00
Student 34	1	0	1	0	2.00
Student 35	3	4	5	3	15.00
Student 36	0	0	2	2	4.00
Student 37	4	5	2	3	14.00
Student 38	3	2	2	2	9.00

Table 61
Experimental Group Students' Scores of Progress Test n° 02

Students N	Knowledge	Understanding	Application	Skill	Final Score
Student 01	1	1	2	0	4.00
Student 02	4	3	3	3	13.00
Student 03	3	3	3	1	10.00
Student 04	2	2	2	2	8.00

Student 05	3	2	3	3	11.00
Student 06	1	1	3	1	5.00
Student 07	4	2	4	1	11.00
Student 08	2	3	1	0	6.00
Student 09	2	3	2	2	9.00
Student 10	2	3	5	0	10.00
Student 11	1	0	0	2	3.00
Student 12	2	2	1	1	6.00
Student 13	2	4	4	2	12.00
Student 14	4	4	4	2	14.00
Student 15	2	3	3	2	10.00
Student 16	2	3	2	1	8.00
Student 17	4	4	4	1	13.00
Student 18	3	1	2	3	9.00
Student 19	4	5	5	2	16.00
Student 20	4	2	0	4	10.00
Student 21	4	2	2	0	8.00
Student 22	2	3	5	3	13.00
Student 23	5	4	4	1	14.00
Student 24	2	3	3	2	10.00
Student 25	5	4	1	1	11.00
Student 26	0	0	1	1	2.00
Student 27	3	3	3	3	12.00
Student 28	3	3	3	3	12.00
Student 29	1	2	2	1	5.00
Student 30	2	1	3	4	10.00
Student 31	1	1	4	4	10.00
Student 32	5	5	2	2	14.00
Student 33	5	5	2	2	14.00
Student 34	0	0	0	0	0.00
Student 35	4	2	3	3	12.00
Student 36	2	3	3	2	10.00
Student 37	5	4	2	4	15.00
Student 38	5	5	4	4	18.00

Table 62

Difference between CG and EG Students' Scores of Progress Test n ° 02

Criteria ↓	Control Group		Experimental Group	
	Total	Mean	Total	Mean
Knowledge	81	2.13	100	2.63
Understanding	62	1.63	101	2.66
Application	64	1.69	93	2.45

Skill	56	1.47	73	1.84
Total score	<u>263</u>	<u>6.92</u>	<u>367</u>	<u>9.65</u>

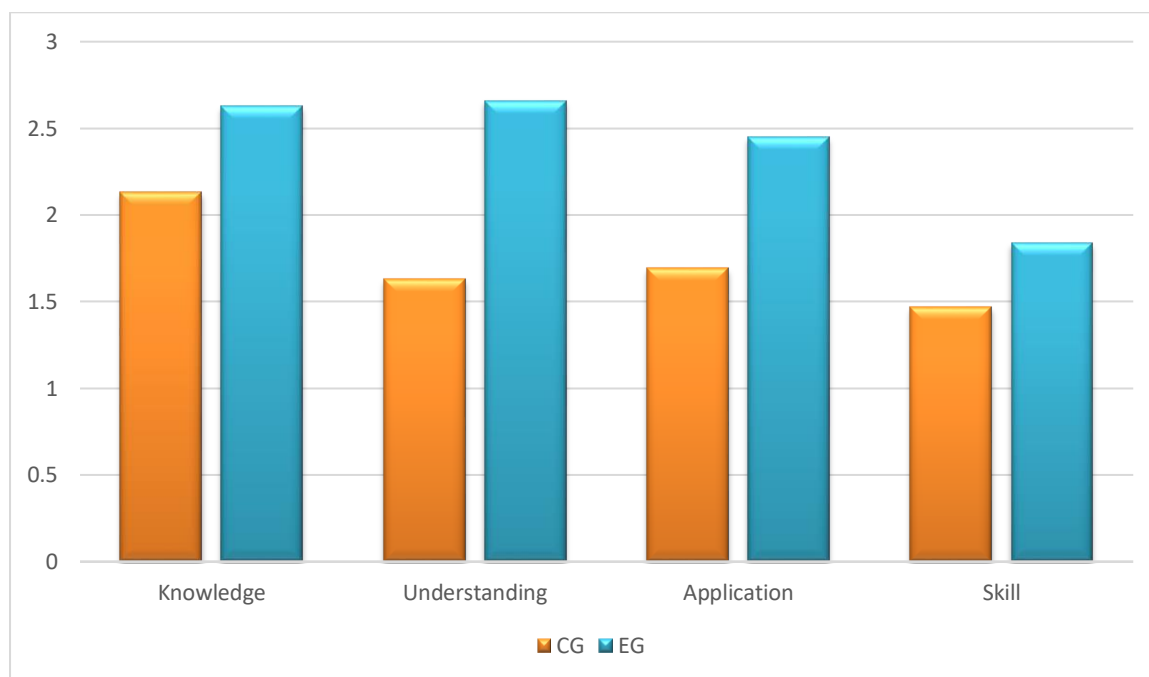


Figure 21. Difference between CG and EG Students' Scores of Progress Test n° 02

Results presented in table 61 and 62 indicate that the EG perform again better than the CG and the students' lowest scores remain in the application and skill questions but what captures attention is the increase of scores regarding the previous tests for the EG particularly; this progress indicates improvement. In our view, this is mainly due to the students' intensive practice on online grammar exercises and activities. This situation is not similar to the CG whose scores were almost stable and their performance was again weak in terms of understanding, application and skill criteria. Even more, it seems that some of the CG students' achievements regressed when compared to the previous tests. The knowledge questions however; prove to be easier because both groups achieve the best scores.

Progress Test n°3

As approaching to the end of the experiment, the students were tested again after 4 weeks of the last grammar courses of the first term syllabus. The test covered questions about tenses, conjunctions and Interjections. The scores are displayed in the tables that follow.

Table 63
Control Group Scores of Progress Test n°3

Students N	Knowledge	Understanding	Application	Skill	Final Score
Student 01	0	0	1	1	2.00
Student 02	1	1	1	1	4.00
Student 03	2	2	3	1	8.00
Student 04	3	3	3	3	12.00
Student 05	5	5	2	1	13.00
Student 06	2	2	2	2	8.00
Student 07	4	2	2	2	10.00
Student 08	0	0	3	0	3.00
Student 09	3	4	0	2	9.00
Student 10	3	3	3	3	15.00
Student 11	0	2	2	1	5.00
Student 12	3	2	3	1	9.00
Student 13	4	4	2	0	10.00
Student 14	5	5	5	2	17.00
Student 15	2	0	0	0	2.00
Student 16	2	0	0	0	2.00
Student 17	4	3	2	3	12.00
Student 18	5	2	1	2	10.00
Student 19	5	5	5	2	17.00
Student 20	3	1	2	1	7.00
Student 21	0	0	0	0	0.00
Student 22	4	3	3	3	13.00
Student 23	2	2	4	0	8.00
Student 24	1	1	1	1	4.00
Student 25	0	2	2	2	6.00
Student 26	1	3	3	3	10.00
Student 27	4	3	0	3	10.00
Student 28	4	4	5	2	15.00
Student 29	0	0	0	0	0.00
Student 30	3	1	1	1	06.00
Student 31	4	1	3	3	11.00
Student 32	5	5	3	2	15.00
Student 33	3	3	0	2	7.00
Student 34	0	0	2	0	2.00
Student 35	4	2	2	2	9.00
Student 36	2	2	1	1	5.00
Student 37	3	5	4	3	15.00
Student 38	5	4	4	3	16.00

Tables 64

Experimental Group Students' Scores of Progress Test n° 03

Students N	Knowledge	Understanding	Application	Skill	Final Score
Student 01	2	3	3	2	10.00
Student 02	4	1	1	1	7.00
Student 03	3	4	5	2	14.00
Student 04	4	4	3	2	13.00
Student 05	3	2	3	2	10.00
Student 06	4	4	3	3	14.00
Student 07	3	1	4	1	9.00
Student 08	3	2	3	2	10.00
Student 09	1	3	3	1	8.00
Student 10	2	3	3	1	9.00
Student 11	2	0	0	2	4.00
Student 12	1	2	3	2	8.00
Student 13	3	3	2	2	10.00
Student 14	2	1	2	0	5.00
Student 15	0	0	4	1	5.00
Student 16	5	5	5	2	17.00
Student 17	1	1	1	1	4.00
Student 18	4	4	4	4	16.00
Student 19	2	4	3	1	10.00
Student 20	0	0	0	0	0.00
Student 21	3	3	4	2	12.00
Student 22	2	3	3	2	10.00
Student 23	2	3	1	1	7.00
Student 24	2	2	4	1	9.00
Student 25	4	2	4	1	11.00
Student 26	3	4	2	2	11.00
Student 27	2	2	2	2	8.00
Student 28	4	4	3	4	18.00
Student 29	4	4	5	3	16.00
Student 30	2	2	5	1	10.00
Student 31	3	2	1	1	7.00
Student 32	3	1	5	5	10.00
Student 33	2	2	3	2	9.00
Student 34	2	4	4	2	12.00
Student 35	4	3	4	3	14.00
Student 36	5	3	4	3	15.00
Student 37	5	5	5	2	17.00
Student 38	5	4	5	4	18.00

Table 65

Difference between Scores of CG and EG of Progress Test n° 03

Criteria ↓	<i>Control Group</i>		<i>Experimental Group</i>	
	Total	Mean	Total	Mean
Knowledge	104	2.74	106	2.79
Understanding	88	2.32	98	2.58
Application	80	2.11	119	3.13
Skill	59	1.55	73	1.92
Total score	<u>331</u>	<u>8.71</u>	<u>396</u>	<u>10.42</u>

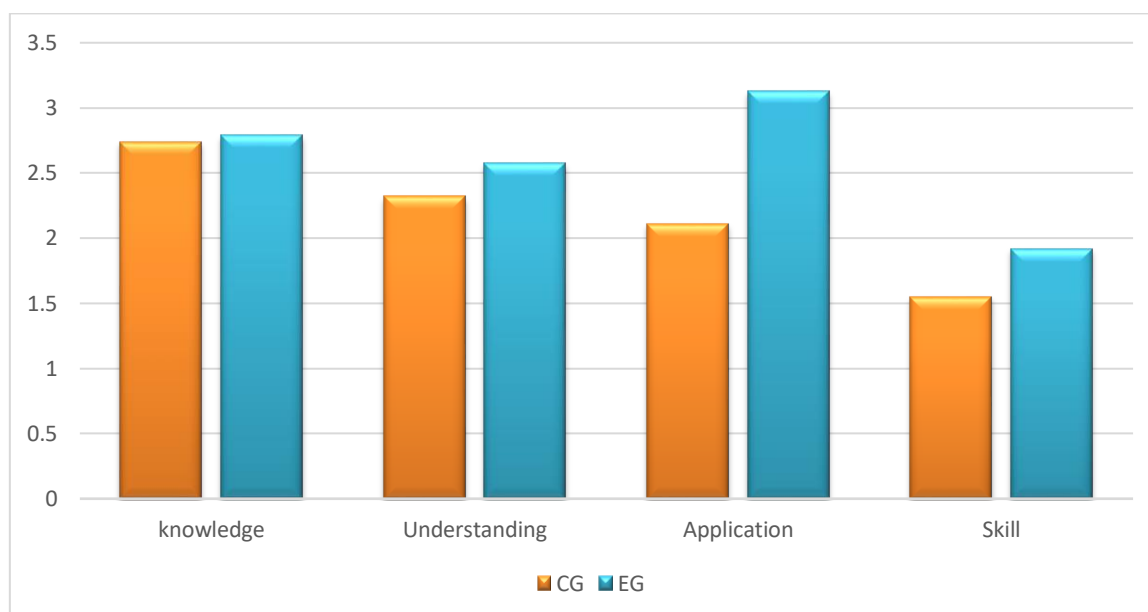


Figure 22. Difference between Scores of CG and EG of Progress Test n° 03

As shown in table 63 and 64, although there is palpable progress in the scores achieved by CG students who managed to score significantly upper than the previous tests. The EG came also out to successfully gain ‘good’ to ‘excellent’ scores.. These problems would be overcome with more practice. Their achievements can be elucidated by the practical tasks which they have pursued along the asynchronous learning courses.

In order to scrutinize the effectiveness of implementing the asynchronous e-learning program on the improvement of learners’ grammar achievement of the experimental group and to compare their performance with that of their counterparts’ in the control group, a post-test was administered to both groups after the action plan.

Table 66
Control Group Students' Scores of the Post-test

N	Score	N	Score
Student 01	4.00	Student 20	16.00
Student 02	8.00	Student 21	9.00
Student 03	9.00	Student 22	3.00
Student 04	11.00	Student 23	12.00
Student 05	8.00	Student 24	10.00
Student 06	12.00	Student 25	11.00
Student 07	7.00	Student 26	9.00
Student 08	6.00	Student 27	10.00
Student 09	12.00	Student 28	8.00
Student 10	6.00	Student 29	13.00
Student 11	7.00	Student 30	9.00
Student 12	12.00	Student 31	7.00
Student 13	11.00	Student 32	7.00
Student 14	12.00	Student 33	14.00
Student 15	11.00	Student 34	13.00
Student 16	6.00	Student 35	2.00
Student 17	8.00	Student 36	13.00
Student 18	10.00	Student 37	9.00
Student 19	16.00	Student 38	14.00
$\sum X_{EG}$	<u>365</u>		
\bar{X}_{EG}	<u>9.61</u>		

Table 67
Experimental Group Students' Scores of the Post-test

N	Score	N	Score
Student 01	12.00	Student 20	7.00
Student 02	12.00	Student 21	12.00
Student 03	9.00	Student 22	17.00
Student 04	11.00	Student 23	11.00
Student 05	8.00	Student 24	8.00
Student 06	12.00	Student 25	8.00
Student 07	7.00	Student 26	11.00
Student 08	13.00	Student 27	11.00
Student 09	12.00	Student 28	12.00
Student 10	9.00	Student 29	9.00
Student 11	10.00	Student 30	13.00
Student 12	11.00	Student 31	15.00
Student 13	13.00	Student 32	13.00
Student 14	9.00	Student 33	11.00

Student 15	11.00	Student 34	13.00
Student 16	14.00	Student 35	10.00
Student 17	10.00	Student 36	13.00
Student 18	12.00	Student 37	15.00
Student 19	10.00	Student 38	17.00
ΣX_{EG}	<u>431</u>		
\bar{X}_{EG}	<u>11.34</u>	$N= 38$	

From table 66 and 67, we get the measures of central tendency and measures of dispersion of the CG and the EG as shown in table 68 below.

Table 68
Overall CG and EG Performance during the Post-test

	Central Tendency		Dispersion			
	Mean	Mode	Lower grade	f	High grade	f
CG	9.61	9 ; 12	3	1	16	2
EG	11.34	11; 12	7	2	17	2

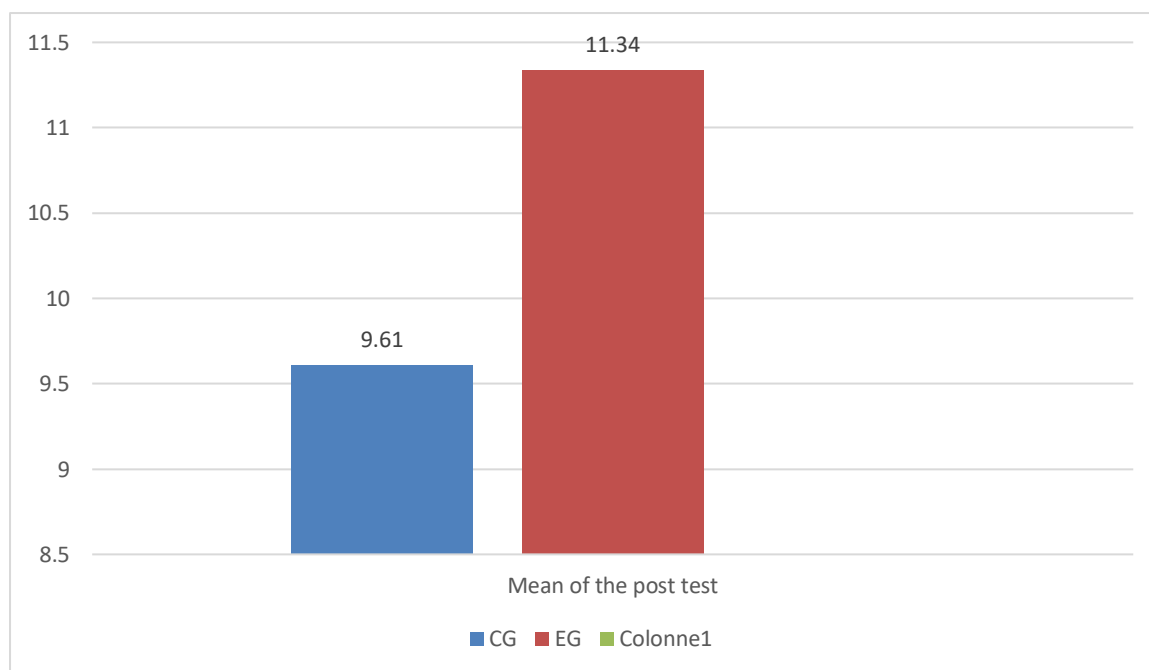


Figure 23. Difference between Scores of CG and EG of Progress Test n° 03

The mean score of the overall performance on the post-test of the participants in the EG is (11.34) while that of the participants in the CG is only (9.61). As such, the EG seems to have

the better performance. The mode indicates that the most frequent score is (11 and 12) in the EG, and (9 and 12) in the CG. As for dispersion indicators, the lowest score is (7) in the EG, gained by two participants while in the CG, it is (3), obtained by only one participant. The highest score (17) was got by two participants in the EG while it is (16) in the CG, also obtained by two participants.

Table 69

Mean Scores and Difference in Means between Pre-test and Post-test of the CG and the EG

	CG			EG		
	Pre-test	Post-test	$|\bar{X}_2 - \bar{X}_1|$	Pre-test	Post-test	$|\bar{X}_2 - \bar{X}_1|$
\bar{X}	9.3	9.61	0.31	9.1	11.34	2.24



Figure 24. Difference between the Mean of the Post-test of the CG and EG

Looking at table 69 and Figure 24 above, it can be noticed that both CG and EG increased their scores. The participants in the CG initiated with a mean of (9.3) on the pre-test and increased to a mean score of (9.61) on the post-test, with an advancement of (0.31). On the other side, the mean of the EG was (9.1) in the pre-test but heightened to (11.34) in the post-test, with a stride of (2.24).

Furthermore, considering the progress of each experimental group's participant, in comparison with that of the control group's participants, it can be classified as remarkable and significant.

Mainly, comparisons of the means, modes, lower and higher grades of both groups denote that the EG participants who received the AEL treatment outperformed the CG whose participants took only traditional courses in all facets.

4.1.3. The Comparative Evaluation of the CG and EG's Overall Results

Table 70 below shows the comparison of the two groups' results in terms of pre-test, post-test, and rates of progress or regress of performance in the participants' grammar achievement tests.

T-test for the Post-tests of the CG and EG

Using the results obtained in table 69 into the formulas on page 178 we obtain the following:

SD of the CG

$$SD = \frac{\sum(x - mean)^2}{N}$$

$$SD = \frac{125.4}{38}$$

$$SD = 3.30$$

SD of the EG

$$SD = \frac{\sum(x - mean)^2}{N}$$

$$SD = \frac{92.34}{38}$$

$$SD = 2.43$$

Variance of the CG:

$$S^2 = \frac{\sum(x_1 - mean)}{N - 1}$$

$$S^2 = \frac{402.93}{38 - 1}$$

$$S^2 = 10.89$$

Variance of the EG

$$S^2 = \frac{\sum(x_1 - mean)}{N - 1}$$

$$S^2 = \frac{218.3}{38 - 1}$$

$$S^2 = 5.90$$

Based on the results obtained from the Standard Deviation and the variance on the previous page, the t-test is calculated as below:

$$t = \frac{\text{Mean CG} - \text{Mean EG}}{\sqrt{\frac{\text{VarCG}}{nCG} + \frac{\text{VarEG}}{nEG}}}$$

$$t = \frac{9.61 - 11.34}{\sqrt{\frac{10.89}{38} + \frac{5.90}{38}}}$$

t= 2.6121

Table 71
T-test Statistics on the differences between the Experimental and Control Groups in Post-test Scores.

	Group	Number	Mean	S.D	t-test	variance	P value/sig.
Post-test	CG	38	9.61	3.30		10.89	
Scores	EG	38	11.34	2.43	2.6121	5.90	0.0109

We thus found that t in this study is equal to (2.6121). According to the table of critical values of this value is higher enough to consider the obtained results as significant. In other words, the null hypothesis that is rejected while the alternative one is accepted.

4.2. Students 'Attitudes Questionnaire:

At the end of the experiment, the researcher designed a 5-point likert scale questionnaire divided into 5 sections. It was emailed to the EG students to survey their attitudes after their experience of studying grammar through an AEL program. The results of the questionnaires are summarized in the tables below.

Item 01: To what extent do you agree with the following statements?

Table 72.
Students' Attitudes towards the Pedagogical and Functional Effect of Asynchronous e-learning

	Statements	F	SD	D	N	A	SA	Total					
a.	It is possible to learn a foreign language by using Internet.	2	5.3 %	5	13.2 %	0	0 %	3	7.9 %	28	73.7 %	38	100 %

b. It is important to integrate online learning in EFL classrooms.	F	0	0	0	11	28	38
	%	0 %	0 %	0 %	28.9 %	73.7 %	100 %
c. Asynchronous e-learning is more convenient than face-to-face learning	F	0	6	0	13	19	38
	%	0 %	15.8 %	0 %	34.2 %	50 %	100 %
d. AEL hinders the process of learning because of its difficulty to use.	F	18	8	0	11	1	38
	%	47.4 %	20.1 %	0 %	28.9 %	2.6 %	100 %
e. AEL provides more knowledge than the teacher in the class do.	F	12	4	0	16	6	38
	%	31.6 %	10.5 %	0 %	42.1 %	15.8 %	100 %
f. Instructors' presence is essential while using e-learning resources.	F	3	4	0	19	12	38
	%	7.9 %	10.5 %	0 %	50 %	31.6 %	100 %
g. AEL facilitates information sharing	F	0	0	0	6	32	38
	%	0 %	0 %	0 %	15.8 %	84.2 %	100 %
h. It is easier to revise electronic educational materials than printed materials.	F	7	2	0	12	16	38
	%	18.4 %	5.3 %	0 %	31.6 %	42.1 %	100 %

Results displayed in table 72 reveal that the majority of students had positive attitudes towards the pedagogical and functional effect of asynchronous e-learning. In other words, they enjoyed the facilities that AEL offered such as electronic version of lessons, sharing information and convenient atmosphere. Notwithstanding, they assumed that the presence of the instructor could not be neglected even with the existence of the wide knowledge sources online. As it is statistically stated in table 00 above, (50 %) of the participants agreed on the essential presence Instructors' presence is essential while using e-learning resources. Other participants strongly agreed represented by (31.6 %). In the same time, very few (7.9 %) highly disagreed thinking that a student can lean independently.

Table 73
Social Interaction and Collaborative Work Effect.

Statements		SD	D	N	A	SA	Total
a. AEL's non-real interactive environment impairs teacher-student relationship.	F	16	4	0	12	6	38
	%	42.1 %	10.5 %	0 %	31.6 %	15.8 %	100 %
b. AEL reduces students' shyness due to the distance mode.	F	0	2	0	0	36	38
	%	0 %	5.3 %	0 %	0 %	94.7 %	100 %
c. AEL leads to a self-paced, independent, student-cantered learning.	F	4	3	2	5	24	38
	%	10.5 %	7.9 %	5.3 %	13.2 %	63.2 %	100 %
d. In an AEL medium, there is less pressure than in a real time encounter.	F	6	0	0	16	16	38
	%	15.8 %	0 %	0 %	42.1 %	42.1 %	100 %
e. AEL encourages group e-tivities.	F	0	5	8	3	22	38
	%	0%	13.2 %	20.1 %	7.9 %	57.9 %	100 %
	F	5	5	0	9	19	38

f. AEL ignores the use of the teachers' direct feedback.	%	13.2 %	13.2 %	0 %	23.7 %	50 %	100 %
g. AEL makes less social obstacles	F	0	0	3	33	1	38
	%	0 %	0 %	7.9 %	86.8 %	2.6 %	100 %
h. AEL improves communication between students and their teacher.	F	12	6	0	10	10	38
	%	31.6 %	15.8 %	0 %	26.3 %	26.3 %	100 %

This section is intentionally arranged to evaluate the nature of interaction in an AEL medium because it is considered as a cornerstone of effective learning .As far as the students' social interactive and collaborative work are concerned. More than half of the participants (63.2 %) strongly agreed on the AEL effectiveness to lessen the pressure of the direct Instructor- Student interaction. Moreover, almost all the participants (86.8 %) admitted that AEL environment made less social obstacles than traditional classroom did. This helped almost the entire group (94.7 %) overcome shyness and anxiety problems because they communicated freely at distance. Yet, (31.6 %) strongly disagreed that AEL improved their communication.

Table 74

The Organization and Management of Learning Effect

Statements		SD	D	N	A	SA	Total
a. AEL makes learners less time bound and can respond at their leisure	F	0	0	0	5	33	38
	%	0 %	0 %	0 %	13.2 %	86.9 %	100 %
b. AEL gives less time to students to regulate their task-related activities	F	21	15	2	0	0	38
	%	55.3 %	39.5 %	5.3 %	0 %	0 %	100 %
c. Being out of zone bound makes learning less effective.	F	19	9	0	10	0	38
	%	50 %	23.7 %	0 %	26.3 %	0 %	100 %
d. Students may misunderstand AEL complementary nature to lectures and choose to skip courses.	F	4	10	3	12	9	38
	%	10.5 %	26.3 %	7.9 %	31.6 %	23.7 %	100 %
e. AEL is cost-effective and economical for students.	F	6	6	2	16	8	38
	%	15.8 %	15.8 %	5.3 %	42.1 %	21.1 %	100 %
f. AEL is very economical for universities to adopt.	F	0	0	0	38	0	38
	%	0 %	0 %	0 %	100 %	0 %	100 %
g. AEL makes learning easier and more organised.	F	0	2	0	5	31	38
	%	0 %	5.3 %	0 %	13.2 %	81.6 %	100 %

As table 74 above displays, a great majority of students (86.9 %) strongly agreed that AEL made them feel less bound and more comfortable to study and respond to the courses at their leisure. (55.3 %) of participants declared that it gave them more time to regulate their task-

related activities. Keeping with the positive attitude, a large portion of students (81.6%) confirmed that AEL makes learning easier and organised. It is also noticed that (31.6 %) of the survey respondents agreed that students can rely only on their AEL courses and completely ignore their in-class lectures thinking that they are enough. As a matter of financial analysis, it is remarked that students found it economical to be adopted in universities.

Item 03: At what extent do you agree or disagree to the following knowledge and cognitive process effects?

Table 75
Knowledge and Cognitive Processes Effect

Statements		SD	D	N	A	SA	Total
a. AEL can scaffold students' previous knowledge with new concepts	F %	0 0 %	0 0 %	0 0 %	0 0 %	38 100 %	38 100 %
b. It may not significantly enhance student comprehension and learning.	F %	21 55.26 %	15 39.5 %	0 0 %	2 5.3 %	0 0 %	38 100 %
c. AEL reduces quality of knowledge attained.	F %	20 52.6 %	13 34.2 %	0 0 %	5 13.2 %	0 0 %	38 100 %
d. It may be difficult to understand the lesson content via an AEL program.	F %	6 15.8 %	25 65.8 %	0 0 %	7 18.4 %	0 0 %	38 100 %
e. AEL makes students actively participate in the activities of the course. E.g. Assignments and homework	F %	0 0 %	1 2.6 %	0 0 %	17 44.7 %	20 52.6 %	38 100 %
f. AEL lesson content is richer than an in-class lesson.	F %	0 0 %	0 0 %	0 0 %	2 2.5 %	36 94.7 %	38 100 %
g. AEL gives students the opportunity to retrieve rules and practise more.	F %	5 13.2 %	4 10.5 %	0 0 %	12 31.6 %	17 44.7 %	38 100 %

As reference to the knowledge and content delivered through AEL courses, table 75 above presents that most of the participants either agreed or strongly agreed that the AEL content was richer, of quality and retrieval. Thereby, students were more active since they practised more exercises, assignments and homework. It is also important to mention that almost all participants dissented the difficulty of AEL content; however, this last scaffold students'

previous knowledge with further information and explanations as strongly claimed by all the respondents (50 %).

Table 76
AEL's Impact on Grammar Learning Outcomes in EFL Classrooms.

Statements		SD	D	N	A	SA	Total
a.	Students who learn through an AEL program score better than those who follow a traditional one.	F 1 2.6 %	3 7.9 %	0 0 %	12 31.6 %	22 57.9 %	38 100 %
b.	AEL improves students' self-development in grammar courses.	F 0 0 %	0 0 %	2 5.3 %	0 0 %	36 94.7 %	38 100 %
c.	AEL helps learners perform better in their grammar exams.	F 2 5.3 %	2 5.3 %	0 0 %	28 73.7 %	6 15.8 %	38 100 %
d.	AEL reduces grammar errors in oral and written language performance.	F 18 47.4 %	14 36.8 %	1 2.6 %	3 7.9 %	2 5.3 %	38 100 %
e.	The basic of English grammar courses is better learnt through AEL.	F 7 18.4 %	3 7.9 %	0 0 %	0 0 %	28 73.7 %	38 100 %
f.	AEL helps EFL students apply the grammar rules more effectively.	F 0 0 %	0 0 %	0 0 %	8 21.1 %	30 78.9 %	38 100 %
f.	AEL motivates students to learn the English language.	F 0 0 %	2 5.3 %	1 2.6 %	0 0 %	35 92.1 %	38 100 %

The last table in the attitude questionnaire covers results related students' attitude towards the impact of AEL on their grammar achievement. It was not surprising that the results gathered from this section have a very close interpretation of what the EG's post-test revealed. A range of (34) students out of (38) confirmed that AEL helped them to score better in grammar that they used to score in the traditional classroom. Almost all students (94.7 %) strongly that AEL improved their self-development in grammar courses since this way of learning is based on student-centred approach. Again, a highly rate of students (73.7 %) strongly agreed that grammar rules were effectively learned and applied via AEL. They equally declared it is a motivating mode of learning for English students (92.1%).

4.3. The Classroom and GCRP Observation

During all the experiment period, the researcher was attentively observing the students' performance either in the conventional classroom or on Google Classroom Platform (GCRP). This procedure endorsed the opportunity to closely see and describe the students' participation, interaction, linguistic performance, activeness, etc. with and without the AEL treatment.

The researcher opted to use two different types of observation (structured and informal). For the structured, a pre-planned grid (Grid A, Appendix J) was used at each in-class or virtual activity. The teacher regularly fills in the observation grid with a plus (+) or (-) depending on the students' performance. The (+) was accounted as 01 point while the (-) as zero. At the end of each phase, the grids were arranged to accumulate the average gained by every student. Additionally, Grid B (Appendix K) was used to record the frequency and the volume of interaction in each session in the sense that interactive communications improves learning grammar language (Hitoshi, 1997)

For the informal observation, grid A was again used (Appendix J) but only its bottom section, entitled "Marginal Comments", where there is a free space to take notes, summary comments, feedback and excessive details about the students' behaviours. The results obtained from the observation in both traditional classroom and GCRP are summarized in the coming pages.

4.3.1. Analysis of the Structured Observation

a) Tests vs. Observation Scores

Using results from grid A, the research calculated the scores mean of each test at different phases of the experiment. The table 77 below summarised the obtained data.

Table 77

Grammar Achievement Scores Average of Tests and Observation

Phase	Test	Groups	Test Average	Observation Average	Difference
Pre- experimental	Pre-test	CG	9.3	9.16	0.14
		EG	9.1	9.31	0.21
Experimental	Progress Test 1	CG	8.37	9.03	0.66
		EG	9.45	9.31	0.14
	Progress Test 2	CG	6.92	5.05	1.87
		EG	9.65	9.33	0.32
	Progress Test 3	CG	8.71	8.83	0.12
		EG	10.42	11.33	0.91
Post-test	CG	9.61	8.36	1.25	

Post- experimental	EG	11.34	12.39	1.05
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As exposed in table 77, the average of scores obtained during the observation sessions and the grammar achievement tests appear identical. The average differences were between 0.14 and 1.87. These rates are not statistically significant compared to the average variances between the CG and EG. Hence, the results confirmed the effect of the AEL treatment.

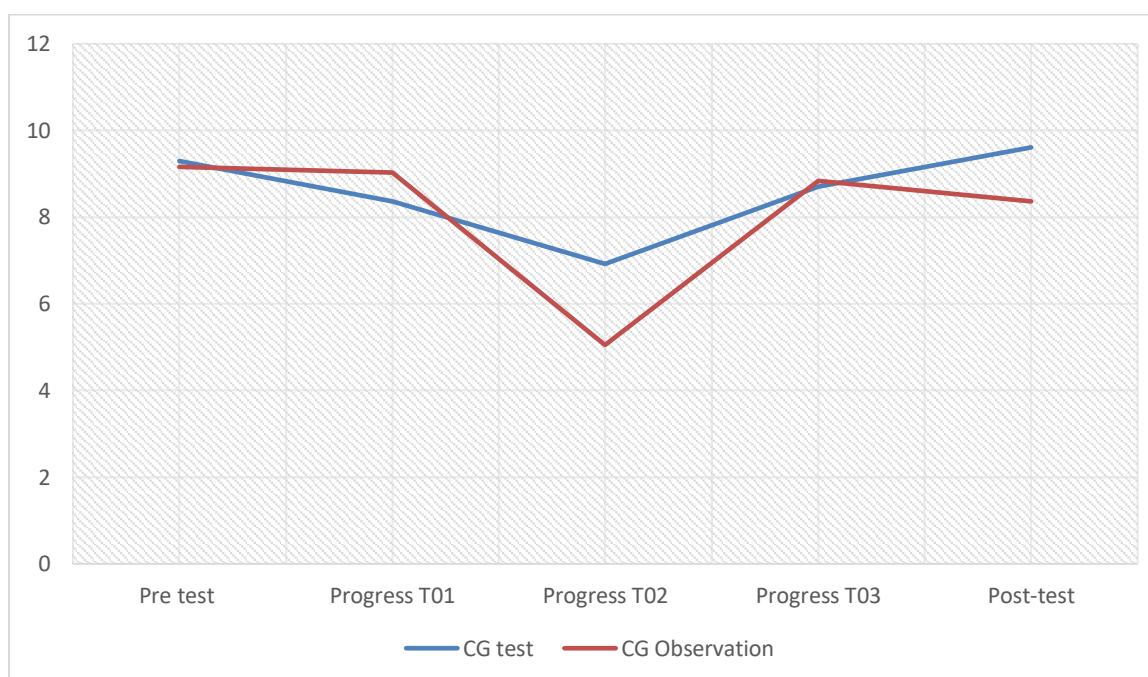


Figure 25. Level of Comparison between Tests and Observation Scores Mean of the CG

Figure 25 (on page 229), illustrated clearly the results of the CG stated in table (on page ...). As seen, the group followed the same track along the course of the experiment, starting the initial phase almost with the same level of performance. A degradation in level is remarked during the experiment phase and it reached its weakest point exactly at progress test 02. The curve rises again until the post-test where student got the highest test score. However, their work was slightly lower in the observation tests. However, there is a very slight increase of the

experimental group over the control group. Thus, we believe that students answered the test questions with more attention than they did in the observation evaluation.

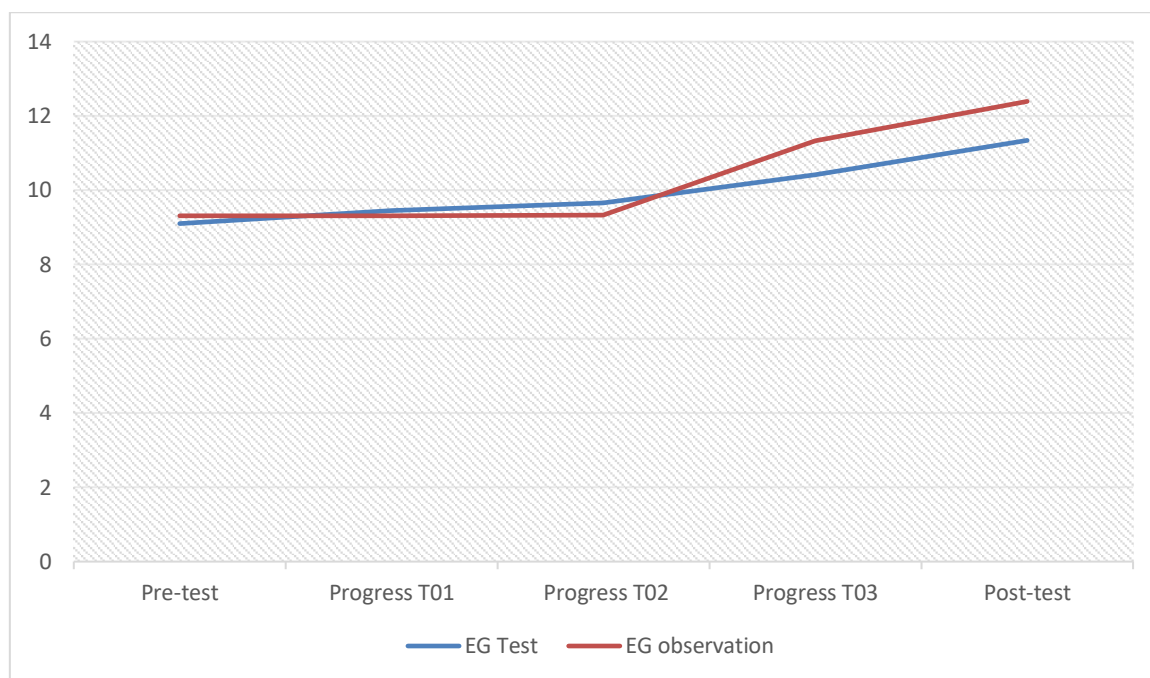


Figure 26. Level of Comparison between Tests and Observation Scores Mean of the EG

The EG seems to have less performance variances than the CG. As figure 26 above shows, the curves are closely resembled with a slight rise in the student's scores at the final phase of the observation evaluation.

b) Students' Interaction in a Grammar Traditional Classroom vs. GCRP

➤ Frequency of Interaction

To deeply understand the effect of AEL on students' grammar achievement, the researcher arranged another grid (Grid, B) aiming to gauge the approximate frequency and volume of the students' interaction per session, within a traditional face-to-face environment and on a virtual classroom. The collection of data lasted for the whole experiment period.

At each session, the instructor marks the number of interactions (e.g. a question raised by a student, an answer, a request, an explanation, a complaint.....). At the same time of the

student's intervention, the teacher observes the length of the sentence(s) used and noted whether it is short or long.

Table 78.

Frequency of Students' Interaction in Traditional Classroom Vs. GCRP

Phase	N° of Sessions	Traditional Classroom	GCRP
Pre-experimental	9 sessions	87	27
Experimental	9 sessions	103	38
	9 sessions	96	56
	9 sessions	122	62
Post-experimental	9 sessions	60	11

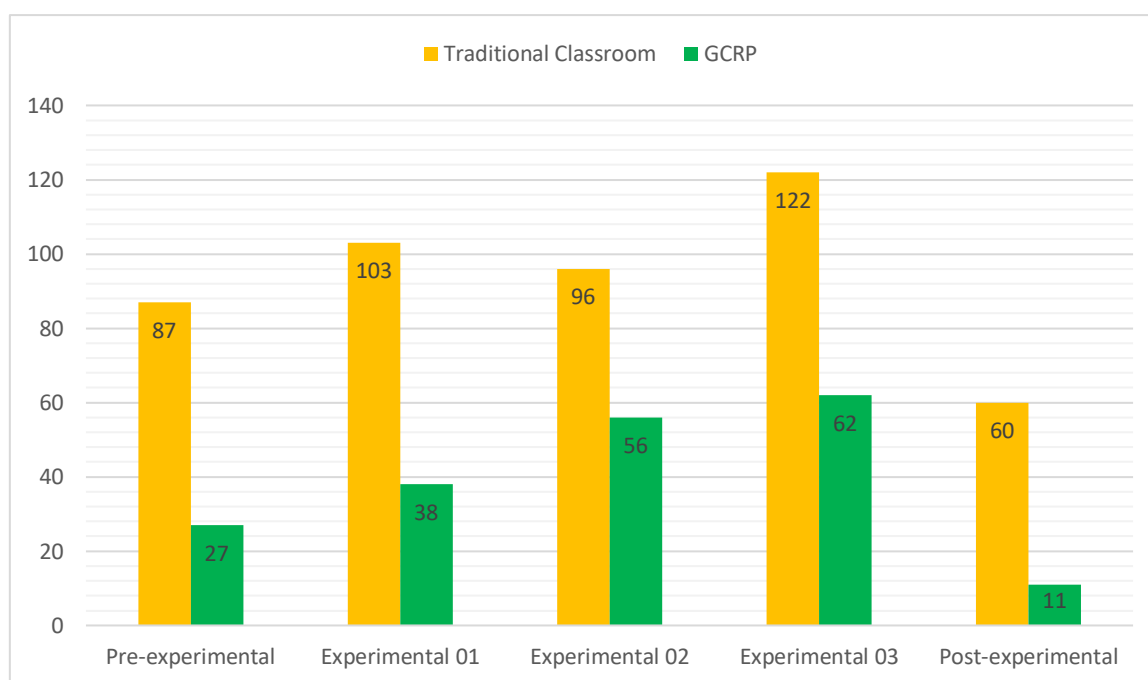


Figure 27. Frequency of Students' Interaction in Traditional Classroom Vs. GCR

All along the three phases, it is noticed that the number of conversations occurred in the traditional classroom is highly upper than on Google Classroom Platform. Therefore the majority of students believed that a classroom, with classmates, a teacher and a board at the front, also specific timing for each subject is the right place to study, ask questions, expect feedback, dispute with fellows, etc. Meanwhile, in a virtual classroom, they felt less restrained.

➤ **Volume of Interaction**

As mentioned previously, the instructor categorised the students' conversations into short and long referring to the length of the uttered sentences. This part of observation is mainly designed to examine the extent to which interactive environments help to improve students' grammar skills. Put in other words, students who constructed long and complex sentences seemed more able to apply the grammar rules. The table 00 below recapitulates the obtained data

Table 79
Volume of Students' Interaction

Phase	Volume	Traditional Classroom	GCRP
Pre-experimental	SI	71	12
	LI	16	15
Experimental	SI	74	19
	LI	29	19
	SI	48	49
	LI	48	7
	CI	86	5
	LI	36	57
Post-experimental	SI	8	2
	LI	52	9

SI: Short Interaction

LI: Long Interaction

Unlike the frequency of interaction that was highly rated in the traditional classroom than on GRCP, the volume marked opposite results. Otherly said, students found more freedom and space to express their ideas, thoughts, ask questions and rely, simply because they were unseen in a virtual world behind their screens.

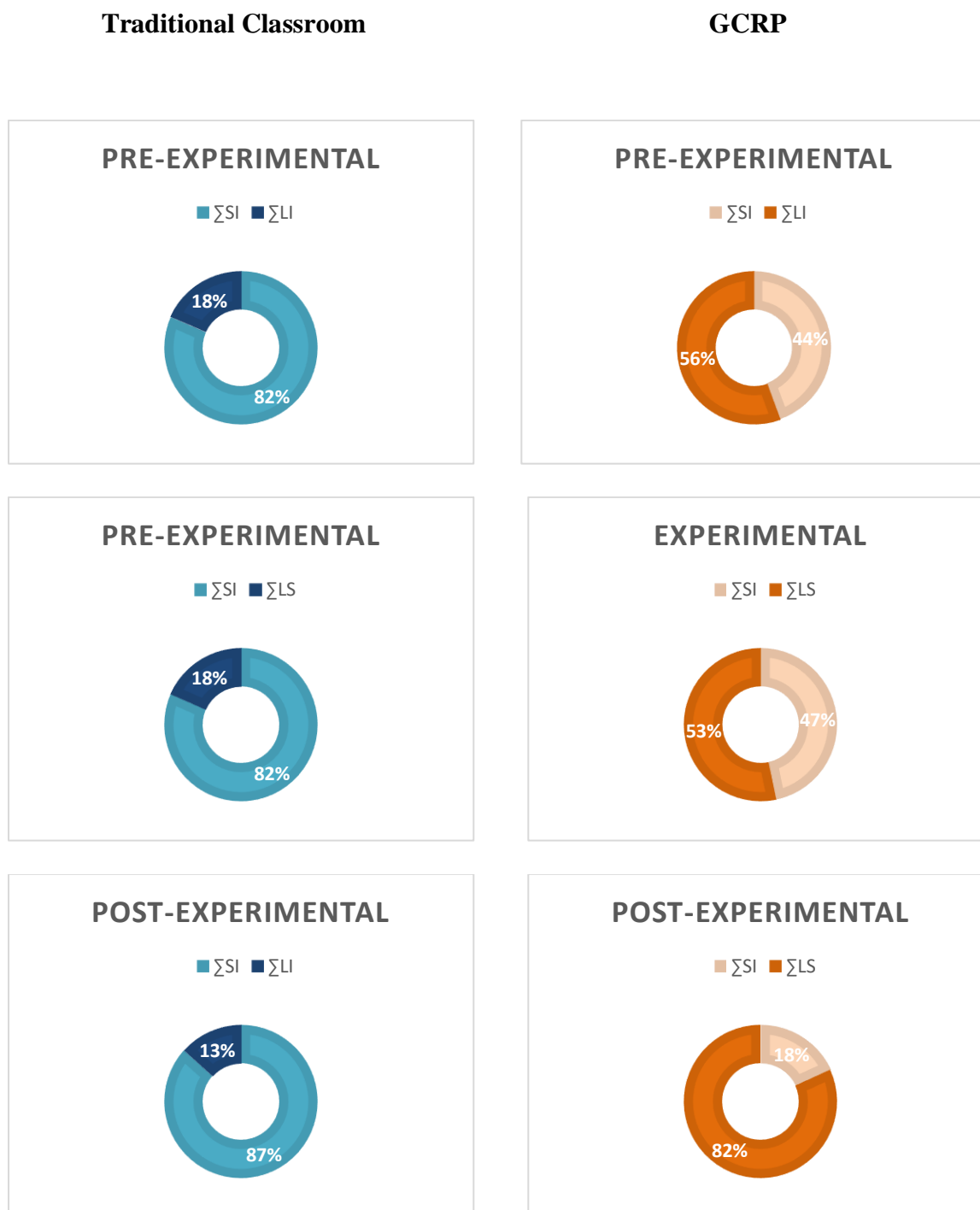


Figure 28. Volume of Interaction in Traditional Classroom and GCRP (SS Vs. LS)

The pie charts in figure 26 above, illustrates graphically the results on table 79 (on page 234). The dark side of the pies represents the long intercation while the light side refers to the short interaction.

4.3.2. Analysis of the Informal Observation

After gathering the marginal comments on grids A, The instructor qualitatively assessed the type, the mode, the tone of interaction in both environments besides to the style of the language

Table 80
Results of the Informal Observation

	Traditional Classroom	GCRP
Type of Interaction	Student – student Teacher – student Teacher – students Student – teacher Student – content,	Student- student Teacher – student Teacher – students Student –Teacher Student - content
Mode of Interaction	The majority of messages were oral only when the teacher gives written assignments.	The majority of messages were written. The oral form was rarely used.
Style of Language	In GC, students use less more formal sentences	In GC, students use less academic / formal language than those in CC.
Tone of Interaction	Only extroverted students who participate while introverted prefer to contribute in written practices or keep mute.	Both introverted and extroverted students feel comfortable to contribute (ask/ answer /debate)

Although it seems clear from table 80 above that both learning environments contain the same five types of interaction (student –students, teacher-student, teacher students, student-teacher and student content), they do not have the same strength. In a plain language, the instructor observed that the most present type in the conventional classroom is teacher- students at first place, followed by student-teacher. Meanwhile, on the GCR platform, the majority of students interacts directly with the course content or the post activities, assignment and sometimes ask questions to their teacher.

It was also observed that the mode of interaction differs in both mediums. While almost all students in the traditional classroom addressed their instructor or other classmates orally except

when the activity is in a written form such as (worksheet, exercises on a handout....), the majority of GCRP users prefer writing messages instead of vocal messages.

It is worth mentioning that English, as the target language in EFL classroom, was used excessively in both classrooms; however, students on GCRP tended to use a less academic and informal language because they considered this medium less stricted.

Conclusion

This chapter is wholly devoted to present the results obtained first from the preliminary test, the teachers' questionnaire and the examination of students' written expression copies of the pilot study. Other results collected from the students' readiness questionnaire, pre, progress and post tests, students' attitude questionnaire next to the the classroom and GCRP observation were were submitted respectively to analysis and discussion.

At the first place, the preliminary test, the teachers' questionnaire and the examination of the students' copies proved that 1st year students at Batna 2 University showed a weak grammar level either in their writing or oral communications.

The reasearch questionnaire at the beginning of the experiment detected that the participants were not well-prepared to receive the AEL treatment. Therefore, the researcher scheduled some coputing sessions related to Google Classroom Platform so that students can manipulate it effectvely throught the experiment.

Results gained from the pre-test ensured the equal departure of both groups to the the experimental phase because they marked statistically insignificant differences in their pre-test scores. However, the analysis the progress and post tests showed a significant positive correlation between the implentation of asynchronous e-learning and students- grammar achievement. Accordingly, students who received the the AEL tretment outperformed the non-treatment group.

Moreover, the attitude questionnaire analysis summarized the positive reaction of the students after their experience of using AEL as a supporting method to their in-class grammar courses. The analysis of the structred and the informal observation further corroborated the tests and the questionnaire findings to highlight the improvements achieved by the experimental group.

CHAPTER V

OVERALL CONCLUSIONS, PEDAGOGICAL IMPLICATIONS AND RECOMMENDATIONS

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Introduction

To complete this study properly, it is necessary to discuss all data collected in order to test the hypothesis and answer the research questions. As already indicated in the preceding chapter, data is interpreted in descriptive and inferential statistics between the means of the pre-test and the post-test.

This chapter condenses the major findings and the drawn conclusions based on the research data gathered from observation, questionnaires and tests. It is set out in four sections. The first section contributes to an overall summary of the study findings followed by the main conclusions related to the research questions and hypotheses. Subsequently, the pedagogical implications, recommendations and suggestions to teachers, students, administrators and equally for future works. At the end, it is closed up with general conclusion of the whole work.

1. Summary of the Research Findings

The study aimed to collect data on the EFL students' achievement in grammar at Batna-2 University after implementing an AEL program to support their in-class traditional courses. Initially, as participants were planned to study through a GCRP, they should handle it adequately to fully gain credible outcomes. Ergo, the students' readiness questionnaire revealed that they had a will to study virtually but they were not skilled enough to use employ the AEL tools. Consequently, the needed preparation and the right mindset to start the experiment.

It seemed clear from the pre-test mean scores of the CG and the EG that they had roughly similar achievement in grammar where the control group marked a slightly insignificant higher rate (0.31). Conjointly, the structured and the informal observation results confirmed the similar starting point of these groups to the experimental phase. The post-test mean scores however, were remarkably different with a difference of (2.24). This dissimilarity was also discerned during the classroom and the GCRP observation.

The attitude questionnaire, emailed to the EG group at the end of the experiment, further corroborated the positive effect of the AEL treatment on the students' learning in general and on grammar achievement in particular.

2. Conclusions Related To Research Questions

As noted several times previously, the primary objective of this study was to investigate the effect of asynchronous e-learning on EFL students' grammar achievement. Specifically, the study sought reasonable answers to the following questions:

RQ 1: How is grammar taught to first year students at Batna 2 University?

Initially, the preliminary findings from the teachers' questionnaire as well as the students' readiness questionnaire reported that grammar was taught in a traditional classroom learning pattern where students attended the grammar class in person and followed a commute and strict scheduling program in almost all Algerian schools and universities. The time spent on learning grammar was very limited and students complained of not having enough opportunities to do more tasks and relative learning activities. In this case, students may feel reluctant to practise the learnt courses in their ordinary class. Learning a foreign language, however, requires intensive work because students may wrestle to decipher the language aspects. They also need a lot of practice and repetition of grammar drills to master its rules.

RQ2: How do students perform in a conventional grammar class?

As predicted at the beginning of the study, the pre-test findings approved the low achievement of the participants' in grammar. This item received an 80.33% of the English language teachers' agreement in the teacher's questionnaire. Simultaneously, the earliest sessions of the classroom observation unveiled the problems that students used to face during a traditional grammar class. These problems are related to lack of practice, time bound, lack of participation, lack of revision. Moreover, absence of full learning independence of learners dominated the student-centred approach in traditional classes. Students also did not retain

grammar rules successfully because of the materials deficiencies. There were no statistically significant differences in means between groups at the departure of the experiment. Consequently, a well-thought-out experiment was designed to puzzle out these problems and make students achieve better scores and realize satisfied performance.

RQ3: Are 1st year university students ready to receive English grammar courses through an AEL program?

As inferred from the readiness questionnaire, a large proportion of EFL students and teachers welcomed the idea of implementing asynchronous e-learning in teaching English grammar. Also, they reported their willingness to start using education related technologies in grammar classes. However, many of them declared their disability concerning self-regulation and management, manipulation of computer devices and the low level of familiarity with related educational technology. Meanwhile, they admitted their skills of using social media networks. This reflects that they were not prepared enough to participate in the planned experiment. For this reason, the researcher scheduled some computing courses to help them exploit the GCRP successfully also to ensure valid results from the experiment.

RQ 4: Is it possible for students to enhance their grammar through an online-based course?

The study also confirmed that it is possible to enhance students' grammar and academic achievement through AEL. The t-test identified significant difference between the two groups in which the null hypothesis is rejected the research main hypothesis was approved.

The observation findings reported also that students in the EG relied more on facilitation where courses were predominantly asynchronous. There was also much time saved for the instructor to provide feedback and comments through multimedia strategies. Moreover, extroverted and introverted students stood on equal footing which might result in more, even

open and honest discussions. Notwithstanding, it is worth to mention also that online courses take more efforts and time to be designed.

RQ5: Is there a difference in students' English grammar achievement scores between the treatment (asynchronous + traditional) group and the control (non- asynchronous) group after controlling their pre-intervention achievement?

As already interpreted that the results gained from the post-test and the students' attitude questionnaire were enough to prove that traditional along with asynchronous e-learning help upgrade EFL students' grammar exam scores. Meanwhile, The non-asynchronous group also marked a step forward but with a slight rate.

RQ6: Does the combination of asynchronous activities along with traditional face-to-face grammar courses exert positive or negative effect on academic achievement?

The comparison established between the pre-test and post-test scores attest clearly the positive effect of the AEL intervention. The post-test results presented statistically significant progress in the students' achievement after one semester (6 months) of blended learning (asynchronous e-learning + traditional grammar instructions). For the EG, the lessons were also delivered through Google classroom platform where the teacher posted digital courses as well as videos, Power Point Presentations books and further exercises related to each studied lesson. In both groups, the students' achievement level increased in comparison with the initial one but it is remarkably higher in the EG

After the progress tests, the majority of the EG participants proffered a continuous improvement which equally approved in the observation and it was noticed that the majority of the students preferred reviewing their grammar lessons and materials multiple times to be well-learnt.

RQ 7: What is the effect of AEL on student-student and students-teacher interaction?

Throughout the experiment, it was remarked that students in the CG met their teacher and classmates in person (face-to-face setting) during the whole semester. More social learners, benefited from a traditional classroom model. However, students in the EG were less interactive because they often dismissed their online discussions. Unlike the misconception around e-coursework that totally ignores the interaction between students and teachers, the observation and the questionnaire findings proved the opposite, and showed that 61 % of students preferred the online discussion where 81% of them were attracted by the virtual classroom. However, other students reported that the real interaction in a conventional class was more fruitful because it ensured regular communications, discussions and direct reactions.

Self-Discipline

As noted above, asynchronous e-learning gives students more autonomy and freedom to control over their learning. This, in turn, compels intensive efforts from students in order to attain self-discipline and self-time management self-motivation during an online lectures and assignments.

RQ8: To what extent is the integration of asynchronous e-learning in the EFL grammar courses effective in promoting grammar achievement?

As all the previous methods of teaching, the asynchronous e-learning has its positive and negative aspects. Accordingly, its use as a supporting tool next to traditional learning would be more advantageous than being an alternative. In other words, the role of the teacher in a real classroom cannot be neglected. This fact can be clearly noticed from the students' attitude questionnaire where a respectable number of them (43.2%) maintained the necessity of the conventional classroom.

RQ9: What are the attitudes of students in the experimental group towards using AEL in learning English grammar?

Another substantive purpose of this research was to identify the students' attitudes towards using asynchronous e-learning courses to learn grammar. This study found that perceived AEL usefulness on the students' grammar achievement had a positive impact on their attitude toward its benefits. Their satisfaction was an underlying reason for the effective role of AEL in improving students' academic achievement.

Recommendations and Pedagogical Implication

In the light of the research literature survey and the experiment findings, the researcher addresses some recommendations, which, if taken into consideration, they might bring some positive changes to the pedagogical and the educational system:

- Due to the spread of technology, education has changed drastically in the world. Courses are no more presented with a chalk and a board, but they are delivered remotely through learning websites and online platforms. For this reason, a call for a distinctive rise of digital and online learning/teaching, in developing countries mainly, is highly appreciated.
- Since the study is limited to first year students of the English department at Batna 2 university, it is recommended that other works may extend the area of investigation and cover other students of different levels from several universities in or outside Algeria.
- The study investigates the effect of AEL on EFL students' achievement. It would be equally significant if other works examine its impact on teachers' role.
- During the experiment, it was remarked that universities lack physical and instructional technology equipment. Therefore, providing internet connectivity in Algerian universities would open up exciting possibilities for learners and teachers to apply electronic learning successfully.
- Since students showed unawareness and unpreparedness to use the GCR platform at the beginning of the experiment, educational institutions and academic units should

schedule training sessions for students and teachers of all levels to learn how to deal with these technologies.

- Schools and universities are critical to promoting student digital literacy by encouraging or even compelling students to attend relevant computing trainings.
- Implementing e-learning in all subjects of learning for young as for adults is of a crucial importance since technology has invaded all sectors of life.
- Applying e-learning earlier in schools so that students grow up with technology and be more familiar with its devices and programmes.
- Educational institutions should put light on researchers' works results concerning the role of e-learning to attract first, their attention because many of them are unaware.
- Equal works like the effect of Moodle, MOOC, ZOOM and other similar synchronous or asynchronous platforms to improve grammar achievement
- Further areas can be explored to examine the relationship between asynchronous e-learning and digital divides, motivation, school truancy, etc.
- All universities must take strict measurements to learning and all what improves the quality of education. Particularly, it would be effective if we learn more about others' experiences such as teachers, learners and administrators about online learning platforms.
- University Syllabi must be designed on the basis of the students; needs as well as the developmental research in the field of online and digital learning.

General Conclusion

The main goal of this research study is to determine the effect of using asynchronous e-learning on EFL learners' grammar achievement within the English department at Batna -2- University. Almost all Algerian universities neglect applying the online learning synchronous or asynchronous, and this research tries to contribute to this problem. After analysing the most relevant literature on grammar learning methods and approaches, a quasi-experimental research was planned in order to find possible solutions to the weak achievement in English grammar marked by EFL students in the same university. The obtained data were analysed and discussed to reach the following conclusions: 1. Weak level in English grammar seems to characterize most Algerian students. 2. The AEL program improved participants' language performance in general, mainly grammar knowledge, understanding, application and skills, compared with traditional classes. However, we could not corroborate this positive effect statistically in all the spaces used. There is a need to continue with the research to extend the sample and generate the results more effectively.

To follow up, findings obtained clearly claim that the online learning and teaching must start be included in Algerian universities and more investment should be done in teacher training and resources because it will obviously affect positively this situation. But in the meanwhile, AEL can be an excellent solution to increase students' exposure to real language, as well as to give them opportunities to practise the language naturally because it is less expensive. Classroom observation sessions further generated more student-teacher and student-student interactions. EG Participants seem to have outcome the CG in online and real discussions; thus, contributing to the essence of the participation in their studies, i.e., being motivated students. We conclude that AEL learning has had a positive effect on the participants' grammar achievement.

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APPENDICE

Appendix A

Teachers' Attitude Questionnaire

Section One: Teachers' Background Information

Item 1: Determine your gender.

Male Female

Item 2: Determine your Age

25-30 31-40 41-5 >50

Item 3: How long have you been teaching?

.....

Section Two: Teaching Methods and Materials

Item 4: How do you usually teach your courses?

- Purely online
- Completely traditional (face-to-face)
- Blended (a mix of both of the above)

Section Three: Teachers' Attitudes towards English Grammar in EFL Classrooms

Item 5: At what extent do you agree or disagree with the following statements:

Statements	SA	A	N	D	SD
7. Grammar is necessary in learning English effectively.					
8. Grammar should be mainly practised in oral and written communication					
9. Intensive practice is of a crucial importance for learners to master the grammar rules.					
10. Learners will improve their communicative ability if they study and practise grammar.					
11. Learners should utter grammatically correct sentences.					

12. My students focus on grammar rules and apply them while speaking or writing

7. My students opt for using short English conversations because they face difficulties to form a grammatically correct.

8. My students use simple sentences rather than complex sentence in the target language.

7. My students will communicate successfully in the foreign language if they practise sufficiently the grammar rules

10. The time allocated for grammar lessons in the classroom is plentiful for EFL students at your university.

11. There is insufficient in-class controlled grammar practice for EFL students at your university.

12. My students find the explanation of grammar rules boring in the classroom.

13. My students don't feel comfortable when they receive my feedback about their grammar errors.

14. My students have an equal chance to participate in the classroom.

15. My students find the classroom environment comfortable to learn and practise the English grammar

16. My students interact cosily with the teachers and with peers in the classroom

17. The digital learning mode is an atmosphere of attentiveness and openness for EFL learners.

18. A supporting asynchronous platform of grammar courses

greatly improve my confidence
and skills in teaching grammar

13. The digital courses serve as a
place for sharing and
consultation between students
better than in-class courses.
-

Appendix B

Some extracts from students' exam scripts

✓
Yesterday, I go with my friend
we selected different books.

She wear weird clothes and she goes!

because of technology and development much years
evoted to work.

keep smiling



also congratulate my friend for his success in the
baccalaureat exam.

Appendix C

Students' Readiness Questionnaire

Dear students,

This questionnaire is mainly designed for students of English Department to gather prerequisite information about their skills, willingness and readiness to study grammar through an asynchronous e-learning program.

We will greatly appreciate if you can respond the following questions, and make sure that the information you provide will be kept anonymous and will help much our study.

Thank you!

Please tick in the appropriate box.

SECTION ONE: GENERAL BACKGROUND INFORMATION

1. *How old are you?*

years.

2. *Are you a:*

male ?

female ?

SECTION TWO: DIGITAL OWNERSHIP AND ACCESSIBILITY

3. *Do you own any of these devices?*

(Tick more than one if necessary)

Desktop computer

Laptop.

Smartphone.

Tablet.

4. *How do you prefer to take your grammar courses?*

Traditional face-to-face.

Completely online.

Blended, where some components of the study are done online.

5. *On average, How time do you spend (per hour) doing your Internet-related activities?*

Less than 1 hour.

1 to 2 hours.

3 to 4 hours.

More than 5 hours.

Do not access.

6. Where do you access to your daily internet activities?

- Home.
 Cybercafé.
 University.
 Do not access.

7. Are you ready to take any of the online courses?

Yes. No.

SECTION THREE: STUDENTS' WILLINGNESS, READINESS AND MANIPULATION OF ASYNCHRONOUS E-LEARNING PROGRAMS

Asynchronous e-learning is defined as students' ability to access information, demonstrate what they've learned, and communicate with classmates and instructors on their own time, they don't have to be in the same classroom or even in the same time zone to participate. (Track, 2008)

8. Choose the most accurate response to each statement in the following:

Statements	Strongly Disagree	Agree	Neutral	Disagree	Strongly Disagree
(A) My Self-management					
1- I am good at setting objectives and deadlines for myself.					
2- I enjoy taking an online course.					
3- I do not forsake just because things get difficult.					
4- I can keep myself on track and on time.					
5- I am good at solving problems I run into.					
(B) My Learning Style and Abilities					
6- I learn fairly easily.					
7- I can learn from things I hear and see, like videos, audio recordings, PPT presentations.					
8- I have to review a course to learn it best.					
9- I learn best when I figure things out for myself.					
10- I learn better on my own than in a group.					

11- I am willing to send e-mails or have discussions with my peers or teacher asynchronously.					
12- I can ignore social media chats when I study.					
(C) My Digital Learning Skills					
13- I am fairly good at using the computer.					
14- I am comfortable surfing the Internet.					
15- I am comfortable conducting searches					
16- I am comfortable downloading files (documents and videos) from an online learning platform.					
17- I know someone who can help me if I have computer problems.					
18- I manage well AEL tools: Discussion boards, e-mailing, blogs, videos, digital library...)					
(D) My Digital Equipment's Quality					
19- My computer runs very well without problems.					
20- I am connected to the Internet with a fairly fast, reliable connection such as DSL or cable modem.					
21- I have virus protection software running on my computer.					
22- I have headphones or speakers and a microphone to use if a class has a videoconference.					

Appendix D

Students' Attitude Questionnaire

Dear students,

This questionnaire is mainly designed for students of the English Department to gather prerequisite information about their attitude towards the effects of asynchronous e-learning after one semester of taking AEL grammar courses.

We will greatly appreciate if you can respond the following questions, and make sure that the information you provide will be kept anonymous and will help much our study.

Thank you!

Please tick ✓ in the appropriate box.

To what extent do you agree or disagree with the following statements.

I. The Pedagogical and Functional Effect of Asynchronous e-learning					
<i>Statements</i>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
3.2.It is possible to learn a foreign language by using Internet.					
3.3.It is important to integrate online learning in EFL classrooms.					
3.4.Asynchronous e-learning is more convenient than face-to-face learning					
3.5.AEL hinders the process of learning because of its difficulty to use					
3.6.AEL provides more knowledge than the teacher in the class do.					
3.7.Instructors' presence is essential while using e-learning resources.					
3.8.AEL facilitates information sharing.					
3.9.It is easier to revise electronic educational materials than printed materials.					
II. Social Interaction and Collaborative Work Effect					
a. AEL's non-real interactive environment impairs teacher-student relationship.					
b. AEL increases students' autonomy.					
c. AEL reduces students' shyness due to the distance mode.					
d. AEL leads to a self-paced, independent, student-cantered learning.					

e. In an AEL medium, there is less pressure than in a real time encounter.					
f. AEL encourages group e-tivities.					
g. AEL ignores the use of the teachers' direct feedback.					
h. AEL makes less social obstacles					
i. AEL improves communication between students and their teacher.					
III. The Organization and Management of Learning Effect					
a. AEL makes learners less time bound and can respond at their leisure					
b. AEL gives less time to students to regulate their task-related activities.					
c. Being out of zone bound makes learning less effective.					
d. Students may misunderstand AEL complementary nature to lectures and choose to skip courses.					
e. AEL is cost-effective and economical for students.					
f. AEL is very economical for universities to adopt.					
g. AEL makes learning easier and more organised.					
IV. Knowledge and Cognitive Processes Effect					
a. AEL can scaffold students' previous knowledge with new concepts.					
b. It may not significantly enhance student comprehension and learning.					
c. AEL reduces quality of knowledge attained.					
d. It may be difficult to understand the lesson content via an AEL program.					
e. AEL makes students actively participate in the activities of the course. E.g. Assignments and homework					
f. AEL lesson content is richer than an in-class lesson.					
g. AEL gives students the opportunity to practise more.					

Appendix E

University of Batna
30/09/2018
1year LMD/Licence

Department of English
Timing: 90 mins
Teacher: A. Benhara

Grammar Pre-Test

1. In the following examples, indicate the form of each sentence, and determine the subject and the predicate.

- a) The policeman was not convinced by your alibi. _____
- b) She is going to fall! _____
- c) Dalia and her mother arrived at the bus station before noon, **and** they left on the bus before I arrived. _____
- d) Has he passed his exam? _____
- e) Dr Watson, a zoologist, wrote that he jumped nearly three metres into the air

- f) Don't receive the call of Dr Murphy. _____
- g) please sit down. _____
- h) I need you to get up ! _____
- i) It is too dangerous to climb that staircase! _____
- j) What is your favourite dish? _____
- k) This is ridiculous ! _____

2. Turn into negative the following sentences

- a) All of the students liked the program. _____
- b) Are you ready to take the test? _____
- c) Her mother is tidying up her room. _____
- d) None of my classmate is absent today. _____
- e) All his friends can ride horses. _____
- f) It's got five doors. _____
- g) They will be driving for a long period. _____
- h) My teacher was really upset! _____
- i) He does the same thing every day. _____
- j) researchers sought the solution to the problem. _____
- k) I have wrapped all the gifts. _____

3. Ask questions about the underlined words in the following examples/

- a) The father is writing a recommendation letter to ask for a job.

1 2 3 4

- (1) _____
- (2) _____
- (3) _____
- (4) _____

b) She walks home from school.

1 2 3

- (1) _____
 (2) _____
 (3) _____

We study Grammar on Sundays.

1 2 3 4

- (1) _____
 (2) _____
 (3) _____
 (4) _____

They always go to work by bus.

1 2 3 4

- (1) _____
 (2) _____
 (3) _____
 (4) _____

4. Right the correct form of tag questions in the following:

a) Jane was annoyed, _____
 early, _____

b) You left the gas on, _____
 soon, _____

c) You didn't do your homework, _____
 tomorrow, _____

d) They're on holidays, _____

e) Justin has gone out, _____
 fast, _____

f) I always take the wrong decision, _____
 out, _____

g) The student isn't late, _____
 quiet, _____

o) Give me a hand, _____
 walk, _____

q) He hardly steps out of his home, _____
 afford, _____

h) I'm not

i) I'll get m diploma

j) we'll go home

k) Shut up, _____

l) you can write

m) Don't go

n) keep

p) Let's go for a

r) There is little we can

5. In the following sentences, write (S) for simple sentences, (CM) for compound sentences, (CP) for complex sentences, and (CMP) for complex compound sentences.

- a. If you give me your email address, I'll contact you when we have a vacancy.(____)
- b. Pauline and Andrew have a big argument every summer over where they should spend their holidays. (____)
- c. Jane prefers to go to the cinema and spend her time watching movies(____)
- d. Aymen says there is nothing relaxing than watching TV, browsing on internet, and having fun with close friends. (____)
- e. The old man, on the other hand, likes the view that he gets up from the window of his room, and he enjoys sitting there along the day. (____)
- f. I dislike sitting on the beach; I always get a nasty sunburn.(____)
- g. Ama tends to get bored reading novels, doing exercises, and tidying her room .(____)
- h. Today, after a lengthy, noisy debate, we decide to separate the flat. (____)
- i. Bruno went to France, and Paul went to Newyork. (____)
- j. Although they are 600 kilometres apart, they keep all the time in touch via skype. (____)
- k. Liza took the laptop that she uses at work, and Bruno took his smart phone, which he uses it to connect to the internet, and they met together to do the project. (____)

Appendix F

University of Batna

Level: 1st year license

Student's Full name:

Department of English

Date: 04/11/2018

Timing: 90 min

First Progress Grammar Test

Activity 01

: Read the article below, and complete tables (A), (B) and (C).

Algeria to hold presidential election on April 18

Algeria is set to hold the presidential election on April 18, the North African country's presidency announced. It is unclear whether Abdelaziz Bouteflika, Algeria's frail 81-year-old president, who has been in power since 1999, will stand for a fifth consecutive term. Djamel Ould Abbas, the former chief of the ruling National Liberation Front (FLN), was sacked in November, a month after he announced that Bouteflika would be the party's candidate in the presidential poll.

"His candidacy has been demanded by all the FLN cadres and activists across the country," he said.

Bouteflika, who has been confined to a wheelchair since suffering a stroke in 2013, last addressed the nation more than six years ago. If he wins, he will be 87 by the time Algeria's following elections are held.

More than 40 percent of Algeria's 41 million population is under 25 and many of them know no leader other than Bouteflika.

In 2014, in light of the president's failing health, the military thought it unwise for Bouteflika to run for a fourth term.

However, in a rare moment of indecision, the army is believed to have conceded to the ailing president's demands, deeming it necessary to preserve stability in times of uncertainty.

Source:

Al Jazeera News.

Table (A)

The word	Its grammatical function
1. election	
2. candidate	
3. a stroke	
4. health	
5. it	

Table (B)

The Phrase	Its grammatical function
a. Algeria's frail 81-year-old president	
b. the party's candidate in the presidential poll.	
c. More than 40 percent of Algeria's 41 million population	

Table (C)

Pick out from the text above:	
a. A collective noun that functions as a subject.	
b. An object pronoun.	

c. A closed compound noun.	
d. A proper noun functioning as object of the preposition.	

Activity 02

: Each sentence in the following contains one grammatical mistake, find it out and correct it.

- a. To keep these young people in jail are inhuman.
.....
- b. The Master’s course, whose I took in 2011, in no longer taught.
.....
- c. All the food cooked don’t usually get eaten, so I have plenty left for the rest of the week.
.....
- d. My sister hardly sleeps the afternoon, doesn’t she?
.....
- e. What items have your father buy from the store?
.....

Activity 03

: Complete with the appropriate pronoun in each of the following sentences.

- a. I’m having a hard time with this English course. New words seem to go in one ear and out of the.....
- b. Your best bet is to talk to your teacher, she may knowwho could help you.
- c. You are not accountable to anyone but
- d. A personseems aloof and stand-offish may just be shy and diffident.
- e. Felicity’s manners are impeccable, aren’t?

Activity 04

: Determine the type of the following sentences.

- a. It is unclear whether Abdelaziz Bouteflika, Algeria's frail 81-year-old president, who has been in power since 1999, will stand for a fifth consecutive term.
- b. His candidacy has been demanded by all the FLN cadres and activists across the country
- c. The military thought it unwise for Bouteflika to run for a fourth term.
- d. in a rare moment of indecision, the army is believed to have conceded to the ailing president's demands

Appendix G

University of Batna
1ST Year LMD
Student's Name.....

Department of English
Timing: 90 min
November 2nd, Feb

Second Progress Grammar Test

Activity One: Determine the type of the sentence, and underline the main clause in each of the following examples. (05 pts)

1. I've brought the umbrella, you bought to me, in case it rains.

2. The new labour in our company had only 3 years of experience before coming here.

3. Although it was cold and the rain was getting heavier, we decided to go out fo a walk as planned yesterday.

4. Most European countries now use the Euro currency, but the united kingdom still uses the Pound

5. He got up early, walked over the window of his room, and screamed loudly: help!

Activity Tow: Read the following text and answer the questions below. (06 pts)

A Natural Garden

I've always been excited by the idea of a garden which imitates the best of natures.,so, having acquired in the country, I'm now in the process of creating my own wildlife garden. The site is ideal - a gental slope going down to a pond, plus there's a shed- and there are already plants to attract wildlife such as bees and butterflies I have scattered seeds, and I hope birds will soon built nests

Pick out of the text above:

a. A singular noun functioning as a **direct object**:

b. A plural noun functioning as a **direct object**:

c. A plural noun functioning as a **subject**:

d. A singular noun functioning as **an object of the preposition**:

e. A dependent clause that functions as **an adjective**:

f. A dependent clause that functions as **a direct object**:

Activity Three: Choose the correct answer in the following sentences. (05 pts)

- a. The lice (is / are) nuisance.
- b. Some of the money (is / are) missing.
- c. Each car in the street (takes / take) a different destination.
- d. Neither of my cell phones (is / are) working.
- e. In a windy day, The stars and Stripes (flies / fly) over the street.
- f. Either Meriem or (me / I) is mistaken.
- g. Our president as well as his consultant (was / were) in the USA, last week.
- h. Which type of (chocolate / chocolates) did she use in the recipe?
- i. (A bit of / A few) money in his pocket.
- j. The pair of my spectacles (is / are) broken.

Activity Four: Put the following words in their right places in the text below (04 pts)

There / Some / which / but / A lot of / and / but / this

An Old House

We saw _____ amazing, dilapidated house, formerly owned by a wealthy family _____ then abandoned at the end of the century. _____ features like the oak staircase are very well preserved, _____ most of it is pretty run-down _____ has fallen into decay. It could be _____ fun renovating it, though. It has old stables, _____ I'd like to convert into an ultra-modern kitchen. _____ are also the ruins of a medieval tower! I'd love to trace the history of the place.

Appendix H

University of Batna
 Level: 1st year licence
 Students' Full name:

Department of English
 Timing: 90 min
 Date: 20/01/2019

Third Progress Grammar Test

Activity 01

: Find out the mistake, if found, in each of the following sentences and correct it : **(05pts)**

1. Before updating this organization, Its already made a big dispute.

2. I can't bottle up my emotions, nor I can wear my heart on my sleeve.

3. Nothing comes easy, isn't it?

4. They behave really different, I'm shocked at theirs own behavior.

5. Parents often fell frustrated and may take upon themselves to do their child's homeworks.

:Read the text below, then complete table (A), (B) and (C).

Activity 02

(06 pts)

Saving Energy in a restaurant

ACRON HOUSE RESTAURANT is London's first truly environmentally-friendly restaurant₁. It's a training restaurant which aims to turn out green chefs ₂, making it a groundbreaking enterprise. The principals are clear: use local produce which is in season to reduce food miles; avoid disposable products; and recycle at least 80 per cent of all waste. Even the building ₃ itself has been designed to maximize natural light and minimize energy use. In the most sustainable restaurant in the capital, everything is done to reduce each customer's carbon footprint. Is this ₄ the restaurant ₅ of the future ?

Table (A)

The word	Its grammatical function
6. restaurant	
7. chefs	
8. the building	
9. this	
10. the restaurant	

Table (B)

The Phrase	Its grammatical function
d. at least 80 per cent of all waste	
e. ACRON HOUSE RESTAURANT	
f. local produce	

Table (C)

Pick out from the text above:	
e. A singular indefinite pronoun that functions as a subject	
f. A personal object pronoun	
g. A dependent clause that functions as an adjective.	
h. An uncountable noun that functions as object of the preposition	

Activity 03

a. In each of the *italicized* and **bold** words in the text below, only one is correct, circle it **(05pts)**

Exam Requirements

Some public examinations in English consist of a written paper in ***who's/whose/which*** candidates are required to produce a piece of discursive writing. ***This/They/Their*** may be asked to present and develop an argument, evaluate ideas, summarize ***some informations/little informations/a piece of information***, etc.

[Candidates] are assessed on a number of ***criterion/ criterions/ criteria***, including their ability to write in an organized and coherent way, ***these/those/their*** command of a range of stylistic features, and their ability to write in ***an/the/ Ø*** appropriate register. Some tasks may also involve the use of narrative.

b. Ask questions about what is between brackets.

[Candidates]:

.....

[A piece of discursive writing]:

.....

Activity 03

The following words are scrambled. Order them to get a grammatically correct sentence. The Initial word is already given to help.

(04 pts)

See/ their / love / faults / When / you / somebody / can't/ you/.

1. When.....

Someone / looks/ How /less/ is / than / character/ their/ important /.

2. How.....

Which/ The host/ to lay on/ drink/can be/ expensive/ is expected/ time-consuming/ and /food/ and/.

3. The host.....

You / kind of/ who / persons /Are / show / emotions / their / ?

4. Are.....

Appendix I

University of Batna

Level: 1st Year LMD

Students' Name:

Department of English

Date: 17/02/2019

Timing : 90 mins

English Grammar Post-Test

Description: *The following test contains (05) exercises about English grammar. It is designed for 1st year students of English at Batna 2 university to find out how good their English Grammar proficiency is.*

Exercise 1:

Classify the following parts of speech in the right column in the table below:

attended - into- quickly- fast - after - and - she - Hey - they - diagram - soon - awesome - group
- has checked- themselves - yourself - slowly - from - Hurray ! - woods - Mohamed

Noun s	Pronoun s	Adjective s	Verb s	Adverb s	Preposition s	Conjunction s	Interjunction s

Exercise 2:

Choose only the right form among the following:

My coat is _____ than the one you bought

- most expensive
 better expensive
 less expensive
 lesser expensive

It's about time, we _____ this bad phenomenon

- have fought
 have fought
 fought
 fought

Meriem _____ (never fall) in love until she _____ (meet) Ali two years ago.

- has felt- met
 fell- met
 has never been fell- met
 fell- has met

Tomorrow at around 7:30 pm, I _____ (drive) through Bejaia.

- will be driving
 will drive
 drive
 would be driving

He misses _____

- to play
 playing with his friend.

Exercise 3 :

Some of the following sentences contain typical mistakes; others are correct. Find out the mistakes and correct them. If the sentence is correct please write correct.

1. You should drive slow here	
2. She drunk her cup of coffee.	
3. Who's coat is this?	
4. The builder was to tired to work hard.	
5. My friend robbed my rubber.	
6. Practise makes perfect- so practise hard	
7. The cat was cleaning it's fur.	
8. She ran out of the room.	
9. " I can play the trempet." - Really! So can't I	
10. "No, neither of us has any children.	

Exercise 4:

Please Fill in the gaps with just one word.

I don't really feel qualified _____ the job. I won't apply for it.

The parents are very satisfied _____ their daughter's scores this term.

I asked who he is responsible _____ this mess

I don't know _____ to go on holiday or not.

Look! the plane is taking _____ .

I need to get a new car _____. This one always breaks _____

Do your parents help you do your homework or you do them by _____

I am not very keen _____ the blue one. Is there another colour?

I am really bad _____ exercising myself clearly.

Exercise 5

Complete sentence B so that it has similar meaning as sentence A (make necessary changes)

Sentence A: Dalia was told many times to stop talking in the class.

Sentence B : The teacher

Sentence A: Karima would arrive safe if she drove slowly.

Sentence B : If only she

Appendix J Grid A

DATE:

GROUP

CG EG



OBSERVATION GRID

Knowledge					Understanding				
01	02		04	05	01	02		04	
S 01					S 01				
S 02					S 02				
S 03					S 03				
S 04					S 04				
S 05					S 05				
S 06					S 06				
S 07					S 07				
S 08					S 08				
S 09					S 09				
S 10					S 10				

Application					Skill				
01	02		04		01	02		04	
S 01					S 01				
S 02					S 02				
S 03					S 03				
S 04					S 04				
S 05					S 05				
S 06					S 06				
S 07					S 07				
S 08					S 08				
S 09					S 09				
S 10					S 10				

Marginal Comments

Appendix L

Module: Grammar
Level: 1st year licence
Lecture: 01

University: Batna 2
Department of English
Teacher: BENHARA.A

The sentence

1. Definition:

A sentence is a set of words that is complete in itself. It conveys a meaningful thought. It can be a statement, question, exclamation or command, typically it contains a subject and a predicate.

Examples:

- | | |
|--|--------------------------------|
| 1. The children have gone home. | 4. Isn't he? |
| 2. Those dogs don't like the biscuit. | 5. What a fast train this is ! |
| 3. Will the goalkeeper catch the ball? | 6. Don't interrupt. |

Practice: Put a tick (✓) beside real sentences, and say why the rest are not real.

1. Made in Algeria. () _____
2. This car is made in Algeria. () _____
3. To learn a language. () _____
4. Be happy. () _____
5. Isn't he tall ? () _____
6. You should do it. () _____
7. I understand. () _____
8. What's up ? () _____
9. Under the water, you walk with him. () _____
10. My favourite book! () _____
11. Hurry up. () _____

2. The forms of a sentence:

A sentence can take any one of four forms:

- **a statement:** Noam Chomsky was born in Philadelphia.
- **a question:** Have you seen today's newspaper ?
- **an exclamation:** You're adorable !
- **a command:** Enjoy our trip.

A sentence also can take the form of **affirmative** or **negative** sentence:

- **Affirmative form (positive) :** "Happiness is letting go of what you think your life is supposed to look like"(+)
- **Negative form (negative):** You didn't tell me that you're going to invite so many guests.(-)

A statement= Declarative
A question: Interogative
An exclamation: Exclamatory
A command: Imperative

Subject-Verb Agreement Rules

1. The tourist information office _____ (to be) closed, because workers _____ (not to be) there.

Rule 1: A singular subject takes a _____ verb, whereas a plural subject takes a _____ verb.

2. This bouquet of red and yellow flowers _____ (to lend) colour and fragrance to your room.

Rule 2: The subject will come _____ a phrase beginning with of .

3. Group one or group two _____ (to be) going to have a session next Sunday.

4. Either reading a book or watching a movie _____ (to help) decreasing your stress.

5. Neither the head of the department nor his assistant _____ (to be) present today.

Rule 3: The verb of an "or", "either/or", or "neither/nor" sentences agrees with the noun _____ to it.

6. Tomy and his sister _____ (to paint) as well as their father.

7. The last day bed and breakfast _____ (to be) comfortable.

Rule 4: As a general rule, with two or more subjects connected together by *and* , the verb is used in the _____, but there are exceptions with _____ nouns.

8. The hero, along with the other actors, _____ (to perform) badly in this spectacle.

Rule 5: If the subject and the verb are separated with a phrase which is not a part of the subject, the phrase will be _____, and the verb agrees immediately with the main subject.

9. There _____ (to be) eight books on the bookshelf.

10. There _____ (to be) a mistake in your sentence.

11. Here _____ (to be) your keys.

Rule 6: In sentences starting with "there" or " here", the verb agrees the subject that comes _____ it.

12. Two kilometres a day _____ (to be) too far to walk.

13. Three years _____ (to be) the minimum sentence for that offence.

14. Just ten dinars _____ (not to be) a high price. My ten dinars (bills) _____ (to be) on the floor.

Rule 7: A subject, which is considered as a unit of distances, periods of time, or sums of money, its verb is singular

15. A lot of my personality _____ (to resemble) that of my mother.

16. A third of the country _____ (to be) jobless.

17. A lot of the citizens _____ (to be) jobless.

18. Some of the cake _____ (to fall) on the floor.

19. Some of the cakes _____ (to fall) on the floor.

Rule 8: With portion words, like: a lot, some, a majority, all... the true subjects comes _____ these words, if it is singular, the verb is _____. If it's _____, the verb also is in the _____.

20. This organization _____ (to put) new law each year.

21. The flute choir _____ (To be) tuning _____ (its/their) instruments.

22. The flute choir _____ (to be) playing at a Music Festival.

23. The English Class _____ (to be) doing different tasks during last day workshop.

24. The English class _____ (to be) upstairs

Rule 9: If the subject is a collective noun, which refers to the group as a unit, the verb is in _____. But, if it refers as the group as members or individuals, the verb is in _____.

25. Every male and female _____ (to be) required in the interview.

26. Each student or teacher _____ (to present) _____ own paper.

27. No smoking or drinking _____ (to be) allowed in this party.

Rule 10: If the words " each", " every", "no" come before the subject, the verb is in _____

28. All my classmates _____ (to take) good grades, only few _____ (to fail).

29. Some people _____ (to hate) travelling.

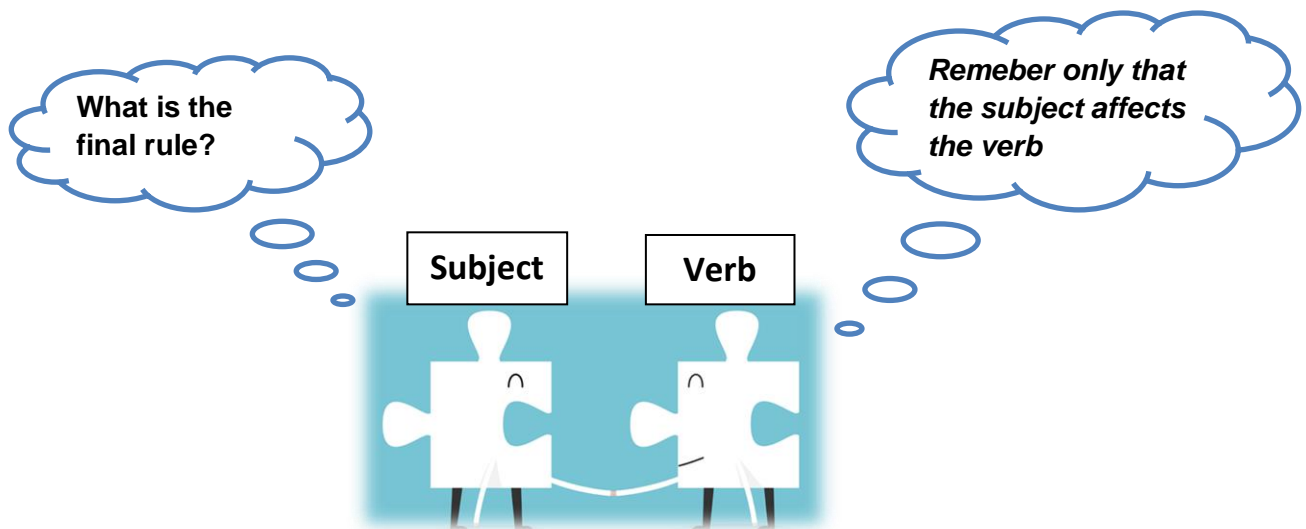
30. I have got several documents which _____ (not to be) mine.

Rule 11: The pronouns: "few", "many", "several", "both", "all", and "some" take always a _____ verb.

31. Suits _____ (to be) an American drama television series.

32. Dubliners _____ (to be) a collection of different short stories written by

Rule 12: Titles of movies, books and novels always take a _____ verb.



Module: Grammar
 Level: 1st year licence
 Lecture: 03

University: Batna 2
 Department of English
 Teacher: BENHARA.A

Parts of Speech

Many researchers estimate that there are **more than a million words** in the **English language**. In 2010, at Harvard University, some researchers estimated a total of 1.022.000 words, and that the number grow by several thousands each year.

- Webster's Third New International Dictionary Unabridged, together with its 1993 Addend section includes same 470.000 entries.
- Longman Dictionary of contemporary English 6th edition includes 230.000 words, phrases, and meanings.
- The second edition of the 20- volume Oxford English Dictionary contains full entries for 171.476 words in current use, and 47156 absolute words.
- Cambridge Dictionary 6th edition has over 140.000 words, phrases, meanings, and examples.
- All the words in the English language are categorised into : **8 parts** which are called **parts of speech** :

Parts of Speech
1. Nouns
2. Verbs
3. Pronouns
4. Adjectives
5. Adverbs
6. Prepositions
7. Conjunctions
8. Interjunctions

In some other Grammar books, it's mentioned that there are 9 parts of speech in English : besides to the eight parts mentioned above, Determiners is considered as the ninth part, whereas in other books this category is included in Adjectives.

1. Nouns

1.1. Definition:

A noun is popularly defined as the name of a person, place, or thing, also we use nouns to express meanings such as concepts, qualities, feelings and events as well as abstract things.

1.2. What do nouns look like ?

Nouns have no special endings which show that they are nouns, but a small portion of them have the following identifiable endings:

tion: tradition, competition, organization, repetition

ity: ability, curiosity, personality, puberty

ence: excellence, consequence, presence, essence, refrence.....

ance: significance, performance, maintenance, inheritance.....

or: factor, investigator, actor, projector, counsellor.....

our: favour, rigour, labour, honour, tumour, humour.....

1.3. Types of Nouns:

a) Common Vs Proper Nouns:

Common Nouns

Proper Nouns

They are those "run of the mill", or ordinary words which name people, places, things or ideas which are not specific

They are nouns which name **specific** things, places, or persons. They always begin with a **capital letter**.

Examples:

Common Nouns	Proper Nouns
- man	- Mohamed Moulessoul, James Joyce
- mountain	- Chelia, Djurdjura
- country	- Algeria, Italy, Germany
- ocean	- Atlantic, Pacific, Arctic
- building	- Empire State Building
- cat	- Buttons, Fluffy
- movie	- The Battle of Algiers, Suits

b) Countable Vs Uncountable Nouns

Countable Nouns

Uncountable Nouns

- Also called **Unit Nouns**
- They have singular and plural forms
- we can use a/an in front of them
- They can be used in questions with **"How many?"**
- They can be used with words: **many, a few, a lot of, some, any.**
- We can use numbers in front of them
- They describe separate and separable objects (e.g. books, computer, blocks...)

Examples



A book
One book



books
three books

How many books are there?

- Also called **Mass Nouns**
- They have only one form, either singular or plural.
- we don't use a/an in front of them
- They can be used in questions with **"How much?"**
- They can be used with words: **much, little, a lot of**
- We can't use numbers in front of them.
- They describe liquids, materials, substances and abstract qualities (e.g. milk, happiness, marble,

Examples



~~A~~ milk

~~milks~~

~~One~~ milk

three glasses of milk

How much milk is there?

C) Singular Vs Plural Nouns

Notice the following example:

" This morning, I picked up a few thing at the stores, and then I went to pick up my childs from school, They retold me about all the informations they learnt each day. It's just regular day from my daily lifes, like many other daies."

A) Is there any problem in the sentence above ? _____

B) Mention all the words that contain a problem, and say why?

Remark: It's important to pay attention to whether the nouns we use are **singular** or **plural**, and to to know about **the right form of plural nouns**

We call a **singular noun** that names one person, thing, place or idea whereas a **plural noun** refers to more than one. Most English _____ form their _____ by adding either **-s** or **-es**. These plural forms are said to follow a _____ pattern. The rest are _____

How to Form Plural Nouns?

a. I have a daughter and a son. → I have two _____ and three _____ .

Rule 1: Most English singular nouns need an _____ at the end to become _____ .

b. If you have a secretive, alcoholic octopus drinking wine from a glass behind a bush, and you decide that one of those just isn't enough, you'd have two _____ drinking from _____ behind _____ .

Rule 2: Singular nouns ending in _____, _____, _____, _____ or _____ take _____ at the end to become plural.

c. My friend has only one quiz this week, but I have two _____

d. CO₂ is a gas, but there are several _____ .

Rules 3: Some singular words ending in "s" or "z" require that you _____ the _____ letter and add _____ to form their plural.

e. The farmer has one deer and one sheep → The farmer has a lot of _____ and _____ .

f. Suits is my best TV series → Suits and Flash Forward are my best TV _____ .

Rule 4: Some nouns have the _____ in their singular and plural.

g. I slice the loaf with my knife → They slice the _____ with their _____ .

h. The roof of my house is broken → The _____ of my neighbourhood houses are broken too.

Rule 5: Some words ending in _____ or _____ need to change the _____ to _____ and add _____ the end to form their plural, but there are _____ which don't follow the rule.

i. The babysitter keeps the baby all the day. → The babysitter keep three _____ for two _____ .

Rule 6: Some singular nouns ending in _____, require to change the _____ to _____ and add _____ at the end to become plural, but if there is a _____ before the "y" (a,e,i,o,u) you need to add immediately an _____ after the _____

j. A cactus is a plant adapted to hot. → My grandmother plants many _____ in her garden.

k. He discovered that the sun was located at one focus of the ellipse. → He discovered that the sun was located at one of the two _____ of the ellipse.

Rule 7: If the singular noun ends in "us" , the frequent ending of its plural is _____ .

l. The findings from this analysis are important. → The findings from these _____ are important.

m. The students order the historical events chronologically on one axis. → The students order the historical events chronologically on two _____ .

Rule 8: If the singular noun ends in "is" , the frequent ending of its plural is _____ .

n. This criterion is related to a particular phenomenon. → These _____ are related to several _____ .

Rule 9: Some singular nouns ending in "on", form their plural by changing "on" to _____ .



o. I bought some _____, and some _____ from the market.

p. This is my father's photo. → These are my family's _____ .

q. One volcano in the town. → Two _____ in the town.

Rule 10: Some singular nouns ending in "o" form their plural by adding _____ at the end, but there exceptions which take only _____ at the end of their plural.

In English, there are some singular nouns which are changed completely when forming their plural, they don't follow any rule of the above. Here are a few of them:

child	.....	foot	.....	goose	.....
louse	.....	mouse	.....	tooth	.....
man	.....	woman	.....	datum	.....
genus	.....	curriculum	.....	person	.....
appendix	.....	medium	.....	ox	.....

d) Collective Nouns :

Collective nouns, also called **group nouns**, are words which represent groups of people, animals and things.

Examples: people: band, team, committee, family, choir, jury, board, panel, staff, crowd, posse, squad.....



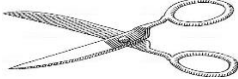

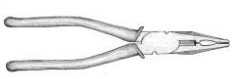
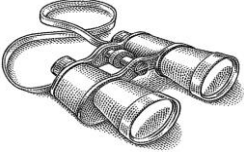




Animals: flock, herd, pod, swarm, troop, sloth, hive, cete, colony, pace, shrewdness.....

Things: bunch, bundle, collection, set, pack, fleet, flotila, album, string, peal, crat, stock.....

e) Pair Nouns:

We use pair nouns to refer to something made of two identical parts. These nouns are always plural and take a plural verb.

Examples:

				
trousers/pants/jeans	glasses/spectacles	scissors	pincers	pliers
				
binoculars	pyjamas	scales	tweezers	shorts

We can use the following patterns: **a pair of** + (scissors/glasses/trousers....)

pairs of + (scissors/ glasses/trousers....)

e) Compound Nouns:

We call a compound noun (also combining noun) when regularly two nouns are used together as one word.

The following are the different forms of a compound nouns

1. Closed/Solid Compound Nouns : They are two words linked together as one word.

E.g. haircut, bedroom, toothpaste, armchair, weekend.....

2. Hyphenated Compound Nouns : They are two words linked together with a hyphen (-).

E.g. daughter-in-law, dry-cleaning, well-being, battle-ground...

3. Open/Spaced Compound Nouns : They appear as two separate words.

E.g. full moon, swimming pool, Christmas tree, bus station, washing machine.....

Compound nouns can be made of

noun + noun : summer nights

Adjective + noun: blackboard

Verb + noun: washing machine

noun + verb: sunrise

Verb + preposition: the checkout

noun + prepositional phrase: sister-in-law

preposition + noun: underworld

noun + adjective: truckful

Note:
No spaces
around hyphens

**When forming the
plural of a CN Only
the base(significant)
word takes the plural**

e) Possessive Nouns:

A possessive noun is a noun that shows ownership and possession. It is used to express a relation, often the fact that someone has something or that something belongs to someone.

We form a possessive noun by adding and **apostrophe (')** and an **s** at the end of a singular noun or a plural noun that doesn't end in s, but only an **apostrophe (')** at the end of plural nouns or surnames ending in s.

Examples:

My *father's* car is new. —————> **singular noun + ' + s**

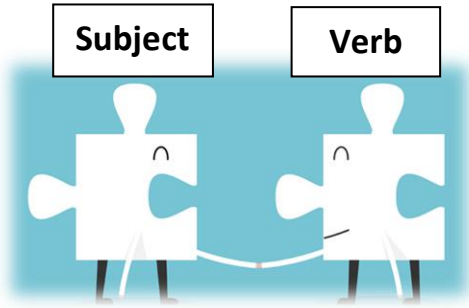
My *children's* toys are new. —————> **plural noun not ending in s + ' + s**

My *friends'* laptops are new. —————> **plural noun ending in s + '**

Ines' car is new —————> **surname ending in s + '**

Remember

- ❖ If there is a short phrase after the noun, then the possessive ending comes after the phrase.
 - *The people next **door's*** cat is black.
- ❖ Pronouns like: somebody, someone, everybody, everyone, one, each, other, another....can be possessive also.
 - I found ***someone's*** cell phone here.
- ❖ the last name in a phrase with **and** takes the apostrophe.
 - *Zineb and **Amina's*** presentation was very interesting.
- ❖ It is possible sometimes to use two possessive forms together.
 - Celia is my cousin that is ***my mother's brothers'*** daughter.



Appendix M

classroom.google.com/c/MTgwNzMwNjU2OTk5?hl=fr

Grammar Class

Flux Travaux et devoirs Participants Notes

Personnaliser

Grammar Class

Code du cours

m2ou35l

À venir

Aucun devoir à remettre dans les jours qui viennent

Tout afficher

Annoncez quelque chose à votre classe

oublie un nouveau devoir : Quiz 01

- Copier le lien d'invitation au co...
- Copier le code de cours
- Réinitialiser le code du cours
- Désactiver

Appendix N
Google Classroom User Manual



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Google Classroom on a Computer

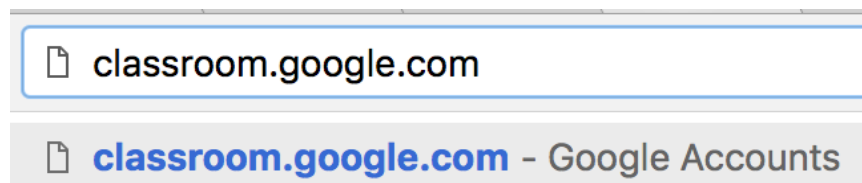
1: Making an Account


If you already have a Google Account, you can skip these instructions.

1. Open up your **internet browser** by clicking on the internet icon. (This could be **Firefox**, **Google Chrome**, **Internet Explorer**, etc., whichever internet explorer you use most often.)



2. In the toolbar of your internet browser, **type in the following URL: classroom.google.com** and **press enter**.



3. Click the  button in the middle of the page.
4. Create a Google Account by clicking on the [Create account](#) link.
5. On the right side of the page, **fill in the necessary information to create your Google Account**. You will have to choose your own username and password. *(It is recommended to write this information down elsewhere so that you don't forget it.)*

The image displays two versions of a Google Classroom account creation form side-by-side. The left form is empty, while the right form is filled out as an example. Arrows point from text labels to specific fields in the example form.

Example Form Fields:


- Name:** Corris Kaapehi (Label: Your name here)
- Choose your username:** ckaapehieduventures@gmail.com (Label: Username that you choose)
- Create a password:** (Label: Password that you choose)
- Confirm your password:**
- Birthday:** April 10 1985
- Gender:** Male
- Mobile phone:** +264813065577 (Label: Your phone number)
- Your current email address:** ckaapehi@gmail.com (Label: Your current email address that is not the one above)
- Location:** Namibia (Namibië)

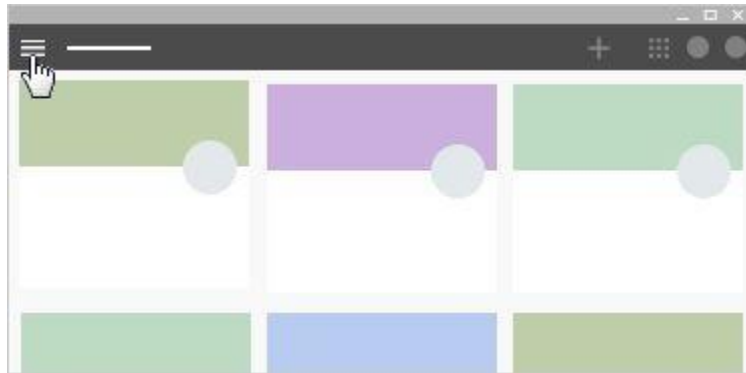
Both forms have a "Next step" button at the bottom right.

- After you have filled out all of the necessary information, click the **Next step** button.
- Click the **Continue to Classroom** button in the middle of the page.

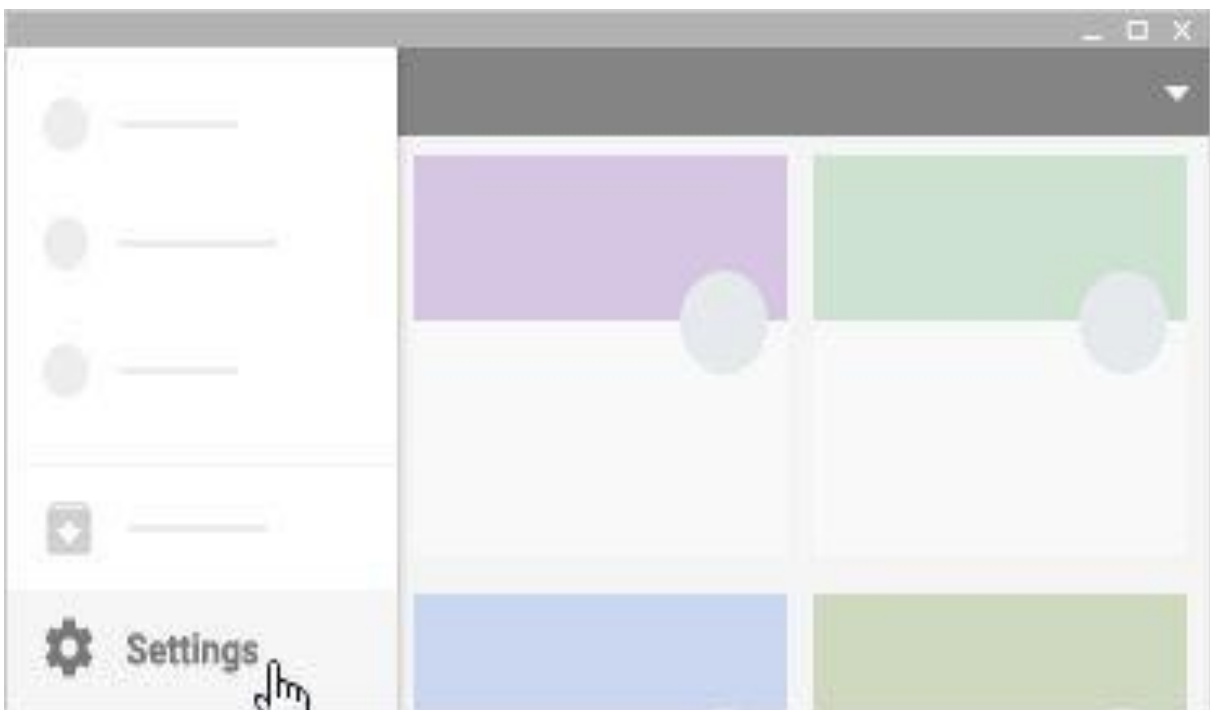
You have now successfully created a Google Classroom account!

2: Change Your Profile Photo

1. At the top left, click Menu .



2. Scroll down and click **Settings**.



3. Under **Profile picture**, click **Change**.




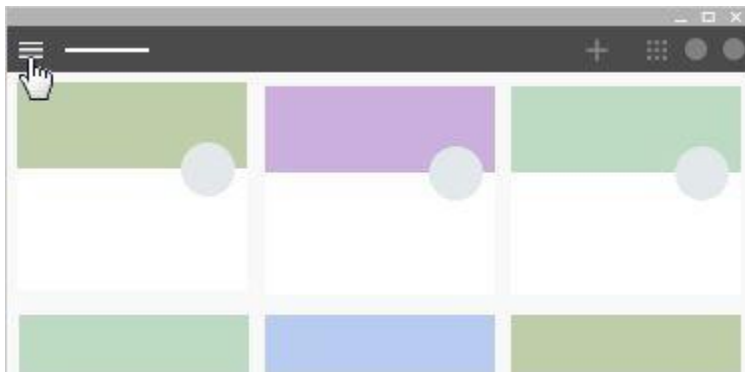
4. Click **Select a photo from your computer** or drag a photo from your computer.

5. **(Optional)** Resize the box over your photo.

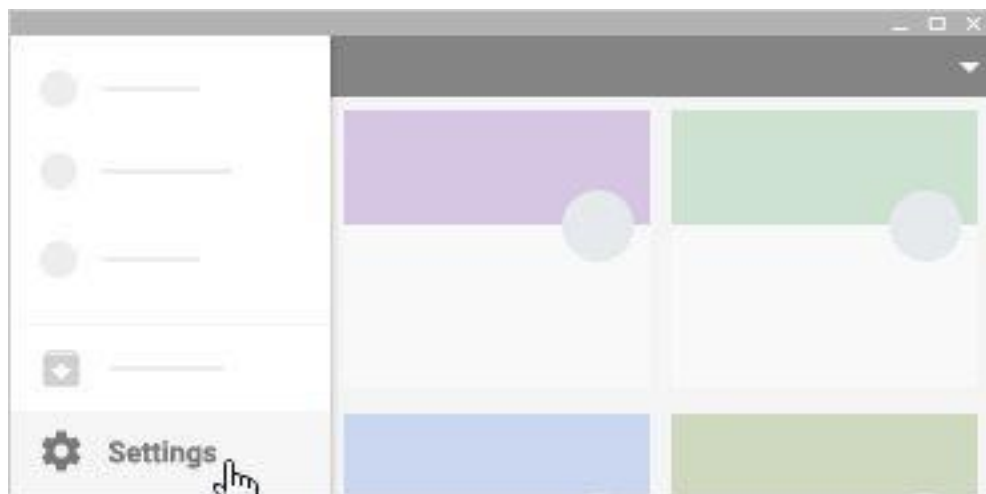
6. Click **Set as profile photo**.


3: Customize your Notifications

1. At the top left, click Menu .



2. Click **Settings** in the bottom left (you might need to scroll down).



3. Click any notification to turn it on or off.
4. **(Optional)** To turn all notifications off, at **Receive email notifications**, click Turn off .

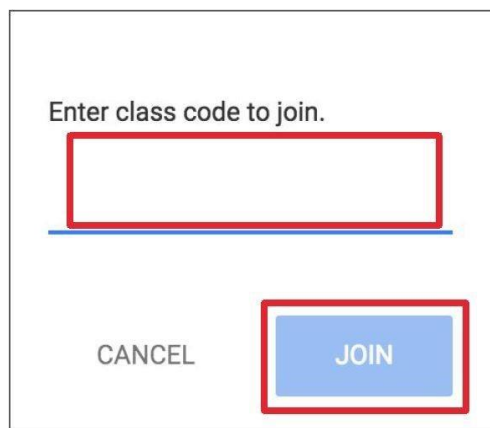
4: Join a Class

Join a Class with a Class Code




1. Go to classroom.google.com. If it is your first login, be sure to select your role as Student
2. Click the + on the top right of the page to Join Class.



3. Enter the Class Code given to you by your teacher, and click Join.

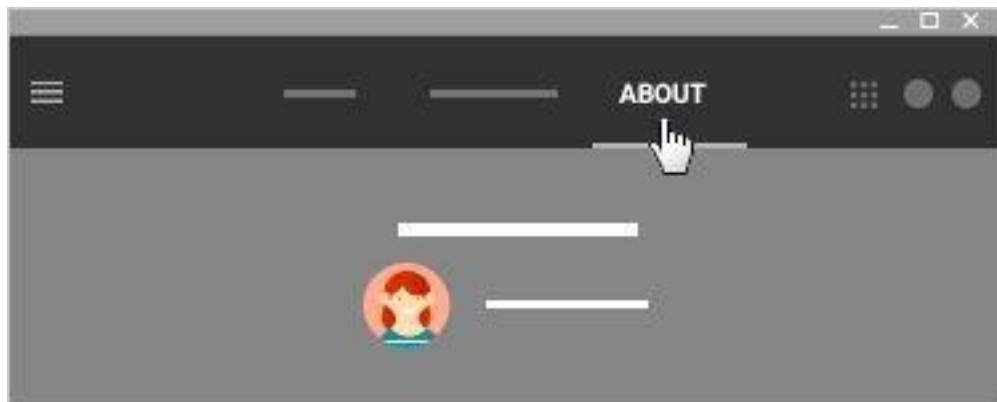


Join a Class with an Email Invitation





1. Go to classroom.google.com. If it is your first login, be sure to select your role as Student.
2. Click the  on the top right of the page to access other Google software.
3. Press the  symbol. Your newly created Google Mail page should open on a new tab in your browser.
4. Open the email with the following subject: **Class Invitation: “<CLASS NAME>”**
5. Click the  button to accept the class invitation.

5: View Your Class Resource Page


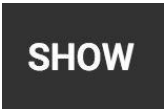
1. Click a class.
2. At the top, click **About**.

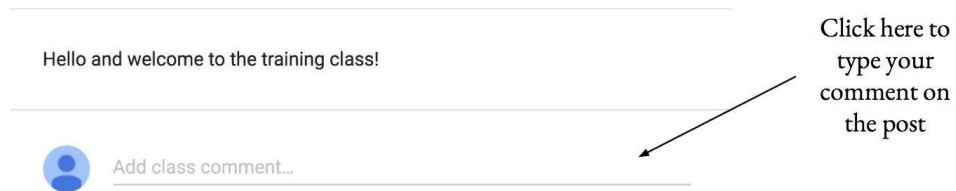



3. Here you can click on a variety of options to open them.

 Your work	← Click on this to access the work you have done in the class
 Class Drive folder	← Click on this to access the class content
 Classroom calendar	← Click on this to access a calendar of assignments
 Google Calendar	← Click on this to access a calendar of assignments on your Google Calendar

6: Comment on an Announcement

1. If you are not already on the Stream page, click on the  button.
2. Your screen may say “Stream was updated” in the top middle. If it does, click on the  button.
3. Near the middle of the screen there will be a post to the class stream. Click on the “Add a classcomment” to type your comment on the post.



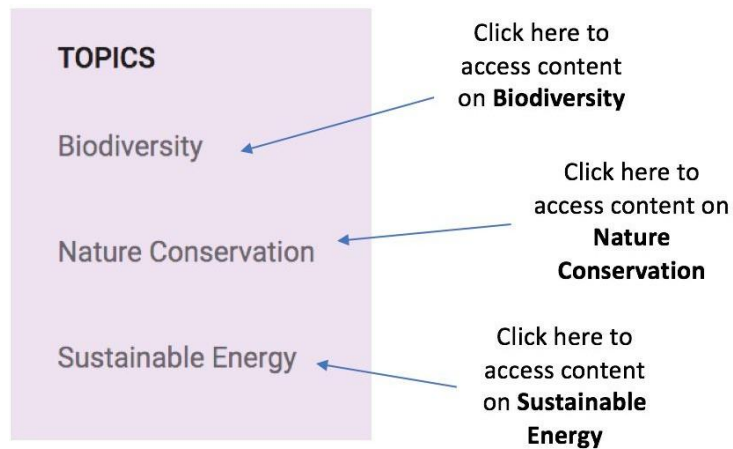
4. After you have typed your comment out, click the  button to post yourcomment for the rest of the class to see.

7: Access a Topic

1. On the left hand side of your “Stream” page, you will see a **TOPICS** section, which is where your instructor has categorized your class into topics. A class topic section might look like this:

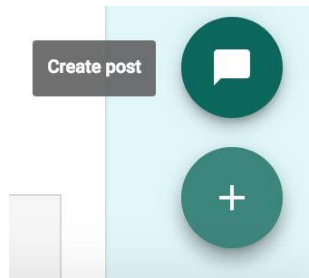


2. You can access the content in each topic by clicking on a topic name:



8: Post an Announcement

1. Click on a class.
2. At the bottom right of the page, click **+** and then click **Create post**.



3. In the **Share with your class** box, enter your message.
4. To post your announcement, click **POST**

Attach a File From Your Computer



1. Click on the paper clip icon
2. Click **Select files from your computer**, find the file on your computer, then double click on the file.
3. Click **Upload**

Attach a File From Google Drive


9: Complete a PDF Assignment

1. Click a class.
2. Scroll until you find the article assignment, and then click on the title of the assignment. In this case, the title is "Article about the Social Obstacles Faced by Blind People." The assignment can either be under a topic or on the homepage of the class.


Due Apr 18, 10:59 PM

Article about the Social Obstacles Faced by Blind People

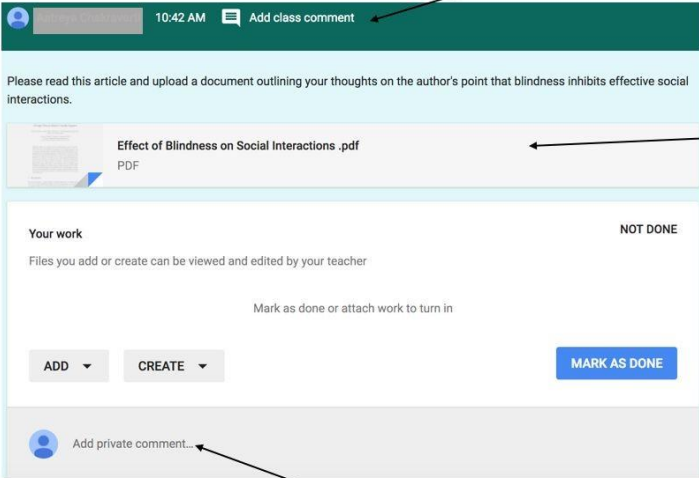
Please read this article and upload a document outlining your thoughts on the author's point that blindness inhibits effective social interactions.




Effect of Blindness on Social Interactions .pdf
PDF


 Add class comment...

3. This will bring you to a new page.



10:42 AM  Add class comment

Please read this article and upload a document outlining your thoughts on the author's point that blindness inhibits effective social interactions.




Effect of Blindness on Social Interactions .pdf
PDF

Your work NOT DONE

Files you add or create can be viewed and edited by your teacher

Mark as done or attach work to turn in

ADD **CREATE** **MARK AS DONE**

 Add private comment...

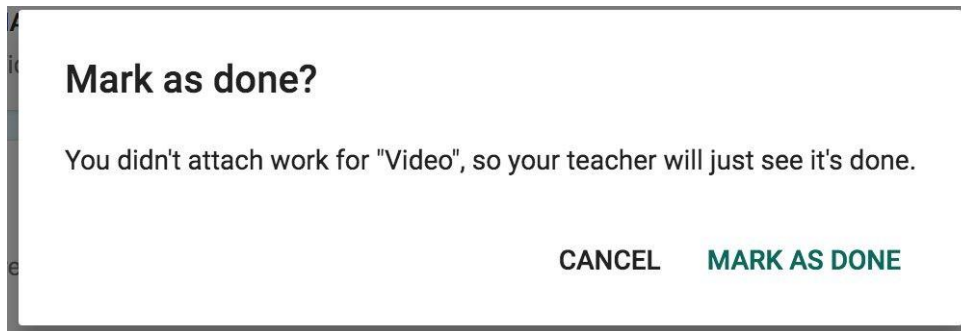
Click here to comment on the assignment

Click here to read the article

Click here to send a comment privately to your teacher

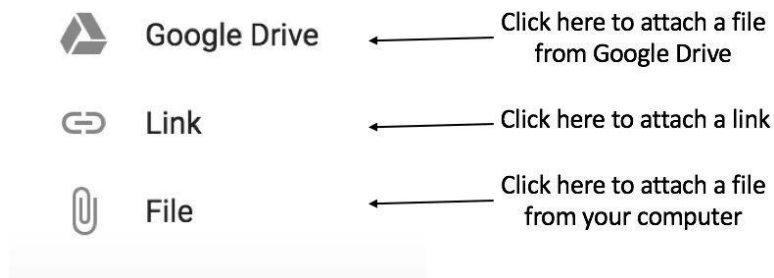
Complete an Assignment Without Attaching a File

1. If your assignment does not ask you to complete any work or attach a file, to mark your assignment as complete click on **MARK AS DONE**.
2. This will open the following pop up. Click **MARK AS DONE** again to mark the assignment as complete.

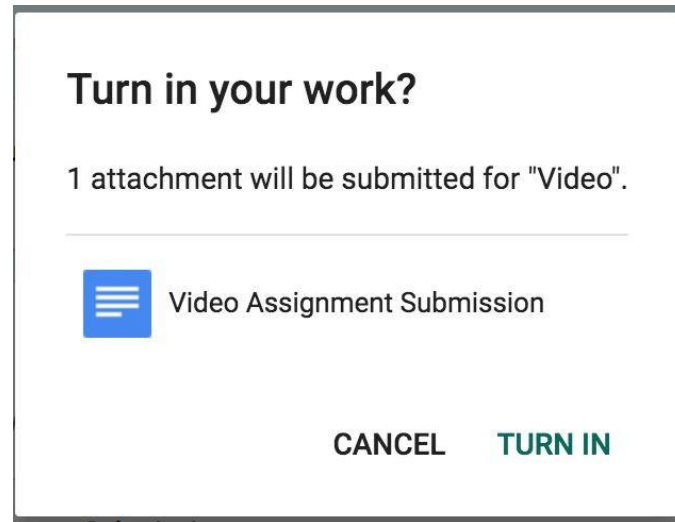


Attach an Already Existing File

1. To attach a file that you have already created, click **ADD**, which will bring up the following drop down menu.

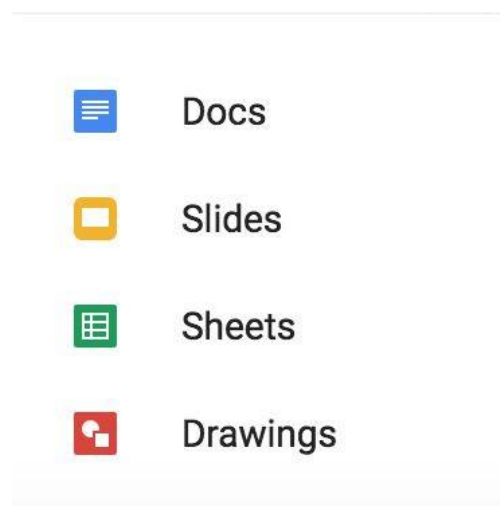


2. After attaching your submission, click **TURN IN**.
3. This will open the following pop up, asking if you would like to submit your work. Click **TURN IN** again to submit your assignment.



Create a New File to Complete Your Submission

1. To create a file from scratch on Google Drive, click **CREATE**, which will bring up the following drop down menu.

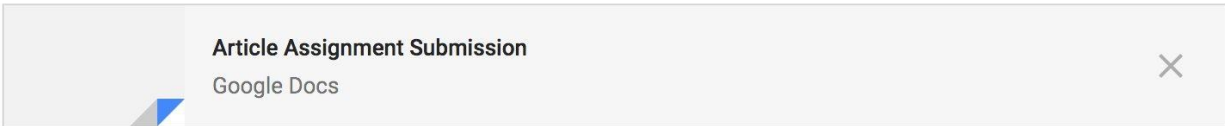


2. Click on one of the options, and this will develop a file for your submission.

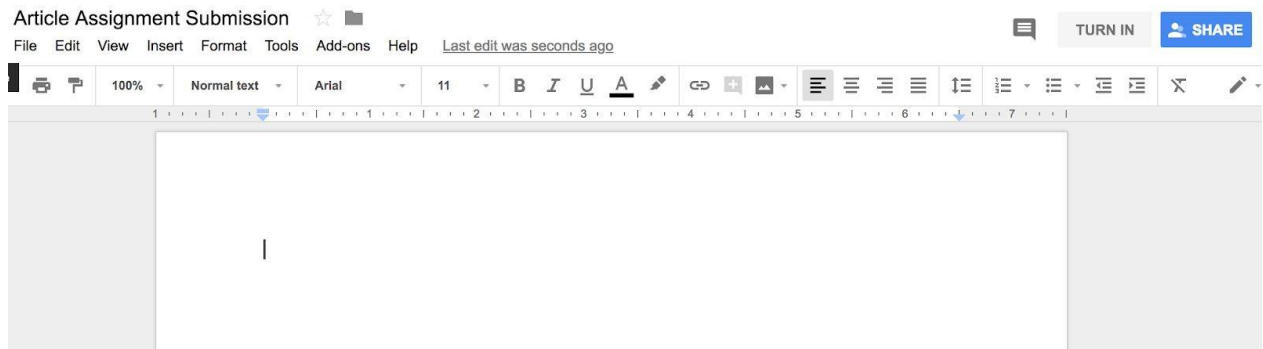
Your work

NOT DONE

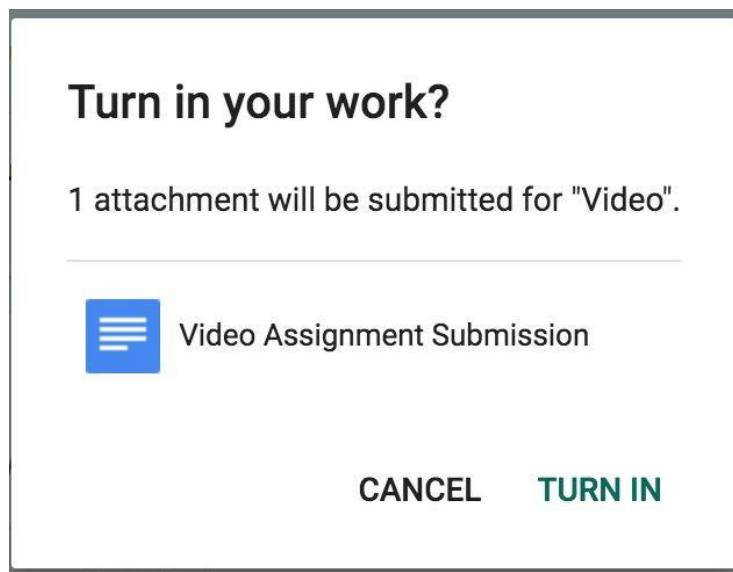
Files you add or create can be viewed and edited by your teacher



3. Click on the file and a new tab will open up for you to edit the file and complete the assignment.

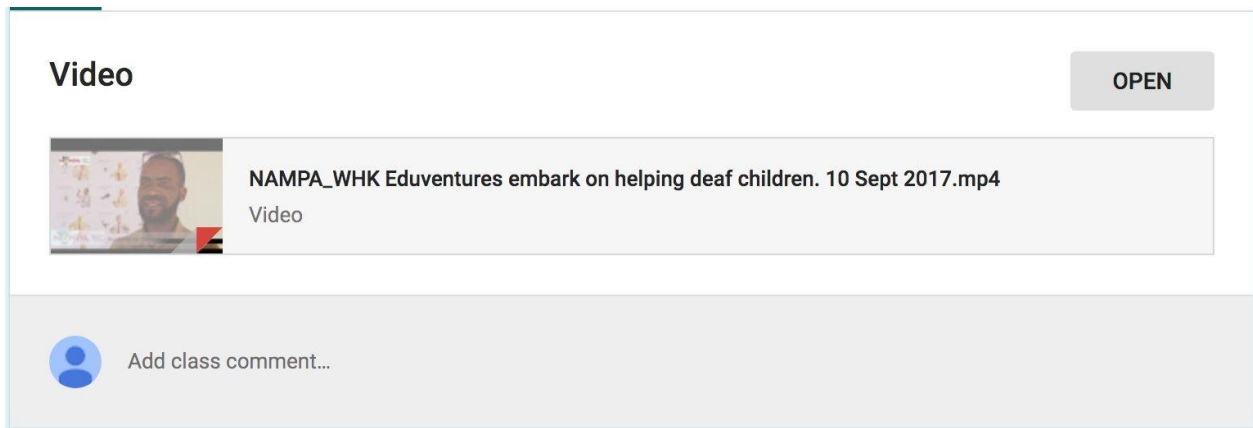


4. Once you have completed the assignment, click **TURN IN** in the top right corner.
5. This will open the following pop up, asking if you would like to submit your work. Click **TURN IN** again to submit your assignment.



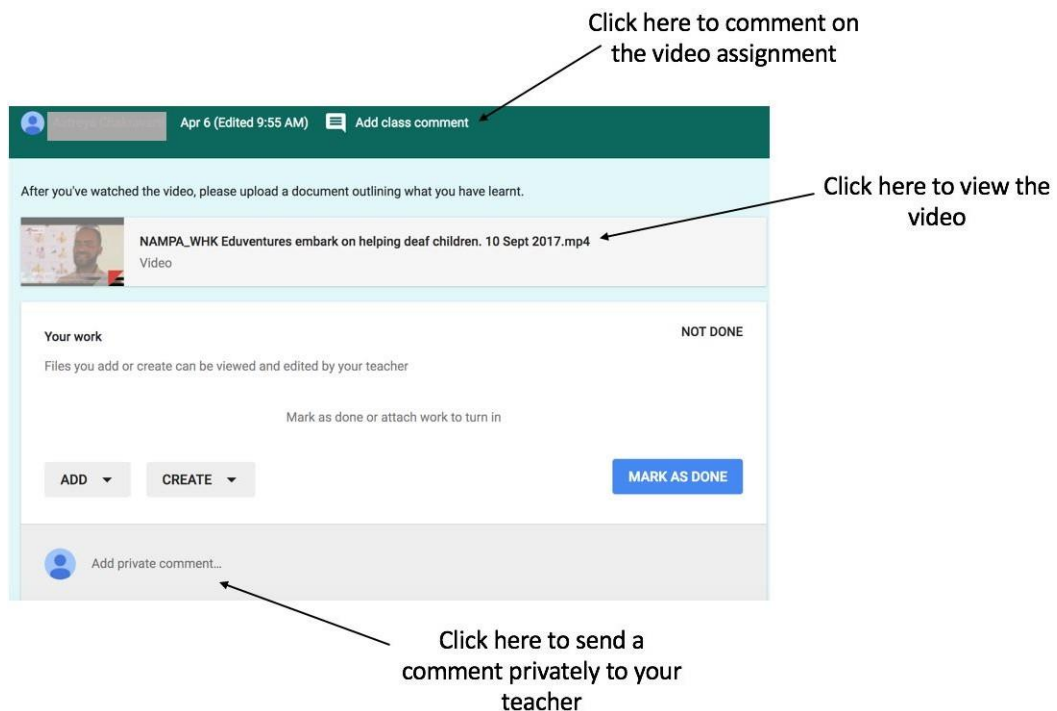
10: Complete a Video Assignment

1. Click a class.
2. Scroll until you find the video assignment, and then click on the title of the assignment. In this case, the title is "Video." The video can either be under a topic or on the homepage of the class.



The screenshot shows a video assignment card. At the top left, the word "Video" is displayed in a bold, dark font. To the right of this text is a grey button labeled "OPEN". Below the title, there is a video thumbnail on the left and a text box on the right containing the title "NAMPA_WHK Eduventures embark on helping deaf children. 10 Sept 2017.mp4" and the word "Video" underneath it. At the bottom of the card, there is a grey bar with a blue profile icon and the text "Add class comment..."

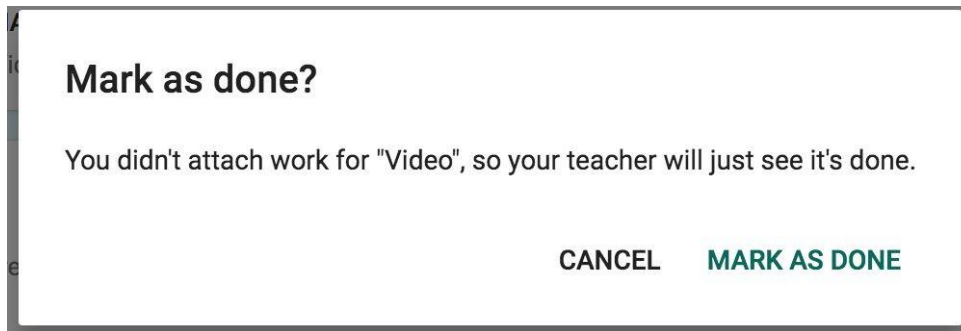
3. This will bring you to a new page.



The screenshot shows the full page for the video assignment. At the top, a dark green header contains a profile icon, the date "Apr 6 (Edited 9:55 AM)", and a button labeled "Add class comment". Below the header, a light blue banner reads "After you've watched the video, please upload a document outlining what you have learnt." The video assignment card from the previous screenshot is shown below the banner. Three arrows point to specific elements: one points to the "Add class comment" button in the header with the text "Click here to comment on the video assignment"; another points to the video title "NAMPA_WHK Eduventures embark on helping deaf children. 10 Sept 2017.mp4" with the text "Click here to view the video"; and a third points to the "Add private comment..." button at the bottom with the text "Click here to send a comment privately to your teacher".

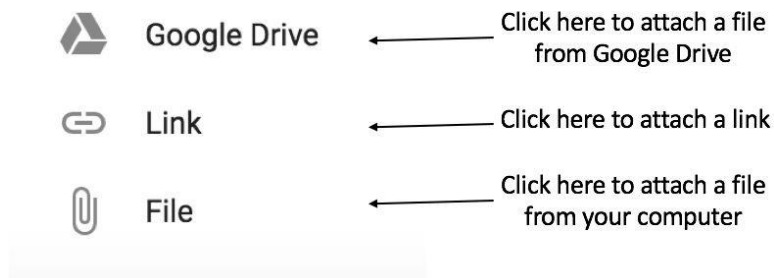
Complete an Assignment Without Attaching a File

1. If your assignment does not ask you to complete any work or attach a file, to mark your assignment as complete click on **MARK AS DONE**.
2. This will open the following pop up. Click **MARK AS DONE** again to mark the assignment as complete.

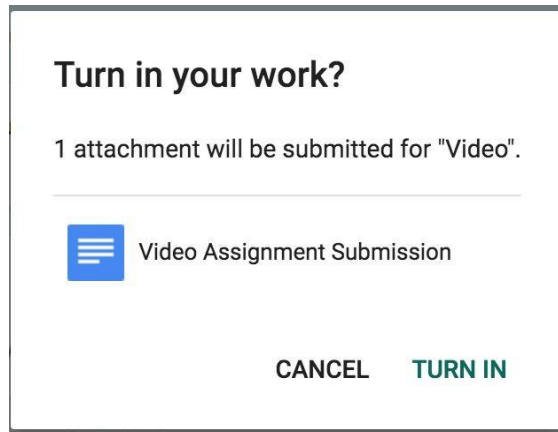


Attach an Already Existing File

1. To attach a file that you have already created, click **ADD**, which will bring up the following drop down menu.

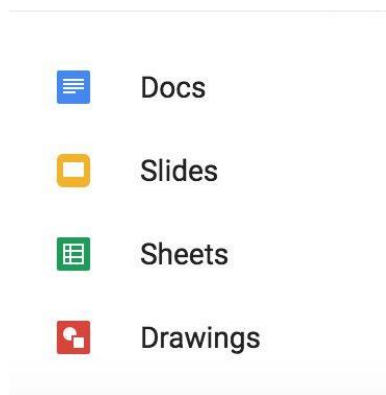


2. After attaching your submission, click **TURN IN**.
3. This will open the following pop up, asking if you would like to submit your work. Click **TURN IN** again to submit your assignment.



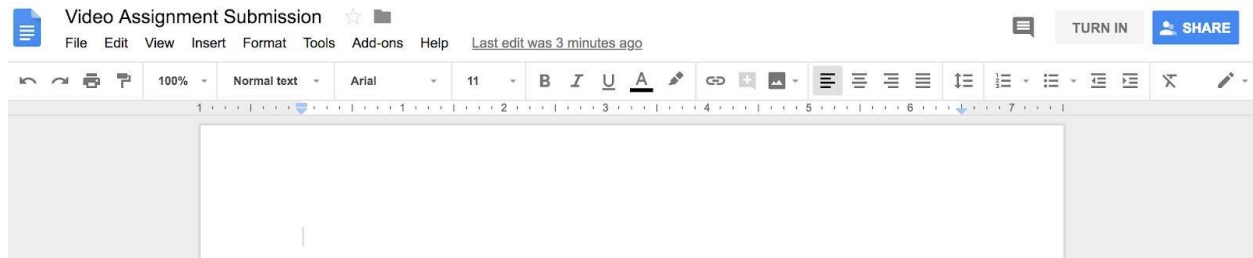
Create a New File to Complete Your Submission

1. To create a file from scratch on Google Drive, click **CREATE**, which will bring up the following drop down menu.

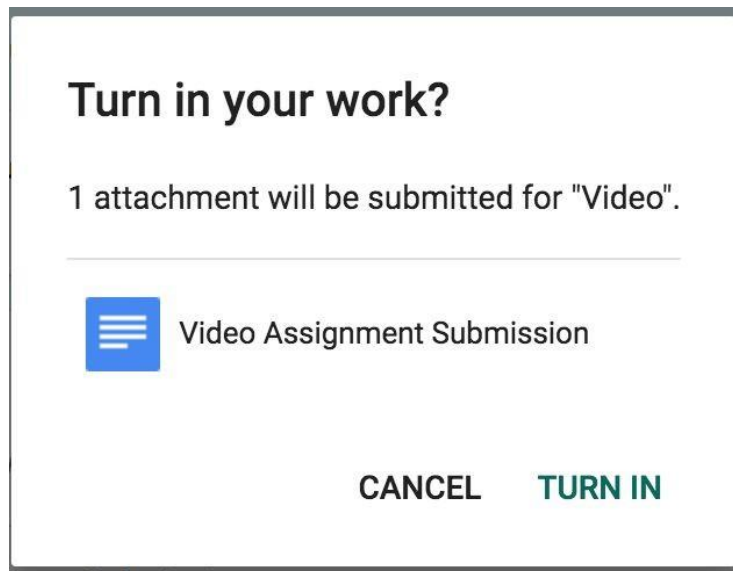


2. Click on one of the options, and this will develop a file for your submission.

3. Click on the file and a new tab will open up for you to edit the file and complete the assignment.



4. Once you have completed the assignment, click **TURN IN** in the top right corner.
5. This will open the following pop up, asking if you would like to submit your work. Click **TURN IN** again to submit your assignment.



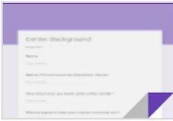
11: Take a Quiz

1. If your instructor has posted a quiz, you can access it in the “Stream” page, or in a specific “Topic” page.

Due Apr 13, 11:59 PM OPEN

Center Background

Fill out this quiz about background about your center.




Center Background
Google Forms

2. Click the OPEN button to access the quiz.
3. This will lead you to another page, where you will need to click on the quiz title in the middle of the page to access the quiz.

Click on the title to access the quiz

Fill out this quiz about background about your center.



Center Background
Google Forms

Your work NOT DONE

Files you add or create can be viewed and edited by your teacher

Mark as done or attach work to turn in

ADD ▾ CREATE ▾ MARK AS DONE

Multiple Choice Questions

1. To answer a multiple choice question, click on one circle which you believe to be the correct answer.

Click on the circle next to the correct answer

What is an example of a harmful greenhouse gas? *

CO2 (Carbon Dioxide)

H2O (Water)

O2 (Oxygen)

The star means that a question is mandatory to answer

Short/Long Answer Questions

1. To answer a short answer question, click on the text

Click here to type your name

What is your name? *

Your answer

2. Type your name in the box provided. You would follow the same procedure for a question that requires a longer answer.

What is your name? *

Corris Kaapehi

1. To answer questions that require boxes to be checked, click on all of the boxes that apply to the correct answer.

Check all the forms of energy that are renewable.

Click all boxes that apply

- Oil
- Sun
- Water
- Coal
- Wind

Dropdown Questions

1. To answer a question with dropdown options, click on the “Choose” button.

Click here to see the options for the answers

Which of these is an example of non-renewable energy?

Choose ▾

2. Select the correct answer from the dropdown menu.

Click on the correct answer

Which of these is an example of non-renewable energy?

Choose

- Coal
- Water
- Wind

SUBMIT

ords through Google Forms.

Which of these is an example of non-renewable energy?

Coal ▾

Click here to upload a file

Please upload a picture of yourself, your center, or your center's logo. *

[ADD FILE](#)

1. Select a file from your computer to upload.

Linear Scale Question

1. To answer a linear scale question, select the number which corresponds best to your selected answer.

How satisfied were you with the quality of the training guides?

1 2 3 4 5

Not at all satisfied Very satisfied

Click the number corresponding to your response

How satisfied were you with the quality of the training guides?

1 2 3 4 5

Not at all satisfied Very satisfied

Clicking on "5" would mean that you were very satisfied with the quality of the training guides

Clicking on "1" would mean that you were not at all satisfied with the quality of the training guides

How satisfied were you with the quality of the training guides?

1 2 3 4 5

Not at all satisfied Very satisfied

How satisfied were you with the quality of the training guides?

	1	2	3	4	5	
Not at all satisfied	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very satisfied

Clicking on "3" would mean that you felt neutral towards the quality of the training guides

Multiple Choice Grid Questions

1. To answer a multiple choice grid question, select the number that best corresponds to each category, similar to how you answered a linear scale question.

How much did you like each part of the conference?

	Strongly disliked	Disliked	Neither disliked nor liked	Liked	Strongly Liked
The instructors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The training guides	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much did you like each part of the conference?

	Strongly disliked	Disliked	Neither disliked nor liked	Liked	Strongly Liked
The instructors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The food	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The training guides	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The location	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Click on the circle corresponding to how you felt about each topic. For example, these answers would mean that you "Strongly Liked" the instructors, and that you "Strongly disliked" the food

Checkbox Grid Question

1. To answer a checkbox grid question, select the answers on the left that best correspond with the answers on the top. The difference between this type of question and the multiple choice grid question is that you can choose the same answer for one category.

Select which forms of energy are renewable and which are non-renewable.

	Oil	Coal	Wind	Solar
Renewable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-renewable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Date Question

1. To answer a question that requires a date as a response, type in the correct answer in the space provided.

When did Namibia gain independence?

Date

mm/dd/yyyy

Type in "03" then "21" then "1990" to answer that Namibia gained its independence on March 21st, 1990

When did Namibia gain independence?

Date

03/21/1990

Time Question

1. To answer a question that requires a time as an answer, type in the correct answer in the space provided.

What time do you wake up in the morning?

Time

 : AM ▼

Click on the space provided and type in the correct answer in the space provided

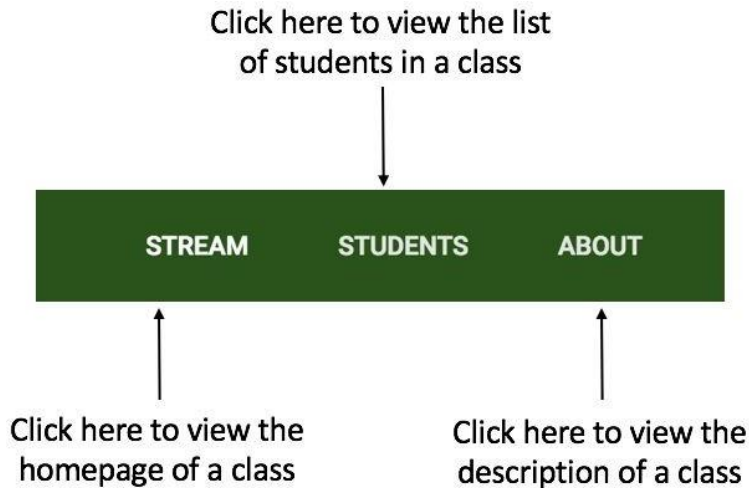
What time do you wake up in the morning?

Time

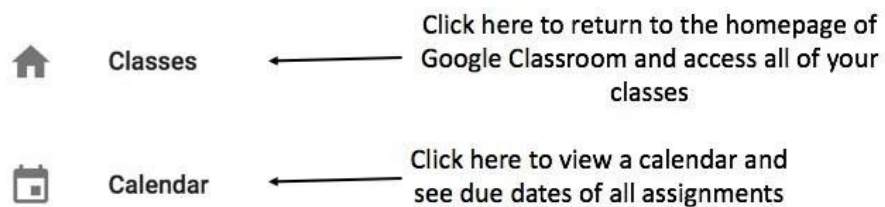
08 : 00 AM ▼

12: Basic Functions

1. Click on a class
2. At the top of the page, there is the following menu



3. Click this icon  in the top left to access the following sidebar



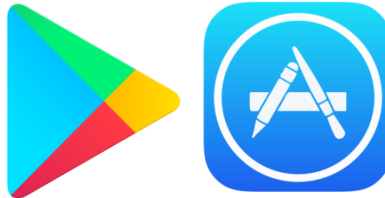
Teaching

In this sidebar, you can also access all of the classes that you are enrolled in, classes that you are a instructor for, and the settings for your account.

Google Classroom on a Cell Phone

1:Download the Application

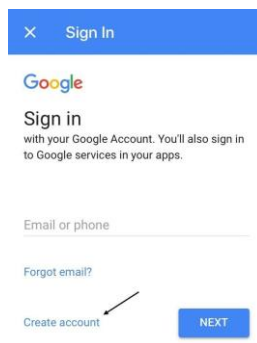
1. Open your phone's respective **app store**. This may be the google play store or the apple store.



2. In the search toolbar of your app store, **type in the following search query**: "Google Classroom" and **press enter**.
3. Download the Google classroom application.




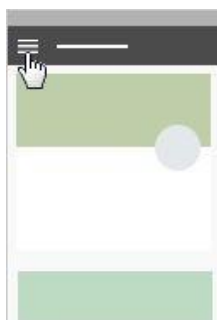
4. Click the **Get Started** button in the middle of the page.
5. If you have an Google Account, skip steps 6 and onwards and simply sign in using your username and password.
6. If you do not have an account, click the **create account** prompt.



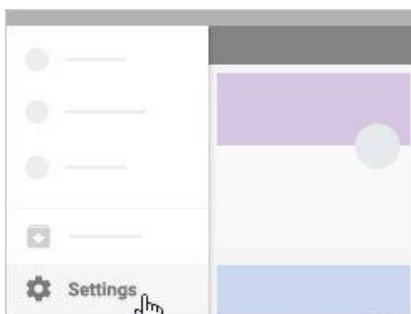
7. Fill in the necessary personal information to create the account.

2: Change Your Profile Photo

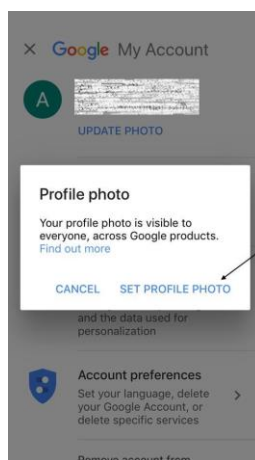
1. At the top, click Menu .




2. Scroll down and click **Settings**.



3. Under **Account Setting**, click **Update Photo** then **Set Profile Photo**.

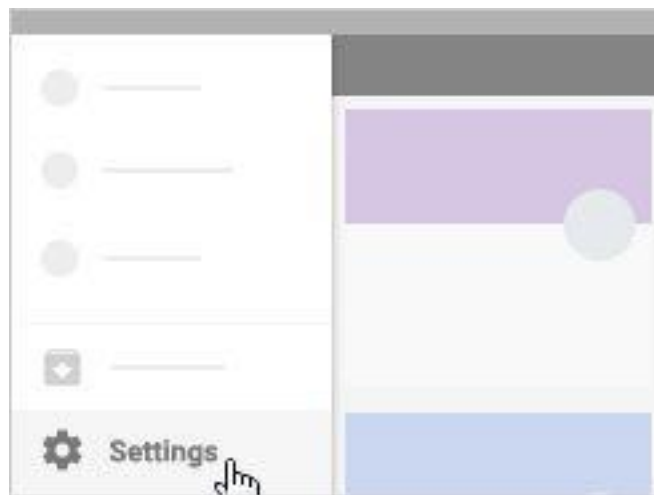




Customize Notifications

1. At the top, click Menu .



2. Click **Settings** (you might need to scroll down).




3. Go into the **notifications** tab and click any notification to turn it on or off.
4. (Optional) To turn all notifications off, at **Receive email notifications**, click Turn off . To turn of all notifications off, **Device Notifications**, click Turn off .

4: Join a Class

Join a Class with a Class Code

1. Open the Google Classroom app.



2. Click the  on the top right of the page then **Join Class**.
3. Enter the Class Code given to you by your teacher, and click **Join**.

✕ Join class JOIN

Ask your teacher for the class code, then enter it here.


Join a Class with an Email Invitation

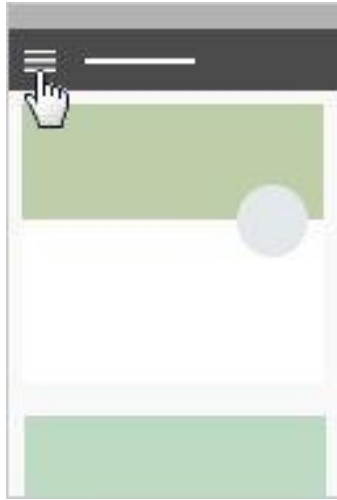
1. Open your phone's respective **app store**. This may be the google play store or the apple store.



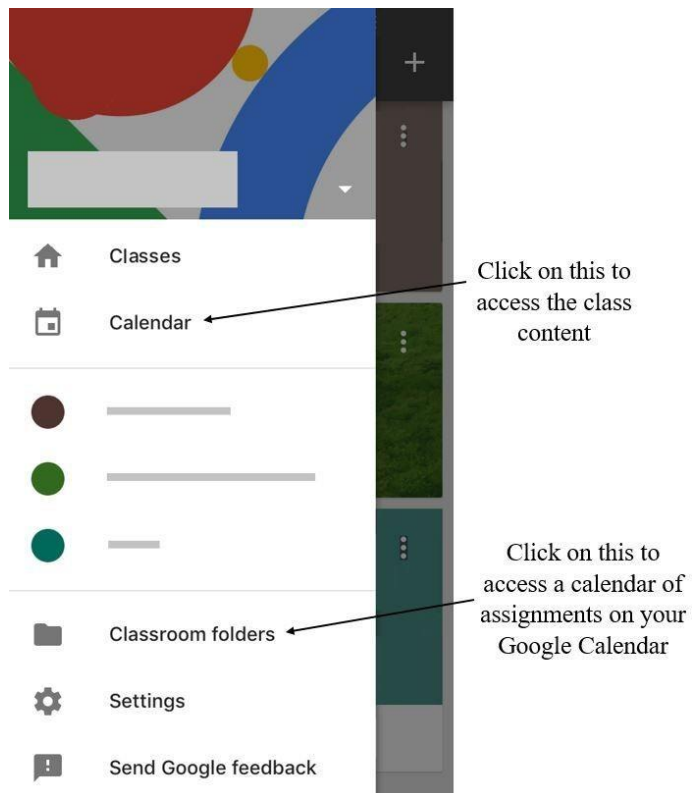
1. In the search toolbar of your app store, **type in the following search query**: "Google Classroom" and **press enter**.
2. Download the Google classroom application.

1. Click a class. **5: View Class Resource Page**

2. At the top, click Menu  .

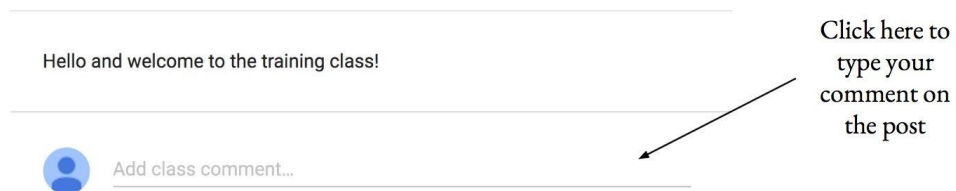


3. Here you can click on a variety of options to open them.



6: Comment on an Announcement

1. If you are not already on the Stream page, click on the **STREAM** button.
2. Your screen may say “Stream was updated” in the top middle. If it does, click on the **SHOW** button.
3. Near the middle of the screen there will be a post to the class stream. Click on the “Add a classcomment” to type your comment on the post.



4. After you have typed your comment out, click the **POST** button to post your com

9: Complete a PDF Assignment

1. Click a class.


2. Scroll until you find the article assignment, and then click on the title of the assignment. In this case, the title is "Article about the Social Obstacles Faced by Blind People." The assignment can either be under a topic or on the homepage of the class.

Due Apr 18, 10:59 PM

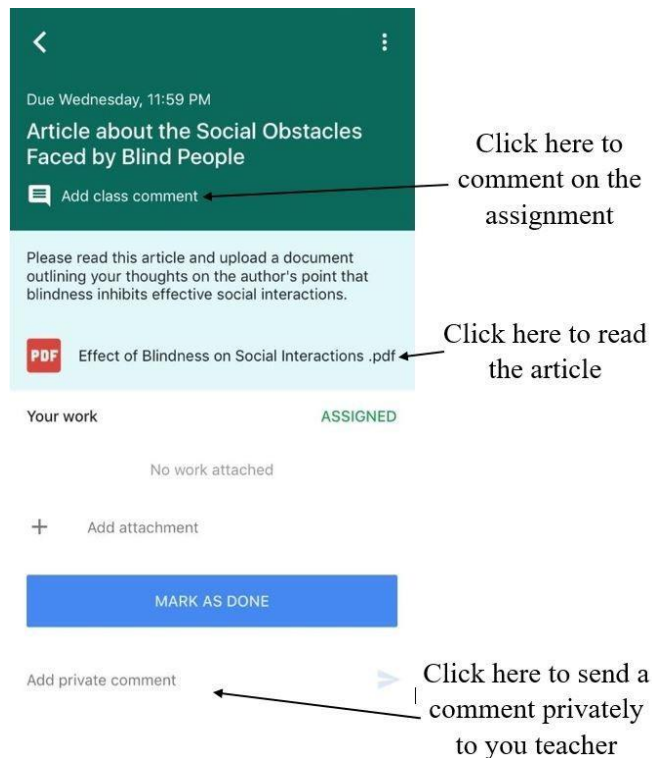
Article about the Social Obstacles Faced by Blind People

Please read this article and upload a document outlining your thoughts on the author's point that blindness inhibits effective social interactions.



 Add class comment...

3. This will bring you to a new page.



Résumé

Maîtriser la grammaire anglaise est un défi pour de nombreux apprenants. Cela incite les enseignants à trouver des méthodes plus efficaces et contemporaines pour les aider à surmonter ce problème. t, cette étude est conçue pour étudier l'effet de l'apprentissage en ligne asynchrone sur la grammaire des étudiants d'Anglais. Donc, on suppose que si les enseignants intègrent un programme d'apprentissage en ligne asynchrone avec des cours de grammaire traditionnels, les étudiants d'anglais obtiendront de meilleurs résultats aux tests de réussite que ceux qui suivent des cours purement en classe. L'étude a utilisé une méthode mixte pour vérifier empiriquement la mesure dans laquelle cet outil technologique contribue à améliorer ou à dégrader les performances des étudiants dans les tests de grammaire. Il a été mené au département d'anglais de l'Université Batna 2 au cours de l'année académique 2018/2019 avec deux classes de 1ère année attribuées à un groupe témoin, qui a reçu un programme grammatical traditionnel, et un groupe expérimental qui a suivi le même programme a participé à des cours asynchrones supplémentaires affichés sur une plateforme Google Classroom, avec un échantillon de 38 étudiants dans chaque cas. Pour satisfaire aux exigences de la recherche, un questionnaire de préparation a été envoyé par e-mail au groupe expérimental afin de vérifier si les étudiants étaient prêts à étudier dans le cadre de ce programme. Les résultats rappellent la planification de certaines séances d'informatique avant de commencer les cours de grammaire afin que les étudiants soient en mesure de faire face aux activités d'apprentissage numérique. Pour comparer les réalisations grammaticales des deux groupes, on a adopté un modèle quasi expérimental, composé d'un prétest en classe, de progrès et d'un posttest. À la suite des résultats du posttest, un questionnaire a été remis aux étudiants du groupe expérimental pour vérifier leurs points de vue en matière de grammaire après l'expérience du programme asynchrone. L'étude a également été soutenue par des séances d'observation au cours desquelles le chercheur a recueilli des renseignements sur la performance des étudiants dans les deux groupes tout au long du cours expérimental. Les résultats ont été analysés de façon descriptive et statistique. Les résultats finaux ont montré que le groupe expérimental a obtenu de meilleurs résultats que le groupe témoin, et que la différence de score était statistiquement significative. Par conséquent, on pourrait conclure que l'apprentissage en ligne asynchrone est efficace pour améliorer la grammaire des apprenants.

ملخص

يعد اتقان قواعد اللغة الإنجليزية تحدياً للكثير من المتعلمين و عليه يسعى المعلمون الى البحث عن الطرق الأكثر فعالية و حداثة لمساعدتهم في التغلب على هذه المشكلة. لهذا الغرض صممت هذه الدراسة لمعرفة مدى تأثير التعلم الإلكتروني غير المتزامن على مستوى التحصيل النحوي لطلاب اللغة الإنجليزية كلغة اجنبية. حيث تم التسليم بانه إذا ما قام معلمو اللغة بدمج برنامج التعلم الإلكتروني غير المتزامن مع دروس النحو التقليدية، فإن الطلاب سيحصلون على درجات أفضل في اختبارات التحصيل مقارنة بأولئك الذين يتبعون دروسهم في القسم فقط. ولمعرفة مدى مساهمة هذه الطريقة في رفع مستوى أدائهم في الاختبارات النحوية ، تم انتقاء فوجين من طلبة السنة الاولى في قسم اللغة الإنجليزية في جامعة باتنة 2 خلال الموسم الدراسي 2019/2018. حيث تلقت المجموعة الأولى دروس النحو على الطريقة التقليدية وسميت بالضابطة، ومجموعة اخرى تجريبية دمجت بين الدروس التقليدية و الإلكتروني غير المتزامنة معا حيث تم نشر هذه الاخيرة على منصة "قوغل كلاسروكم" و كان حجم العينة 38 طالبا لكل منهما. هذا و قد تم استخدام المنهج التجريبي المناسب عبر ثلاث مراحل: المرحلة القبليّة اين تم تجهيز أرضية التجربة عن طريق فحص مدى استعداد الطلبة للدراسة عبر المنصات التعليمية الإلكترونية من خلال مسح استبائي برهنت نتائجه نقص مهارات الطلاب في استخدام هذه المنصات لكن اظهروا رغبة شديدة في اكتشافه بالمقابل و عليه تم تخصيص بعض الحصص لتكوينهم حتى يتمكنوا من تداول أنشطتهم بالتعلم الرقمي بشكل صحيح. تلتها بعد ذلك المرحلة التجريبية التي دامت ستة أشهر اين سطر برنامج دراسي لكنا المجموعتين. في المرحلة الأخيرة تمت مقارنة نتائجهم من خلال اختبار تحصيلي، الذي اثبت تفوق الفريق التجريبي من الناحية الإحصائية هذا وقد ابدى طلاب المجموعة التجريبية مواقف إيجابية نحو تجربتهم في البرنامج الإلكتروني من خلال الاستبيان. كما دعمت التجربة حصص مراقبة قام من خلالها الباحث بجمع معلومات عن أداء الطلبة في كلا المجموعتين على امتداد دورة التجربة حيث عززت هي الأخرى فعالية التعلم الإلكتروني غير المتزامن في تحسين أداء المتعلمين.

