



*Dedication*

*To my loving mom, peerless in compassion*

*And to my dear dad, boundless in support–*

*The fruit of this work is as much yours as it is mine.*

*To my husband and my sisters who stood by me when times were tough,*

*Special thanks to you.*

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## ***Abstract***

In an educational setting where virtual classrooms are gradually gaining ground alongside traditional instruction, this study examines how effectively EFL teachers affiliated with the Department of English at Mouloud Mammeri University of Tizi-Ouzou implement synchronous and asynchronous e-learning modalities through their teaching practices. The overall aim of this research is to examine the effectiveness of synchronous and asynchronous e-learning modalities used by EFL teachers. The study seeks to reach two objectives. First, to explore the extent to which teachers' use of both synchronous and asynchronous modalities upgrade the teaching and learning experience beyond traditional classroom practices. Second, to evaluate the conformity of the teachers' online synchronous practices to pedagogically established strategies endorsed by e-learning experts. In a quest to meet these objectives, this investigation was conducted in light of Puentedura's (2006) SAMR Model of Technology Integration into Online Instruction, in addition to Moser & Smith's (2015) theory of Best Practices for Online Synchronous Courses. The research paradigm that guides this study is the Qualitative Method. Non-numerical data has been collected by means of a structured interview and classroom observation, and analyzed with Qualitative Content Analysis. The findings showed that EFL teachers' use of webconferencing tools moderately aligns with pedagogical practices recommended for online synchronous teaching. Moreover, they integrate synchronous and asynchronous e-learning methods as both enhancement and transformation of the teaching and learning experience beyond the traditional setting.

**Key words:** Asynchronous e-learning, Digital tools, Online EFL teachers, SAMR model, Synchronous courses.

## List of Abbreviations and Acronyms

- ✚ **AI:** Artificial Intelligence
- ✚ **CMS:** Classroom Management System
- ✚ **CNPG:** The National Centre for Public Learning
- ✚ **CLT:** Cognitive Load Theory (Sweller, 2011)
- ✚ **E-Learning:** Electronic Learning
- ✚ **ICT:** Information Communication Technology
- ✚ **LMS:** Learning Management System
- ✚ **MLTI:** Maine Learning Technology Initiative
- ✚ **MOODLE:** Modular Object-Oriented Dynamic Learning Environment
- ✚ **QCA:** Qualitative Content Analysis.
- ✚ **RID:** Room Identification Number
- ✚ **SOC:** Synchronous Online Course
- ✚ **URL:** Uniform Resource Locator
- ✚ **VLE:** Virtual Learning Environment
- ✚ **VR:** Virtual Reality
- ✚ **ZPD:** Zone of Proximal Development (Vygotsky, 1978)

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# General Introduction

## *General Introduction*

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### **Statement of the Problem**

The restrictive measures that COVID-19 imposed on world societies during its outbreak brought about pivotal changeovers at the level of many sectors. Eventually, the education sector was among the ones which underwent the most significant alterations. It saw a radical shift from face-to-face based learning to remote electronic learning across various institutions. Educational policies changed, programs have been remodeled, and new approaches to teaching and learning have been adopted ever since. The international education scene navigated through the conversion swiftly. Analogously, the national scene had to quickly adapt too, despite the blatant difference in circumstances and environment. Indeed, the digitalization of higher education was a huge leap forward in the Algerian setting. Although taken on shaky grounds from the beginning, it has been steadily getting more flexible, versatile and innovative in order to accommodate Algerian universities and other higher educational institutions. Nonetheless, before Algeria can adopt a digital educational system that matches the speed at which the world is advancing, it must first promote the culture of dealing with technological transformation. The latter is the first basis for adopting any innovation (Hadj Mohamed, 2024, p. 503).

Various electronic tools and platforms have been employed to meet the teaching and learning needs, in pursuit of enhancing both teacher and student performance. Numerous technological aids are available for use, and they can be classified into synchronous and asynchronous digital e-learning tools, to each their usability, and to each their limitations. In some settings, there is an exclusive use of either synchronous tools or asynchronous tools only. In other settings, such as the virtual learning environment at the Department of English at Mouloud Mammeri University of Tizi-Ouzou, it is the hybrid approach that is adopted by teachers who teach online. Hybrid e-learning is acclaimed as the optimal approach for

teaching a language remotely. It is the combination of synchronous and asynchronous tools and strategies to obtain the utmost results. Indeed, by combining synchronous and asynchronous methods, we balance their respective strengths and weaknesses, whereby the limitations of one are mitigated by the strengths of the other. Amiti (2020) has reviewed fifty research papers on asynchronous and asynchronous e-learning; she explains that it is up to the teacher to decide on how to blend the two methods adequately based on the instructional environment and the conditions met, in order to effectively impact the learner's education process.

Online instruction has been investigated from different angles at the international level. A study entitled '*Analysis of Synchronous and Asynchronous ELearning Environments*' has been conducted by Xie, Liu et al. (2018) at Illinois State University, USA. The aim was to determine the perceptions of students who study online courses and to identify which modes of e-learning and tools are best in enhancing learner experience. By purposefully disregarding the subject matter those students studied, the author chiefly focused on their learning experience and found that a blend of synchronous and asynchronous methods was more rewarding, with the right use of digital communication tools. Another study by Memari (2020), titled '*Synchronous and Asynchronous Electronic Learning and EFL Learners' Learning of Grammar*', was conducted to see whether asynchronous and synchronous e-learning environments have a statistically significant impact on EFL learners' grammar knowledge. Findings showed that the interaction between electronic modes and grammar recognition and production tests was fruitful, as both synchronous and asynchronous modes successfully achieved different but complementary goals. At the national level, and closely related to this topic, a study has been conducted by Ghounane (2022) entitled '*Learning in the Algerian Context during the Pandemic: Is it online or offline?*'. Teachers and students from four universities in Algeria, namely Tlemcen, Saida, Ouargla, and Batna, took part in the

research, and the results showed that during the implementation phase of e-learning as a mandatory teaching approach, a clear lack of experience on how to use tech tools and deliver e-content and assignments was observed, and asynchronous online learning was more prevalent among teachers than synchronous e-learning is. Most importantly, the researcher was skeptical on whether online teaching actually elevated or transformed the experience beyond the offline setting.

Another study closely related to the topic is by Al-Khalidi & Nizwa (2021), titled *'Examining Teachers' Beliefs on Developing a Digital Pedagogical Framework Based on the SAMR Model for Undergraduate English Language Learning'*. It showed that, according to the said model's levels of technology integration into academic instruction, EFL teachers integrated technology into their classrooms mainly at the lower levels of 'Substitution' and 'Augmentation', while the advanced levels of 'Modification' and 'Redefinition' of digital task re-design were rarely reached.

These large scale research samples are highly informative, yet they are arguably limited to recurring aspects surrounding this topic. International studies focus mainly on the student experience and the way learners engage in the synchronous and asynchronous modes, thus leaving the teacher perspective considerably under-investigated. Moreover, though in the findings of every study there is always a conclusive mention that urges the implementation of hybrid e-learning, synchronous online teaching particularly needs to be further assessed in line with established pedagogical practices. Finally, local academics are progressively exploring the field of online EFL teaching in Algeria, yet very little research has been underpinned by the SAMR framework. That is why the aim of this humble study is to further expand this area of research by focusing on the teachers' experience and their use of both synchronous and asynchronous digital tools to achieve superior goals, by underlying it with Puentedura's (2006) SAMR Model of Technology Integration into Online Instruction, in

addition to Moser & Smith's (2015) Best Practices for the Conduct of Synchronous Online Courses.

### **Aims and Significance of the Study**

The overall aim of this research is to examine the effectiveness of synchronous and asynchronous e-learning methods used by teachers at the department of English, Mouloud Mammeri University of Tizi-Ouzou. On a narrower scale, it aims at exploring the extent to which teachers' use of both synchronous and asynchronous modalities upgrade the experience beyond traditional settings. Building on this explorative phase, it moves on to evaluate the conformity of the teachers' online synchronous practices to pedagogically established strategies endorsed by e-learning experts.

This study's significance lies in its quest to provide more insight into distance education in the Algerian context. Online teaching is quite under-investigated at the level of the country. It was not until post-quarantine that the academic community started to heed the necessity of acquiring more knowledge about the concepts surrounding e-learning. EFL teachers and students find themselves equally in need of benefiting from each other's experience of synchronous and asynchronous e-learning in order to upgrade their performance in virtual classrooms. Thus, the study at hand will hopefully allow teachers to refine their online teaching methods, and will give students the opportunity to gain a deeper understanding of the digital tools at use.

### **Research Questions and Hypotheses**

To reach the objectives of this research, two research questions have been formulated:

- **Q1:** To what extent do EFL teachers effectively integrate synchronous and asynchronous e-learning methods to improve the experience beyond traditional classroom practices?

- **Q2:** Does the use of webconferencing tools by EFL teachers align with the pedagogical practices recommended for synchronous courses?

The following hypotheses are plausible answers to the aforementioned questions:

- **H1:** EFL teachers integrate synchronous and asynchronous e-learning methods as both enhancement and transformation of the teaching experience beyond traditional classroom practices.
- **H2:** EFL teachers' use of webconferencing tools moderately aligns with pedagogical practices recommended for synchronous courses

### **Research Techniques and Methodology**

To proceed with this inquiry, the qualitative method was used for both data collection and analysis. The data collection procedure was conducted by means of a structured interview and virtual classroom observations to report on the teachers' synchronous and asynchronous online teaching methods, strategies and tools.

Puentedura's (2006) Substitution, Augmentation, Modification, and Redefinition (SAMR) model ,in addition to Moser & Smith's (2015) 'Twelve Practices for Online Synchronous Courses' are the two analytical frameworks that underpin this study.

Puentedura's (2006) four degrees of classroom technology integration makes it suitable to examine the practices of teachers in an online EFL instruction setting. Moser & Smith's theory-driven and established practices are an adequate scale through which synchronous teaching practices can be evaluated.

### **Structure of the Dissertation**

This dissertation is outlined and structured in alignment with the Simple Traditional Model. It comprises a general introduction, four chapters and a general conclusion. The *General Introduction* serves as the groundwork in which the problem is stated, the key elements are presented, and the significance of the study highlighted. It identifies the gaps in

existing literature that the study aims to address. The first chapter, *Review of the Literature*, provides an overview of prior studies related to the topic, definition of terms and explanation of important concepts, and a detailed account of the theoretical frameworks. Chapter two, *Research Design*, outlines the methodology of the study describing the data collection tools and analysis method. The third chapter, *Presentation of The Findings*, is where the results of the study are systematically presented. In the fourth chapter, *Discussion of the Findings*, the results are interpreted and analyzed to address the research questions, and to assess whether the hypotheses are confirmed or refuted. Lastly, the *General Conclusion* summarizes the study, draws conclusions from the interpretation of the findings, and offers suggestions for further research by identifying remaining gaps.



# **Review of the Literature**

## *Review of the Literature*

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### **Introduction**

This chapter examines the main literature underpinning the present research. It is sectioned into six primary sections, with each one further segmented. First, it introduces the concept of Distance Education, and then situates it in the Algerian higher education context. Second, it reviews the main concepts surrounding E-learning as a field of study. Third, it sheds light into Moore's (1989) Three Types of Interaction under the lens of E-learning. Fourth, the concept of Synchronous E-learning is thoroughly explored, followed by a review of Webconferencing tools 'Zoom' and 'Google Meet', and a presentation of Moser and Smith's (2015) Practices for Synchronous Online Courses as an analytical framework. The fourth section delves into the concept of Asynchronous E-learning, outlines its main features, and discusses Learning Management Systems 'Moodle' and 'Google Classroom'. Last but not least, a detailed explanation of Puentedura's (2006) SAMR Model of Technology Integration in Education is given as the main theoretical framework underlying this research.

### **1.1. Distance Education**

#### **1.1.1. Definition**

Various scholarly interpretations of 'Distance Education' have been advanced overtime, and Saykılı (2018, p. 5) has synthesized them into a single all-encompassing definition:

Distance education is a form of education which brings together the physically-distant learner(s) and the facilitator(s) of the learning activity around planned and structured learning experiences via various two or multi-way mediated media channels that allow interactions between/among learners, facilitators as well as between learners and educational resources.

Distance education, as an established formal practice, started in the University of Chicago as a mere course correspondence between teachers and their geographically-dispersed students during the 1800's (Matthew et al., 2018, p.73). Gradually, the idea of remote education began to gain prominence in the higher education setting, with each freshly-initiated communication technology making it move a step forward. Then with the advent of the internet, academic instruction transcended the conventional interaction between the teacher and learner, and has since been radically redefined. Knowledge transfer became a thorough and innovative process that engages digitally recreated auditory, visual, and tactile modalities. This multimodal approach demands a profound understanding of digital literacy, a familiarity with educational technology commonly referred to as Information and Communications Technology (ICT), and pedagogical skills that foster a dynamic instructional environment. Aneur et al. (2024, p. 52) assert: "...Progress in Information and Communications Technology (ICT) has released space and temporal constraints from the traditional higher education system, providing the foundation for bringing a new kind of higher education based on digital transformation". On a similar note, Matthew et al. (2018, p. 73) briefly highlight what separates this new kind of higher education from the traditional one: "Both approaches are similar in content, except in pace and delivery". Indeed, the same content which is meant to be taught traditionally can be taught remotely, but with notable variations in the pace and delivery of the course. Traditional education follows a fixed pace characterized by its rigid scheduling, contrary to remote education which allows for a more flexible pace thanks to its online synchronous and asynchronous modes of instruction. Moreover, the delivery of a course face-to-face is considerably different from its delivery through digital means in terms of interaction, assessment and feedback mechanisms, among other aspects (Suwartono & Aniuranti, 2018).

Such an innovative approach to education has naturally extended to Algeria. Much effort has been devoted to the development of this sector despite the obstructions it has faced, and still faces up to this day.

### **1.1.2. Distance Education in Algeria: Development and Challenges**

Contrary to popular belief, efforts to develop distance education in Algeria were not initiated during the COVID-19 pandemic, they actually go back to 1969. Djoudi (2018, p. 7) states:

The National Centre for Public Learning (CNEG) was the first centre in Algeria in charge of all distance education. This permanent educational structure focuses on universal learning and adopts teaching by correspondence, radio and television in the delivery of instruction

Overtime, new ICTs have been introduced to the field and progressively became more sophisticated thanks to continuous refinement. Fast-forward to our current era, the most widely-popularized ICTs are namely: interactive audio-visual tools (Youtube and mobile applications), Learning Management Systems (Moodle/Google Classroom), webconferencing platforms (BigBlueButton/Zoom/Google Meet), and AI assistants (ChatGPT/Copilot/Gemini).

Needless to say, Algeria has not remained on the margins of this development. With the onset of the COVID-19 pandemic, it has hastened its transition to distance education. It is at this juncture that local experts of the field emphasize the challenges which hinder the development and effective implementation of distance education in the Algerian context.

Ameur et al. (2024) summarized the findings of previous local studies and pointed out that the first problem remote instruction has encountered in Algeria was the way most initiatives were individual and faculty-led, lacking a systematic national approach. The latter

has eventually emerged, but typically after significant efforts had already been expended by individual educators and institutions, and generally lag behind in quality and creativity.

Moreover, many argue that until this day, the foundations of remote instruction are still considerably under-developed with a blatant lack of pedagogical depth and institutional support. That is what local researchers such as Benkhider & Kherbachi (2020) and Bellatreche & Alloti (2020) have concluded in their findings. Pedagogical depth commonly refers to the theory-informed design of instructional content, practices and assessment methods for active teaching and learning. Institutional support encompasses all the policies, digital resources and technical support that frame the digital structure of online instruction. The study conducted by Bellatreche & Alloti (2020) showed that there was a lack of strategic policy for the future of technology in higher education here in Algeria; they also claim that routine administrative procedures are a major hindrance to the transformation of digital use at the level of university.

Furthermore, a manifest problem is the inconsistent access to Internet and digital tools. Teachers and students alike face recurring problems such as lack of appropriate digital material, unreliable mobile network, frequent power outages among other problems. Bellatreche & Alloti (2020, p. 10) support such claims and add: “The weak flow of Internet is the most important technical challenge facing the consolidation of E-learning despite the provision of universities to the basic methods of information and communication technology”. Add to it the teachers’ and students’ significant inexperience in digital literacy which slows down the progression of E-learning in Algeria (Benkhider & Kherbachi, 2020, p. 341). Last but not least, Ghounane (2022, p. 493) admitted that a lot of Algerian teachers have what is coined as *‘technophobia’* in getting involved in an e-learning setting. Technophobia can be described as the distaste of deviating from the conventional practices which one has

been accustomed to for years. Consequently, this prevents them from unlocking the full potential e-learning has.

## 1.2. E-learning

It may be reasonably questioned: what is the difference between ‘Distance Education’ and ‘E-learning’? We previously referred to the digitalization of higher education as ‘Distance Education’ to explain its origins and course of development. Because it is the term through which scholars encompass all outdated educational modes up until the up-to-date E-learning mode. “E-learning could also be considered a natural evolution of distance learning”, assert Sangra et al. (2012, p. 146). Subsequently, the term ‘E-learning’ will be the one utilized from here on to refer to the contemporary model of remote instruction.

Scholars of the field have given various definitions of ‘E-learning’ depending on their different perspectives, (Sangra et al., 2012, pp. 148-189):

- **Technology-Driven Definition:** “E-learning is the use of electronic media for a variety of learning purposes that range from add-on functions in conventional classrooms to full substitution for the face-to-face meetings by online encounters” (Guri-Rosenblit, 2005).
- **Communication-Oriented Definition:** “E-learning is learning based on information and communication technologies with pedagogical interaction between students and the content, students and the instructors or among students through the web” (González-Videgaray, 2007).
- **Educational-Paradigm-Oriented Definition:** “E-learning refers to educational processes that utilize information and communications technology to mediate synchronous as well as asynchronous learning and teaching activities” (Jereb & Šmitek, 2006).

Though the last definition is more appropriate for this study, when the three definitions are grouped together, the concept of ‘E-learning’ gains a clearer shape, and the

features that surround it are also identified: *'electronic media'*, *'pedagogical interaction'*, as well as *'synchronous and asynchronous leaning and teaching'*. All of which are notions that will be explored as this chapter goes on.

Moreover, in their seminal book entitled *'E-learning Theory and Practice'*, Haythornthwaite and Andrews (2011) theorize E-learning in quite an original way. They postulate: "What is distinctive about e-learning is, then, the way the two components – 'e' and 'learning' – develop independently and alongside each other, yet are also interrelated, and contribute to each other's development. A change in one precipitates a change in the other". Empirical evidence brought by previous research done on e-learning support this claim. The 'e' stands for 'electronic' , it encompasses digital resources, collaborative tools, Learning Management Systems (LMS), Virtual Reality (VR), and AI assistants, among others. When looking at these facets of the 'e' component, they are indeed independent of the 'learning' component. Learning, being recognized by scholars as a psycho-social activity, changes drastically when practiced in an electronic space. It can be enhanced or even transformed. Conversely, changes in the psycho-social nature of learning directly impact the 'parameters' of that said electronic space. For instance, the electronic space and its facets may need to be adjusted and geared according to the fluctuating levels of students' motivation and interaction.

### **1.3. Interaction in E-learning Under the Lens of Moore's (1989) Theory of Interaction**

As it has been mentioned earlier in a communication-oriented definition of e-learning, interaction is a focal aspect of online learning. One of the leading researchers in this field is Michael G. Moore, the founder of *The American Journal of Distance Education*. He was among the first academicians to shape early research about online learning. In 1989, he introduced his famous theory known as 'The Three Types of Interaction'. He asserts: "It is vitally important that distance educators in all media do more to plan for all three kinds of

interaction” (Moore, 1989, p. 3). He coined these three kinds of interaction: ‘learner-content interaction’, ‘learner-instructor interaction’, and ‘learner-learner interaction’.

### **1.3.1. Learner-Content Interaction**

It is the most fundamental type of interaction that happens across the instructional process. The learner has to interact with the subject matter which they study. Moore (1989) explains that the learner intellectually interacts with the content of the lesson and is consequently subject to changes in their understanding, perspective, and all cognitive processes. This viewpoint is very relevant in an online context. For instance, a student studying an online module on cross-cultural linguistics skims through an instructional video sent by their instructor. They hear a thought-provoking comment about certain indigenous languages not marking time as English does. They reflect on this and deduce that these indigenous people do in fact have a different conceptualization of time. Subsequently, the student engages in cognitive processes of comparison and analysis until they reach a shift in perspective and conclude that the universality of their own thought patterns regarding time is questionable. Such an experience pushes the learner to additionally surf on the internet and interact with further support content. Moore (1989) also draws attention to an important point. He highlights: “Some learning programs are solely content-interactive in nature”. Indeed, there are online programs which focus on self-directed learning, where a subject expert communicates the content of the course to the learner and the latter is free to lead the learning process by themselves. This is mainly the case for intermediate-to-advanced online EFL learners, whose rate of interaction with the content exceeds the rate of their interaction with the instructor and other learners.

### 1.3.2. **Learner-Instructor Interaction**

It is the most preferred type of interaction to the learner. The instructor is the subject expert who guides the learner throughout the process on interacting with the content of the course. According to Moore (1989), the instructor is the one who presents the program of content to be taught, they are in charge of stimulating or maintaining learners' interest and motivation. They direct presentations and prompt the learners to apply what they have learned from the content, then assess and provide constant counsel. To sum up, in a classroom, there are five teaching acts: *stimulation, presentation, application, evaluation, and student support*. The instructor must achieve or guide such interactions intelligently.

Moore (1989, p. 2) claims: "It is for reality testing and feedback that interaction with an instructor is likely to be most valuable". That is to say, while applying new knowledge, the learner is not very confident about their performance, and thus cautiously awaits the response of the instructor. However, one may argue that the learner-instructor interaction here is only valuable if carried out with a supportive and constructive mindset. Shussler et al. (2021) view the first claim as too 'vague and optimistic', and assert that negative pedagogical themes such as the unenthusiasm of the instructor and them not listening carefully to the student while engaging in feedback negatively impacts the student's performance. This sustains the argument that not all interactions are desired, the quality of the interaction is also very important.

Moreover, Moore (1989) points out the fact that e-learning techniques (the use of recorded video and computer interaction during his time) noticeably gave the learners the benefit of individual interaction with the instructor by electronic contact. The instructor focuses their attention on each student individually, so they dedicate a larger portion of time, energy and thought to the interaction with said student. Such an opportunity is rarely encountered in traditional settings where there is a live group to tend to.

### 1.3.3. **Learner-Learner Interaction**

Moore (1989) concisely defines this third interaction as “Inter-learner interaction, between one learner and other learners, alone or in group settings, with or without the real-time presence of an instructor”. According to him, stimulating interaction among learners is less challenging in online settings than it is in face-to-face classrooms. He argues that e-learning techniques extend group interaction thanks to asynchronous messaging tools and synchronous audio/visual/written live chatting.

Moreover, learner-learner interaction differs across younger learners vs. adult learners. For younger learners, it is mainly apparent at the level of the stimulation and motivation acts in the form of peer-group interaction. As for adult learners, inter-learner interaction is mostly sought at the level of the presentation and evaluation teaching acts. They often engage in peer discussion and analysis in small groups, and then they give feedback to one another and further enrich the discussion. (Moore, 1989, p. 3)

Notably, when speaking of interaction in an online setting, we understandably refer to both ‘real time’ and ‘delayed’ modes of interaction. Indeed, we do in fact have two modes of online teaching-learning: ‘Synchronous E-learning’ and ‘Asynchronous E-learning’.

### 1.4. **Synchronous E-learning**

All scholarly definitions of synchronous e-learning meet at two chief components: ‘real time’ and ‘interaction’. The leading specialist in e-learning and educational technology Badrul H. Khan (2006, p. 83) dives deep into the concept of synchronous electronic learning, and comes out with the simplest yet englobing definition: “Synchronous E-learning is the interaction of participants with an instructor via the Web in real time”.

In their handbook entitled ‘*Synchronous e-Learning*’, Hyder et al. (2007, p. 1) provide another definition: “Synchronous learning is live, real-time (and usually scheduled), facilitated instruction and learning-oriented interaction”. Hyder and her co-authors hint at the

fact that definitions of synchronous e-learning must not be superficial, because of the many misconceptions people tend to particularly have of it. That is why ‘learning-oriented interaction’ is a key-term that needs to be highlighted. Hyder et al. (2007) claim that a distinction needs to be made between truly interactive e-learning and what they coined as ‘knowledge dispersal activities’. Knowledge dispersal is when instructors treat real-time classes as passive one-way lectures to be delivered to a silent audience. This can be acceptable in some traditional settings when required, but it is contradictory to what a synchronous online environment ought to be by definition. Non-interactive students are equal to absent students, and if one of the two components ‘real-time’ and ‘interaction’ is missing, then we are out of the synchronous e-learning spectrum.

So, it is agreed upon that synchronous e-learning is when the instructor and learners interact at distance and in real time. Such instructional interaction happens in a Virtual Learning Environment (VLE). VLEs are learning platforms that organize and provide access to online learning services for the learners (Tandel & Dhimar, 2017, p. 28). In the case of the synchronous mode, they offer the option of webconferencing.

A generic description of how an EFL synchronous classroom is carried out in a VLE is given by Martin and Parker (2014, p.193):

Most virtual classroom technologies have a content frame to share the instructor’s files, an electronic/interactive whiteboard for instructors and students to write or draw breakout rooms for group activities, text chat to interact using words and emoticons, and audio chat to talk via a microphone or telephone with the instructor and other students. Instructors can administer student polls, share their desktop, or have the students share their own desktops through application sharing. Websites can be displayed for students, and with stable Internet bandwidth, webcams can be used so

students and instructors can see each other. The entire virtual classroom session can be archived for later use.

Online teachers who teach synchronously have a variety of VLEs to choose from, as most VLEs offer the option of webconferencing. It is through webconferencing tools that a synchronous online course can be delivered.

#### 1.4.1. **Webconferencing**

Only two decades ago, the term ‘videoconferencing’ was often used to refer to synchronous e-learning, but with the emergence of new electronic media, a new term emerged to replace it: ‘webconferencing’. While videoconferencing is a simple synchronous audio-visual interaction between the members of the conference with no additional modern features, webconferencing is more sophisticated and multifunctional synchronous type of interaction. Hyder et al. (2007, p. 5) define and describe webconferencing as:

Highly interactive, Internet-based applications with a rich collaboration feature set (e.g. audio/video from presenters and learners, application sharing, whiteboarding and markup tools, breakout rooms, polling, quizzing, hand raising and emoticon responses, slides and media, Website tours, public/private text Chat). It is capable of scaling from small groups to hundreds or thousands of simultaneous users.

#### 1.4.2. **Digital Tools for Webconferencing: Zoom and Google Meet**

‘Zoom’ is a cloud-based webconferencing platform launched by a team of 40 engineers in 2011. It is the most widely used digital tool for synchronous e-learning in the higher education setting both locally and internationally with over 300 million users as of 2025 (Statista, 2025).

Moser & Smith (2015, p. 45) briefly explain the simple creation process and functioning of a Zoom virtual classroom. The latter bears a singular room identification number (RID). Every Zoom account is given one permanent RID and the permission to create

any number of ‘ad hoc’ meeting/rooms. Once created, this virtual conferencing room can be entered by students, instructors as well as guest-speakers at any time. Upon entry to a virtual space, it is possible for the participants to share audio, video and desktop views with all other participants. Finally, the room host is allowed additional management and control.

‘Google Meet’ is another popular webconferencing tool. It started out as an unpopular online live-meeting platform, mainly used for commercial and administrative purposes. It was not until the COVID-19 pandemic that it gained popularity in the education field. It was soon favored by many instructors as it allows up to sixty minutes of live conference, compared to Zoom that offers only forty-five in its free mode.

Google Meet provides smooth features ways that foster a practical virtual classroom environment: a shared-link generator to create a meeting in seconds, an integrated Google Calendar to schedule and join meetings, screen-sharing, automatically generated captions that detect speech in real-time and casts it on the screen, security and encryption options to control who can join the meeting, AI-powered enhancements like noise-cancellation, live chatboxes, emoji reactions, as well as a virtual raised hand option to organize student participation.

For an instructor, hosting a successful webconference does not only require a good level of digital literacy and the ability to manage online classroom interaction, but also a comprehensive understanding of theory-driven practices established by experts in the field.

#### **1.4.3. Moser & Smith’s (2015) Best Practices for the conduct of Synchronous Online Courses**

Moser and Smith (2015) have introduced twelve practices for teaching an online course synchronously, and have relied on two famous theories to build them on: Sweller’s (2011) Cognitive Load Theory (CLT), and Vygotsky’s (1978) Zone of Proximal Development theory (ZPD).

They emphasized on active social learning with peer-collaboration tasks. And that is through interactive digital tools like breakout rooms, polls, and chats which allow the learners to engage in problem solving with more capable peers, and under the guidance of the instructor. This strategy is a core aspect of ZPD. Moreover, they have relied on CLT to set practices that aim at reducing distractions, providing a set of different instructions before the start of a course, and allowing the learners to use different modes. All of which help reduce the students' extraneous cognitive load, and thus improve their performance in a synchronous online course. Here are the twelve practices as outlined by Moser & Smith (2015):

**Provide a welcome message that is displayed approximately 15 minutes before class:** Moser & Smith (2015) recommend that the teacher show a slide or message before class starts. This serves as a reminder that the class is about to start while also confirming to the students that are in the right virtual room.

**Notify class of your presence and encourage equipment checks:** by prompting them to test their mics, cameras, or headphones for any tech issues that need to be adjusted to facilitate meeting beginnings and ensure that they all smoothly participate during the session.

**Provide easily accessed methods to connect/enter the virtual classroom:** the teacher is advised to send a clear link via email, text message, URL, or a meeting invitation calendar event. to the webconferencing room. "Placing this link within an existing classroom management system (CMS) such as Blackboard or Moodle will provide a persistent, readily available means for students to easily enter the correct virtual space" (Moser & Smith, 2015, p. 4).

**Record class meetings:** this is an important practice that they particularly stress on, since it allows the students to have continuous access to their synchronously-presented lesson. Final classroom recordings are usually posted via a Learning Management System (LMS), an

instructor's web page, or a streaming platform (Moser & Smith, 2015, p. 4). Camtasia, Loom, and Zoom's incorporated recorder are the most popular recording tools used by instructors.

**Discourage unnecessary use of video sharing:** screen-casting should only be used by the student when necessary so as not to overload the digital board, and consequently overwhelm the rest of the learners.

**Maintain virtual office hours:** they are specific hours set by an instructor to receive students' course-related inquiries and requests outside of class. Just like traditional students are allowed office hours, it is advised for teachers to fix some for e-learning students, as some instructors dismiss this important point.

**Pre-load software that will be used during class presentation:** opening all the to-be-used applications facilitates shifting from one to another during the live session. "Opening the application in advance will allow the instructor to deal with window sizing, application interaction, and audio/video impact" (Moser & Smith, 2015, p. 5).

**If possible have more than one monitor/display:** Moser & Smith (2015, p. 5) explain that using one entire monitor for staging content allows for smooth transitioning across applications, instead of closing and opening them, which is the case on a single monitor. This becomes essentially important when the session is being recorded as the activity on the staging monitor is not captured.

**Equip your teaching/production facility with various video options:** In addition to the instructor's webcam, having a document camera, also referred to as 'screen-casting' is often useful to present printed materials, maps, and views of physical objects pertinent to the class topic.

**Use electronic textbooks and other reference materials:** having electronic text materials in the asynchronous format on an LMS in order to share content from the text with students in case they need to annotate and highlight.

**Encourage (require?) students to participate in virtual study sessions/group meetings: one of the weaknesses of the synchronous e-learning modality is that the student is often isolated from his or her peers until the next session. Teachers can prevent “student isolation” by giving collaborative tasks to the students in which they will need to organize virtual group meetings, which they can later on record and send to the instructor for evaluation.**

**Integrate additional software systems to augment the virtual classroom experience:** it is recommended to let the students suggest the use of supporting applications to back up the webconference experience. Using apps like Facebook or Twitter promote student to student content sharing and creation, upholding live-chats there can enhance the experience considerably.

### **1.5. Asynchronous E-learning**

Asynchronous e-learning is a form of self-paced online learning in which learners intermittently access course materials provided by the instructor in an asynchronous format, in a Learning Management System (LMS) or other learning channels (Hyder et al., 2007; Watson et al., 2009). This definition comprises all the key features that characterize asynchronous e-learning:

The first strength of asynchronous e-learning is self-pace. Self-paced learning is particularly ideal for adult learners who are not able to comply to fixed schedules due to life obligations (Sistek-Chandler, 2019, p. 35). Indeed, asynchronous learning allows the learner to go at their own pace and flexibly check the course material anytime, anywhere and intermittently.

Furthermore, the content of an asynchronous course comes in various forms to suit all domains and fields of study. Asynchronous format can be: downloadable PDF lectures, cloud-based collaboration documents (Google Docs, Word Docs, PowerPoint slides), pre-recorded

videoconferences, posted video and audio material, discussion forums between peers, e-mails with the instructor, and online quizzes (Bouchrika, 2025).

Moreover, an asynchronous course is generally taught via Learning Management Systems (LMS). Coates et al. (2005) defines LMS as: “a software that automates the administration of training events. All Learning Management Systems manage the log-in of registered users, manage course catalogs, record data from learners, and provide reports to management”. In addition to LMS, other learning channels are used by instructors and learners as support channels to share courses in different asynchronous formats. The most widely used e-mail platform is Google Mail (G-mail).

Asynchronous courses are often used to support synchronous ones, so the more sophisticated the LMS is, the more it enhances this blended approach. All Algerian higher education institutions adopt this approach, and thus they constantly aim to provide their faculty members with the adequate LMS. Aydin & Tirkes (2010, p. 161) list the essential features that need to be in an LMS that supports a blended e-learning approach: Videoconferencing support, whiteboard, online examination tools, private chat tool, group discussions and debate forums, multiple language support, and a calendar to track curriculum progress, among others.

The most widely used LMS both locally and internationally in the field of higher education is Moodle with over 458 million users as of May 2025 (Moodle, n.d.), next is Google Classroom with 150 million users. Both are listed as the most adopted learning management systems in higher education institutions.

#### **1.5.1. Learning Management System: Moodle**

Moodle is adopted by many universities as their Learning Management System through which teachers and students get engaged in interaction for discussion and clarification of lessons, as it is stated by Barman & Karthikeyan (2019, p. 507). The term is actually an

acronym which stands for Modular Object-Oriented Dynamic Learning Environment (Cambridge Dictionary, n.d.).

Moodle features a top-right action menu and a left-side navigation panel through which teachers can manage their course content, organization and participants. They can also create and edit course topics, enroll students in them using an enrolment key, check student assignment submissions, provide feedback, and assign grades. And most of all, they can upload various types of asynchronous material: assignment, chat, database, external tool, forum, glossary, interactive content, lesson, questionnaire, quiz, survey, wiki and workshop, book, file, folder, label, page, recordings, URL and tasks (Barman & Karthikeyan, 2019, p. 509).

#### **1.5.2. Learning Management System: Google Classroom**

Google Classroom is a Learning Management System which was launched in 2014 by Google authorities to assist traditional instruction with online digital services. Barman & Karthikeyan (2019, p. 510) stress that Google Classroom is considerably less complex than Moodle, and this is an advantage rather than a limitation, since it is preferred by many users for its practicality and simplicity.

The functionalities of Google Classroom are all linked to other Google software programs. This provides a sort of interconnection that makes it easier for the user to access the course from different spaces instead of just one. For instance, assignments are stored in Google Drive, and writing is done by means of Google Docs, Sheets and Slides. Additionally, and thanks to its connection to Gmail and Google Calendar, communication and scheduling are more fluid. Moreover, students can join a class through an automatically generated course code. They can also submit their assignments, communicate through a textbox, and attach files; to be checked and graded by the teachers eventually (Barman & Karthikeyan, 2019, p. 510).

With this being said, while EFL teachers may have access to a variety of digital tools and a decent degree of digital literacy, it is of primordial importance for them to always look for the correct ways to implement them in their online courses. Puentedura (2006) offers a framework that allows online instructors to achieve optimal integration of technological tools and methods into their synchronous and asynchronous courses.

#### **1.6. Analytical Framework: Puentedura's (2006) SAMR Model of Classroom Technology Integration**

The Substitution, Augmentation, Modification, Redefinition (SAMR) model by Puentedura (2006) offers a systematic framework for evaluating the degree of technology integration in the online classroom. He first introduced it in 2006 while working for the Maine Learning Technology Initiative (MLTI), a leading education program launched by the state of Maine, USA. Dr. Puentedura has presented the model in his global workshops and conferences, elaborated on it through his shared papers and presentations throughout the years, and mostly thanks to his participation in Apple Education events in collaboration with Apple Inc. Following that, the model has received worldwide attention, and has been adopted by many researchers in academic theses and renowned journals. Notably, Savignano (2017), in his work entitled 'Educators' Perceptions of the Substitution, Augmentation, Modification, Redefinition Model for Technology Integration' and conducted at the University of Colorado, has given a deep insight on the way teachers implement technology into their classes. He found that they strive to achieve the higher level of integration by constantly learning about the digital tools they use. Another study by Romrell et al. (2014) is entitled '*The SAMR Model as a Framework for Evaluating mLearning*', they have investigated the methods used by online teachers to optimally integrate mobile learning in their classes.

Caukin & Trail (2019, p. 48) explain the role of SAMR in guiding the online teaching experience: "The SAMR model helps teachers think about how and why they use technology

and how it can help them evolve pedagogically as they grow more comfortable integrating technology into their practice”. A brief summary of the SAMR model can be visualized in the picture bellow:

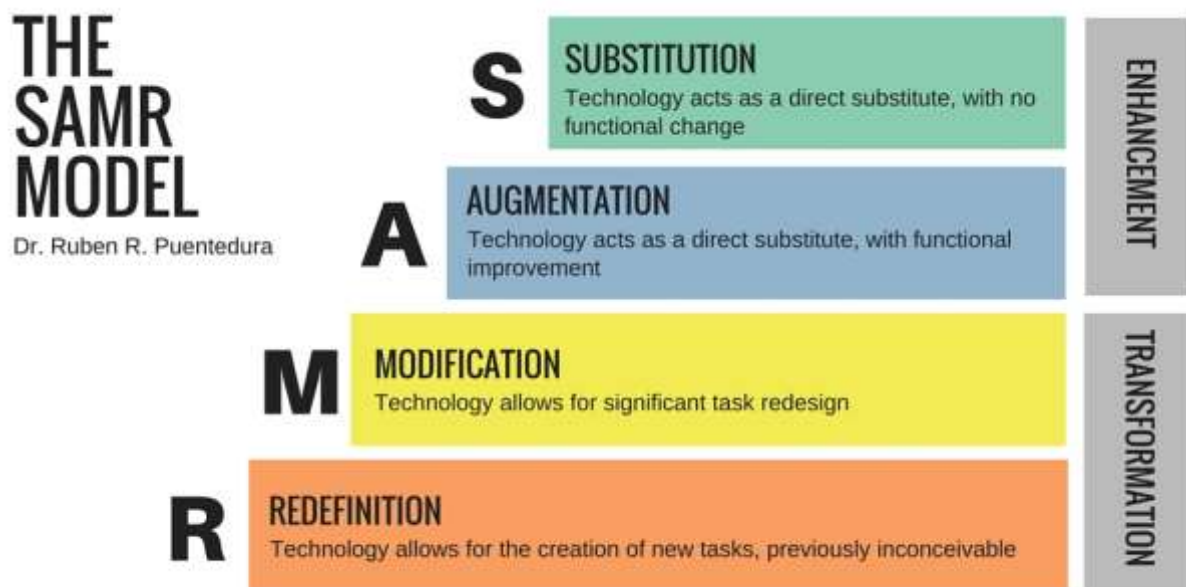


Figure 1. *Puentedura's (2006) SAMR Model of Technology Integration in Online Instruction.* Adapted from Lefflerd (2016).

As it is seen on the figure, there are four levels of technology incorporation (substitution, augmentation, modification, and redefinition) through which we can assess how electronic devices are used to ameliorate instruction in a synchronous or asynchronous online classroom. Manifestly, the SAMR model description shown in the picture deeply correlates with Bloom's (1956) Taxonomy, as they both start from the basic level of the remembering process to the higher level of analysis and critical thinking (Nakapan, 2016). Puentedura (2006) was indeed inspired by that hierarchical classification of cognitive skills. The low enhancement levels (Substitution/Modification) can be associated with the lower-order

thinking skills (Remembering/Understanding/Applying), and the high transformation levels (Modification/Redefinition) with the higher-order skills (Analyzing/ Evaluating/Creating).

So in a nutshell, the first two levels ‘Substitution & Augmentation’ are referred to as the “Enhancement” rank. It is the basic range of enhancing the teaching performance and improving the learning experience through the uses of digital tools. Whereas ‘Modification & Redefinition’ are higher levels which indicate that a rank of ‘Transformation’ has been reached, and the teaching and learning methods have been remodeled with structural changes thanks to technology.

#### 1.6.1. **Substitution**

It is the lowest rank of technology integration. The instant an online instructor starts teaching online, they are operating at the Substitution level by default. That means they are replacing traditional tools with digital tools to achieve the exact same function. There is no significant alteration in the pedagogy (i.e. the teaching approach, methods and strategies. Substitution is simply an enhancement of the experience. Hamilton et al. (2016, p. 4) give the example of “teaching in a middle school math class an instructor chooses to substitute a set of hard copy test review questions for digital versions”. Bicalho et al. (2023, p. 565) claim that despite the effort dedicated by the teacher to use this certain technology, it is still insufficient to shift the functional value of the practice. However, in their research findings, Caukin & Trail (2019, p. 48) shed light on an important remark and state that“...Using the method of substituting technology for paper, thereby giving students some choice in their medium of work, proved empowering”.

#### 1.6.2. **Augmentation**

The second level means, yet again, the substitution of traditional tools with digital tools, but with functional change this time. At this level, additional features present in the digital tools are utilized to enhance the process of teaching in ways that would not be possible

without them. Caukin& Trail (2019, p. 51) assert: “When Augmentation is used by a teacher in a classroom, the product that is created changes form to give a different picture of the learning”. It allows for the deepening of the content, and enhancement of student engagement. For instance, the teacher may use websites to present content that is updated or not available at the school library; the students are then asked to participate in the comments section of a blog or webinar (Bicalho et al., 2023, pp. 565-566).

### 1.6.3. **Modification**

Alivi, J. S. (2019, p. 6) explains that while previous levels focus on ‘learning task enhancement’, the following levels are all about ‘learning task transformation’, and this requires the involvement of higher order thinking skills. Indeed, ‘Modification’ is the level at which some transformation happens in regard to the teacher’s practice of task planning. At this level, we no longer speak of mere substitution or functional change; we rather speak of significant ‘task redesign’. Bicalho et al. (2023, p. 565) illustrate this with the example of a teacher who creates a cloud-based document and asks the students to do a collaborative editing of the material. The fact that they collaboratively use different digital applications to research, compile and defend data, from different times and spaces means that the experience is not only enhanced but also considerably modified. Reaching this level of technology integration improves the teaching experience, but it is mainly in favor of the learners’ engagement, collaborative and other ‘higher-order thinking skills’.

### 1.6.4. **Redefinition**

It is the highest level of technology integration in an online classroom. It is the complete transformation or redefinition of the teaching practice by the creation of previously-inconceivable tasks which are unthinkable without ICTs. For example, “instead of assigning a social-studies based persuasive essay, a fifth-grade teacher requires students to create and present their arguments through individually created and edited videos” (Hamilton et al.,

2016, p. 4). Examples of redefinition practices include all the instances where the teacher designs tasks based on video creation, use of AI tools, virtual reality and learning simulations, multilingual live chat platforms, gamified digital learning platforms, among other creative/transformative skills. Findings from the same study by Alivi, J. S. (2019) showed that “teachers can incorporate ICT into higher level tasks by letting students be more creative and having more practice in language learning utilizing technology”. The Redefinition level is associated with higher order thinking skills, and both teachers and students should demonstrate such skills in order to actually change the nature of teaching and learning in online settings.

## **Conclusion**

This chapter was a review of the main literature related to the research topic. It began by introducing the field of Distance Education and contextualizing it within the Algerian higher education system. It explored E-learning as a field of study, and linked to it Moore’s (1989) Theory of Classroom Interaction. It explored the concepts of Synchronous E-learning, Webconferencing, and presented Moser and Smith’s (2015) Practices for Synchronous Online Courses. Then, it explored Asynchronous E-learning and reviewed Learning Management Systems. And finally, it thoroughly explained Puentedura’s (2006) SAMR framework.



# Research Design & Methodology

### **Introduction**

This chapter details the components of the methodological framework of this research which investigates the synchronous and asynchronous e-learning tools and methods used by teachers affiliated with the department of English at Mouloud Mammeri University of Tizi-Ouzou. It comprises three main sections: the first describes the research design and method that underlie this study, the second outlines the ‘data collection procedures’ encompassing both a teacher interview and virtual classroom observation, and the third covers the ‘data analysis procedure’ and how the collected data is thoroughly explored using Qualitative Content Analysis (QCA).

### **2.1. Research Design and Method**

#### **2.1.1. Research Design**

The research design is framed as an exploratory and post-evaluative case study based on multiple considerations:

First, this research is exploratory in nature because it aims to explore the tools and practices adopted by online EFL teachers in synchronous and asynchronous e-learning environments, a topic which remains highly under-explored in the local higher education context.

Stevens and Wrenn (2013, p. 53) define the ‘Exploratory Method’ as a type of design in which the researcher is a decision maker who aims at gaining penetrating insights into an important and under-investigated issue. This type of design is heavily, and sometimes exclusively, based on the Qualitative Method since it typically relies on extracting information through literature review and interviews. Furthermore, the research does not start with predetermined outcomes; rather, it seeks to uncover patterns and practices that emerge from the collected data and the lived experiences of the teachers.

Second, it has an evaluative dimension since it seeks to systematically evaluate the extent to which the teachers' practices align with established instructional frameworks.

Michael Quinn Patton, a pioneer in the field of evaluation and studies relating to qualitative research, defines the evaluative design as “the systematic collection of information about the activities, characteristics, and outcomes of programmes in order to make judgments about the programme, improve programme effectiveness and/or inform decisions about future programming” (Patton, 2008, p. 253). He also argues that evaluative purpose is flexible in the sense that it can coexist with other research designs, namely the exploratory one. This study is specifically associated with ‘post evaluation’. The latter is defined as a research design that is concerned with measuring outcomes (knowledge, attitudes, skills, aspirations, behaviors) of programs that are particularly developed extract data about them after the program (Peters, 2020)

### 2.1.2. **Qualitative Research**

To proceed with the inquiry of this study, the qualitative method serves as the foundation for collecting data through interviews and classroom observations and then analyzing it using ‘QCA’. Due to the nature of the data being non-numerical, this method was most suitable.

Patton (2015, p. 5) coherently explains the overall objective of qualitative research: “Qualitative analysis involves interpreting interviews, observations, and documents — the data of qualitative inquiry — to find substantively meaningful patterns and themes. Doing so is an act of interpretation”. Indeed, it is generally accepted by all scholars of the field that the qualitative paradigm is all about understanding social realities and interpreting them in terms of the meanings people give to them. All of which is done in a thematic and systematic way.

## **2.2. Data Collection Procedure**

The data was elicited from the teachers' interview as well as the virtual classroom observations. It was then analyzed qualitatively to address the research problem and confirm or disconfirm the hypotheses.

### **2.2.1. Context and Sample**

This investigation spanned a period of two weeks and was carried out at the Department of English, Mouloud Mammeri University of Tizi-Ouzou, during the academic year 2025. The study's population comprises a representative sample of EFL teachers from the department who teach online modules synchronously and asynchronously. The Convenience Sampling Method was employed to select the final sample which comprises seven (7) total participants who teach 'ICTs', 'Digital Literacies', and 'Literature'. It is generally defined as a non-probability sampling method, mostly used for qualitative research, in which the researcher does not randomly select participants, but rather chooses those who are easily accessible to him/her. "Convenience sampling collects data from whoever is willing to partake in a study, is the most approachable or is, in other ways, conveniently accessible to the researcher" (Wienclaw, 2019, as cited in Scholtz, 2021, p.2). Indeed, in this study, sampling depended on the teachers' convenient availability and their willingness to participate, so the participants were those who affirmatively responded to the e-mail invitations sent to them.

### **2.2.2. Data Collection Tools**

#### **2.2.2.1. Teacher Interview**

An interview is typically known as a formal conversation in which the interviewer asks questions to the interviewee(s) to obtain in-depth answers regarding their topic of discussion. According to Richards (2001, p. 61), "Interviews allow for a more in-depth exploration of issues than is possible with a questionnaire, though they take longer to

administer and are only feasible for smaller groups”. In fact, both the number of participants and the quality of data required for this study entail the conduct of interviews more than other survey tools.

Thus, a structured interview was diligently developed to gather the data required for this investigation. It comprises three sections and a total of twenty-three questions; they were chiefly designed according to Puentedura’s (2006) SAMR Model. The first section, *‘Background Information’*, consists of three basic questions. The second section is entitled *‘Digital Tools and E-Learning Modalities (Substitution & Augmentation for Enhancement)’* and comprises ten questions. The third and last section, *‘Innovative Synchronous and Asynchronous Teaching Practices (Modification & Redefinition for Transformation)’*, includes four final questions.

Six interviews have been conducted from April 18<sup>th</sup> until April 30<sup>th</sup> with six EFL teachers from the Department of English at Mouloud Mammeri University of Tizi-Ouzou. Three face-to-face interviews took place the traditional way on the premises of the department and were audio-recorded. Moreover, three other interviews were conducted virtually at the request of the interviewees: two were synchronously held via Google Meet, and the other was done via Gmail in an asynchronous written format. That is due to their unavailability in person during the period of data collection. The verbal interviews lasted between thirty and seventy minutes

It is to note that the participants’ privacy was highly respected. The interviews were recorded with the teachers’ permission. Before the start of every interview, they were asked for their consent to record, which they willingly gave, and were reassured that their contribution will be completely anonymous.

The aim of this interview is to uncover the digital tools used by the teachers, as well as their levels of technology integration in both synchronous and asynchronous e-learning settings.

#### 2.2.2.2. **Pilot Interview**

In order for the interview to be effective, a pilot study has been conducted beforehand. Usually, 'questionnaire' is the survey tool which requires a pilot study most; however, Malmqvist (2019, p.3) argues that the piloting of qualitative interviews is equally necessary in order to modify questions that do not elicit the appropriate answers or allow the researcher to extract rich data. Thus, the interview used for this investigation has been pre-tested with the help of three online EFL teachers. Overall, they found the interview to be well-structured, and the questions were clear and intelligible, except for two that needed adjustments. One question caused confusion among the three teachers, and they all asked to get further explanation of it. So the question has been changed from "*Have you, at any point, modified your teaching practices to prompt learners to engage in innovative collaborative work?*" to "*Have you redesigned any classroom activities in a way that incites your students to collaboratively create an original digital product (e.g. video, blog, podcast, a multimedia product)?*" ,they were thankfully all able to precisely answer the latter. Moreover, there was one question which proved to be 'misplaced' based on the answers they gave. The question was: "*Can you describe how do you and your students make use of PowerPoint for synchronous and asynchronous e-learning?*" It was originally asked in the third section of the interview, yet their answers revealed that it should have been asked in the second section, thus it was placed there for more coherence. As a result, the interview became more refined and was ready to be used for the actual data collection.

### 2.2.2.3. **Classroom Observation**

Classroom observation is a reliable instrument of data collection which is widely used for the purpose of academic research in the field of ELT. Hora & Ferrare (2013, p. 1) define it as “a method of directly observing teaching practice as it unfolds in real time, with the observer or analyst taking notes and/or coding instructional behaviors in the classroom or from videoed lessons”. Indeed, classroom observation allows the researcher to evaluate the way a particular method of teaching is implemented and deduce its impact on the learners’ outcome.

The online setting of this study requires the classroom observations to be virtual. Two classroom observations, which took one hour and a half each, have been conducted through Google Meet with an L2 class then a Master 1 class, on April 13<sup>th</sup> and April 19<sup>th</sup> respectively. An observational checklist of fifteen (15) items has been carefully designed to keep track of the way the two respective teachers conducted their synchronous EFL teaching sessions in detail. The items targeted focal practices concerning the conduct of a Synchronous Course based on Moser and Smith’s (2015) conceptual model, in addition to Moore’s (1986) Model of Classroom Interaction in Online Instruction.

Moser and Smith (2015) have suggested twelve common practices, which typically frame a successful synchronous class, and teachers are recommended to follow them. These were rendered into the first twelve items of the checklist. Furthermore, Moore (1986) has introduced three types of classroom interaction: Learner–Content Interaction, Learner–Instructor Interaction, Learner–Learner Interaction. A well-designed synchronous course typically includes a balance of all three, so the last three questions revolved around a few techniques teachers tend to use in order to stimulate interaction. Such an observational checklist is useful to assess how effectively and systematically EFL teachers of the department implement online synchronous teaching methods and strategies.

Furthermore, it is worth mentioning that among the two participants who volunteered for the observation, one was also a participant in the interview. Making the number of participants as follows: six for the interview, two for the classroom observation, and seven in total. That is to eliminate any ambiguity in the later chapters.

### **2.3. Data Analysis Procedure: Qualitative Content Analysis**

Qualitative Content Analysis is “a research method for subjective interpretation of the content of the text data through systematic classification process of coding and identifying themes or patterns”, (Hsieh & Shannon, 2005). The qualitative data which was extracted from the observational checklist items as well as the answered interviews has been classified into emerging patterns to be analyzed and interpreted in textual form. Two categories emerged from the research questions. The first division, ‘Conformity of EFL Teachers’ Online Synchronous Strategies to Pedagogical Practices’, was analyzed according to three sub—categories extracted from grouping items of the observational checklist as follows: fully-displayed practices, partially-displayed practices, and unmet practices. The second division was ‘Levels of Technology Integration in the Synchronous and Asynchronous Modes’, subdivided into practices that fall under Substitution and Augmentation levels of enhancement, and then Modification and Redefinition levels of transformation.

### **Conclusion**

This chapter has thoroughly outlined the research design and methodology underpinning this study. It started off with a description of the Qualitative Approach which is the research method that has been employed. Then it has given a detailed account of the data collection procedure, context and sample, as well as the methodological instruments used to gather data. Finally, an explanation of the data analysis procedure has been given at the end.



## Presentation of the Findings

## *Presentation of The Findings*

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### **Introduction**

This double-sectioned chapter sets out the results obtained from investigating the synchronous and asynchronous digital tools and methods used by online EFL teachers at Department of English, Moumoud Mammeri University of Tizi-Ouzou. The first section analyzes the findings obtained from interviewing six (6) teachers, and the second section presents the findings of the two (2) classroom observations.

### **3.1. Findings of the Interview**

The interview was sectioned into three: *'Background Information'*, *'Digital Tools & E-Learning Modalities (Substitution & Augmentation for Enhancement)'*, and *'Innovative Synchronous and Asynchronous Teaching Practices (Modification & Redefinition for Transformation)'*.

#### **Section 1: Background Information**

This first section comprises three questions which jointly aim at evaluating EFL teachers' expertise in online teaching in an approximate way.

##### **1) How long have you been teaching EFL online?**

The six teachers' years of experience with online teaching all ranged from one to three years. This shows that the integration of e-learning courses at the department of English in Mouloud Mammeri University is quite recent.

##### **2) How experienced would you say you are with using digital tools for teaching (beginner, intermediate, advanced)?**

Two teachers ranked themselves as beginners in using e-learning digital tools, whereas the other teachers consider themselves intermediate and very comfortable with the use of LMS and digital tools for online education.

### **3) Have you received any training in the use of digital tools? Please elaborate.**

The teachers who said they were beginners affirm that they have participated in a mandatory training program about the use of digital tools in education. The latter was provided by the university, and they admitted that they solely rely on what they have learned there, as they do not really feel “*at home*” with digital literacy. As for the intermediate-level teachers, their experiences were quite unique. Teacher 1 (T1) had undergone a foreign traineeship program. Teacher 2 (T2) and Teacher 3 (T3) never underwent any formal traineeship, they consider themselves to be self-taught in terms of digital literacy. T3 reported: “*By the time I started teaching online, the formal training program provided by the faculty was over, so I missed it*”. Teacher 4 (T4) took part in many training programs across local universities here in Algeria, in addition to personal research on the domain, they were taught how to create course mind maps using software like VUE and Xmind, designing courses with the Opale software to generate paper, web, and SCORM versions, navigating platforms like Moodle and edX, and structuring online courses effectively. T1 and T4 were very content with the traineeships that they had received, and both claimed that the most useful thing they had been taught was the creation of personal digital content such as educational videos. This allowed them to benefit and assist their colleagues with new knowledge.

## **Section 2 : Digital Tools and E-Learning Modalities (Substitution &Augmentation for Enhancement)**

The questions of this section seek to explore the synchronous and asynchronous digital tools and methods used by online EFL teachers as enhancement beyond the traditional classroom.

### **4) What digital tools do you use for synchronous teaching?**

Several teachers declared that they use Google Meet. T3 uses Zoom, and T4 uses BigBlueButton incorporated into the Moodle platform. T2 explained: “*I wanted to use*

*BigBlueButton since it was integrated with Moodle, however I couldn't find a way to open the webcam, so I just went back to Google Meet it was much more user-friendly*". All teachers said that these webconferencing tools allow them to conduct live sessions with their students, share presentations, and engage in real-time discussions.

**5) What LMS and digital tools do you use for asynchronous teaching?**

Two teachers exclusively rely on Gmail for the asynchronous mode. Other teachers (T1, T2, T4) utilize the Moodle LMS to teach asynchronously.

**6) On what basis did you choose these digital tools?**

This question aims at uncovering the teachers' digital tool preferences and the reason behind their choice of said tools. The Gmail users said that their courses are mainly synchronous, so they do not require an LMS, they prefer to stick to Gmail if they ever need to send updates, assign homework, or give feedback. Google Meet was chosen by some of its users because it is simple in design, and they do not like to be "overwhelmed" by sophisticated features. Others chose it because it allows them a meeting duration that exceeds one hour and a half, the regular time for an EFL synchronous e-learning session.

LMS users chose Moodle because it is the main official platform provided by the university. They all pointed out at the fact that they like its richness in different tools and sophisticated features. The latter help them organize course materials, tests, and resources all in one place. As for T3, they enjoy using Google Classroom for asynchronous teaching because of its cool lively layout, and its simplicity. They also emphasized its practicality since it is directly connected to all Google service platforms. T3 also praises Zoom, and says that despite the limited meeting duration for free accounts, they stick to it because it is more sophisticated than Google Meet. They add: "I specifically like the virtual board option in Zoom, it allows me to share the screen and write on it at the same time".

**7) Do you use digital tools primarily as direct substitutes for traditional tools? (e.g., whiteboard, physical handouts, pens and notebooks, data show, face-to-face group work, printed tests). Or do these tools offer enhanced functions compared to their traditional counterparts?**

This question demonstrates how EFL teachers make use of digital tools to enhance the teaching-learning experience. Some teachers have shared the same opinion. The only difference between their online and conventional teaching methods is that one is done face-to-face and the other remotely. They do not think that a screen is better than a whiteboard, or that online tests bring better results than printed ones. Conversely, T1, T2, T3, and T4 have enthusiastically spoken about the techniques through which they try to make optimal use of e-learning digital tools, in order to upgrade the experience above traditional teaching. T1 said: *“I’ve always been fascinated by everything digital. When I started teaching online I immediately saw potential in all the available tools which were at hand, so I started looking into ways through which I can actually enhance the experience”*. The teachers all elaborated by answering the next question.

**8) What added features in these digital tools do you think enhance your lessons?**

**Please explain how.**

This question seeks to explore the electronic features which EFL teachers make use of to enhance the teaching-learning experience. Some teachers stated how the chatbox in a virtual synchronous classroom equals verbal communication, and how the raise-hand feature has no function beyond the physical one. However, T1 interestingly mentioned how the chatbox feature allows students to share ideas and drop comments the moment they come to mind, without interrupting the flow of the lecture. Moreover, the raise-hand feature has more potential than instructors tend to give to it. T1 explained that in a traditional classroom some of the students gave them the remark that they respond to only three participants inadvertently

every time. Fortunately, in a synchronous setting there is a panel which keeps track of the students' raised-hands by chronological order, so everyone is given an equal opportunity to participate.

T3 believes that automatic quizzes available on LMS like Moodle and Google Classroom considerably enhance the 'assessment' experience since it saves time for the teacher. Moreover it enhances the feedback experience for the students too, since they are always so hasty to see the result of their performance. T4 adds that since Moodle quizzes are time-limited, students can practice managing their time effectively during the test. *"This mirrors real-world testing situations where time management is important, and I also observed that those who completed these quizzes performed well in the first-term exam"*, they added.

T3 has mentioned the "Suggestion" feature present in Google Docs, which allows the teacher to give colored comments and remarks as annotated feedback. Moreover, T2 explicitly mentioned how the chatbox function in webconferencing platforms improves the teaching-learning experience: *"I like how I can live-share hyperlinks through the chatbox. I am able to swiftly send links for the students to view images, watch short explanatory videos, or read passages from online articles, all the while synchronously explaining those concepts to them. We discuss that support content real-time, and then quickly come back to the main content in the main software"*.

T4 affirms that while traditional handouts and notebooks serve their purpose, digital tools allow them to easily integrate multimedia content like videos, this can engage students in new ways. T4 says that they use it to measure student engagement and understanding. For students who are shy, they encourage the use of emojis as a quick and informal way to signal their understanding. For example, they can use a thumbs up emoji if they understand, or a confused face emoji if they need clarification.

**9) How do you encourage instructor-learner/ learner-learner/ learner-content interaction in a synchronous session?**

The purpose of this question is to explore the techniques through which EFL teachers stimulate interaction.

For instructor-learner interaction. All teachers responded that during the session they either invite students to ask questions, or they direct questions to them.

To encourage learner-learner interaction, T2 said: *“I purposefully drop statements that have the potential to spark debates. When I see them leaning to a position, I oppose them, in order to prompt them to discuss and back up each other against me with arguments. It works wonders every time”*.

To enhance learner-content interaction, T3 said that they use multimedia resources like videos that engage the learners to discuss the material during the session. Additionally, they ask them to reflect on their learning by responding to questions to check their understanding. Moreover, they use features like the chatbox and the raise-hand, which the students can use if they have something to contribute with.

T4 argues: *“It can be challenging to facilitate direct interaction among e-students. I just encourage them to share their thoughts with the entire class, so they can learn from each other’s ideas”*. T1 disagreed and said that in traditional settings they are generally afraid to respond to their classmates. It works best online, as they do not hesitate to correct, argue and debate thanks to the mic and chatbox. They even like or dislike with emojis when they wish to react to the speech of someone giving their thoughts.

The two following questions have a common aim, which is to discover the asynchronous format of the lessons, activities, tests, and assignments which are provided and assigned to e-learning students.

**10) How do you archive lessons for asynchronous e-learning, distribute course material and assign tests/assignments remotely?**

A few teachers said that they send assignments in the form of written text and lessons attached as PDF/Word e-handouts via Gmail. They always make sure to include instructions and remarks.

T2 said that they do not like the written format, so they prefer to record their synchronous PowerPoint presentations and send them via Google Drive to the students for asynchronous use.

T1 and T4 share all of their course materials on Moodle. They have mentioned: PDF files, OpenDoc and Microsoft Word worksheets, video URLs, MCQ/UCQ (Multiple/Unique choice questions) and different quizzes that offer automatic feedback. T3 said that they archive everything is Google Drive in the form of Google Docs files, PDFs, links, audiobooks and quizzes. Then they share them on Google Classroom, the students can access the material anytime anywhere and even download it.

**11) How do your students submit their tasks in an asynchronous format?**

For testing, T1 and T2 make use of Moodle's test and examination panel. The students can answer in textual form (paragraph or essay) or simply check boxes if it is a quiz. The teachers said that they set attempt restrictions and time limits. Textual answers are manually evaluated by the teachers, while quizzes are automatically corrected. Moreover, T4 explained that after completing their oral presentations synchronously, students submit their PowerPoint presentations via Gmail. They added: *"This allows me to evaluate the content of their slides, check the clarity of their visuals, and assess how well they have structured their information"*. As for T3, they said that their students submit their assignments in Google Classroom by transferring them from Google Drive. They use the latter to share textual files and video

presentations. The rest of the teachers said that their students simply use Gmail to send their files.

### **12) How do you monitor attendances?**

This question was asked to see if the classroom management aspect is actually enhanced in a virtual learning environment. Only a few teachers monitored attendances.

T1 said that they simply take screenshots of the list of students present in the synchronous classroom before the end of the session. And T3 said that their students comment their names under a post in Google Classroom.

T4 said that for synchronous sessions held via the webconferencing platform BigBlueButton, they rely on its built-in attendance tracking feature, which allows the instructor to view who has logged in during the session, and even sends notification alerts when students exceed the permitted number of absences set by the teacher in the platform's 'Attendance' panel. As for asynchronous sessions, they primarily use Moodle to track attendance by monitoring student activity. Moodle automatically records when students log in to access materials or participate in quizzes.

## **Section 3: Innovative Synchronous and Asynchronous Teaching Practices (Modification & Redefinition for Transformation)**

### **13) Can you describe how do you and your students make use of PowerPoint for synchronous and asynchronous e-learning?**

This question was asked to see if EFL teachers reach higher levels of technology integration with PowerPoint in an online setting. Several teachers use this tool and have answered the question.

During synchronous sessions, T4 uses PowerPoint primarily as a tool to guide the flow of the lesson and structure the content. It serves as a digital lesson plan that helps them stay organized and ensures that key points are covered in an orderly manner. They said that they

used slides to highlight important concepts, display key terms or examples, present visuals, and embed videos. As for T3, they argued: *“I believe that PowerPoint is more than just a guide, the pictures and PP effects that we include definitely help”*.

T1 and T4 have both assigned to their students the task of creating PowerPoint presentations and presenting them synchronously, before submitting them in an asynchronous format. T2 pointed out: *“I post my PowerPoint presentations in Google Drive. And I like the function of adding hyperlinked slides so that when the student clicks on it, it leads them to another resource that will be of benefit to them”*.

**14) Have you redesigned any classroom activities in a way that incites your students to collaboratively create an original digital product (e.g. video, blog, podcast, a multimedia product)?**

Only a few teachers answered with ‘Yes’. T1 once assigned to their students the task of creating a video in pairs. They asked them choose a topic related to the module, and create a five-minute video where they verbally and visually review the main concepts related to it. They were instructed to use the video editing software called “CapCut”. The instructions of the teacher included: paying attention to sound quality, the visual design and the overall production, then uploading it on YouTube as a public or unlisted video, and finally sharing its URL with the rest of the class on Moodle.

T3 also once assigned a similar task. The students were asked to use the video editing software “InShot” to create a video in pairs, where they film themselves interviewing one another about a topic of their choice. They were given similar instructions as T1’s task.

Additionally, T3 has also assigned to their Master 1 students the task of collaborating on a joint project which consisted of creating an original template using GoogleDocs, where they had to collaborate in real-time to design the template using the different digital features

of the software: digital writing tools, embedding pictures, using editing tools, and the built-in live chat feature.

**15) Do you resort to the use of real-time digital resources (like YouTube videos, zoom guest speakers, live news sites, twitter feeds for global events related to your lesson, interactive tools like Quizizz or Google Docs' collaborative writing) during your synchronous courses? If so, please explain.**

This question was asked to see whether the teachers integrate technology to their courses in a way that considerably modifies their design. Only one teacher answered with "Yes". T4 affirmed: *"I do integrate embedded YouTube videos to my lesson presentations to provide visual explanations during some of their synchronous courses"*.

**16) Do you encourage or train your students to ethically use AI-powered tools (e.g., Grammarly, QuillBot, ChatGPT) as part of their EFL e-learning?**

This question was asked to see whether teachers encourage their students to use AI since the latter is known to transform the e-learning experience.

Two teachers were rigidly opposed to this idea, and said they would never use AI for teaching, let alone encourage their students to do so. Conversely, the rest were all welcoming of this new practice, and stressed on the same remark: *"...On the condition that it be used ethically..."*

T1, T2, T3, and T4 encourage their students to use AI-powered tools ethically as aids to enhance their e-learning experience. T1 teaches their students on how to use AI tools such as 'Grammarly' and 'Quillbot' to correct their grammar and vocabulary, and claims that they are very effective in refining such skills, considering that they are EFL learners. T3 instructs their students on practical ways they can use it for exam revisions. For instance, after finishing their standard revision, they can upload all the lessons to an AI tool and ask it to

design diagrams for an easier info-retention, and quizzes to practice on. As for T2 and T4, they advise using ChatGPT for brainstorming ideas.

**17) Have you ever used technology to create a task previously inconceivable? If yes, kindly explain in which ways.**

This question directly aims at uncovering whether the teachers are able to completely redefine their teaching practices thanks to technology. Several teachers have answered with “Yes” and have explained how they do it.

T1, T2 and T3 all use AI-assistance to help design some of their course materials. T1 illustrated with a situation in which there were two lessons in the curriculum that the students claimed to be uncorrelated, they had a hard time cognitively linking one to the other. So T1 sent the two lessons to ChatGPT and asked the engine to design an essay question that will include aspects from both lessons, that will challenge the students’ critical skills.

T2 said that they use AI tools to evaluate the personal assignments they have designed. They literally ask the assistant: *“I have designed this task to be completed in forty-five minutes. Is it appropriate for intermediate EFL students? And based on the estimated time I have given them, is the assignment realistic to complete?”*

T3 teaches a new online module, so they face the problem of lack of academic resources. And because they have to design their lessons from scratch, they use the ‘Copilot’ & ‘Gemini’ AI tools, in addition to the journal articles, books and videos they might find. They state that they ask the AI assistant to suggest digital tools & resources, and ways in which they can plan this course. T3 makes notes for several days, then creates & re-structures their own lecture from their own professional perspective.

As for T4, they affirm that technology has allowed them to teach in certain ways that were not traditionally possible before, had it not been for digitization. Thanks to an online

traineeship, T4 now creates video presentations that summarize lectures. These videos are then uploaded to YouTube, and the links are shared on Moodle, making them accessible to students anytime and anywhere.

### **3.2. Findings of the Classroom Observation**

Two classroom observations have been conducted with two teachers: Teacher 1 (T1) and Teacher 7 (T7) who teach ‘Digital Literacies’ and ‘ICTs’ respectively. T1 was a participant in the previous interview, while T7 was not. Both use Google Meet as their webconferencing platform. The RIDs of the two classrooms have been provided by the teachers beforehand via e-mail, and the observations lasted over an hour each.

The aim of the observation is to collect qualitative data specific to the synchronous mode. It will reinforce the information we have previously gotten from the interview, which revolved around digital tools and the two e-learning modalities.

As a reminder, the observational scale which was used for the checklist is: **Yes** (The teacher demonstrates this practice precisely) / **No** (The teacher does not demonstrate this practice at all) / **Partially** (The teacher demonstrates the practice in an alternative way). The findings will be presented in the same order as the items appeared in the observational checklist:

#### **1) Provide a welcome message that is displayed approximately 15 minutes before class:**

**(T1=Partially/ T7=Partially)**

Both T1 and T7 have partially demonstrated this practice. On the one hand, T1 sends a reminder-mail to the students via Gmail fifteen minutes before every class, to remind them about the name of the module and the instructor, the title of the lesson as well as its duration which is around one hour and a half. On the other hand, T7 has an automated reminder set in the “Events” panel in the Moodle Calendar. So, when the course date and time comes, the

students get a private message notification that the class is about to start. The notification contains similar information.

**2) Notify class of your presence and encourage equipment checks: (T1=Yes/ T7=Yes)**

It was observed that T1 and T7 greet the students upon their arrival, they welcome every student individually. Upon the arrival of most students, and a minute before the lesson starts, the two teachers make a sound check to see if the students do hear their voices clearly. They then ask the students if there are no problems with the screen view and their mics. The students respond with the “Like” emoji, and some write “*Yes we can hear you*” in the chatbox. T7 then asks them to mute the mics. Additionally, before they start the lesson, T1 instructs the students to all activate the “captions” option. That way, all speech uttered during the synchronous lesson is transcribed real-time into English subtitles.

**3) Provide easily accessed methods to connect/enter the virtual classroom: (T1=Yes/ T7=Yes)**

Both the e-mail reminder and the Moodle notification, which T1 and T7 respectively send before every class, contain the RID or link to the synchronous classroom for the students to log in easily.

**4) Record class meetings: (T1=No/ T7=No)**

None of the two teachers record their synchronous lessons.

**5) Discourage unnecessary use of video sharing:(T1=No/ T7=No)**

The teachers do not instruct their students of this.

**6) Maintain virtual office hours:(T1=Yes/ T7=Yes)**

Both T1 and T7 state at the end of the lesson that if the students encounter any problem with the material, need further clarification or have questions to ask they may contact them through Gmail anytime.

**7) Pre-load software that will be used during class presentation:(T1=Yes/ T7=Yes)**

In their casted-screen, T1 has their PowerPoint presentation (PPP) set on the first slide, in addition to an open Chrome window set on the Quillbot AI writing assistant, as they were teaching the students how to use it. As for T7, they have a PDF file containing image diagrams, in addition to a Word Document containing the lesson in textual form. The two software systems were set into the adequate size and were set next to one another in the screen, in a way that allows students to simultaneously follow along with both.

**8) If possible have more than one monitor/display:(T1=No/ T7=No)**

Both teachers operate on one monitor. T7 faces no challenges with having one display, since the two software apps they were using were casted in a single view. But T1 is struggling to switch from one software to another. To leave the PPP and move to Quillbot in Chrome, they have to pause screen-casting during every transition, and so on.

**9) Equip your teaching/production facility with various video options:(T1=Partially/ T7=Partially)**

T1 and T7, as well as their students, all have their webcams switched off. The teacher screencasts the documents via a single camera.

**10) Use electronic textbooks and other reference materials:(T1=Partially/ T7=Partially)**

The only material used is the one displayed on the screen. T1 is using a PPP, and T7 is using a PDF file as well as a Word document.

**11) Encourage (require?) students to participate in virtual study sessions/group meetings: (T1=No/ T7=No)**

None of the teachers requested this of their students.

**12) Integrate additional software systems to augment the virtual classroom experience: (T1=No/ T7=No)**

None of the teachers showed this practice.

**13) Increase the flow of learner-content interaction by means of multimedia:(T1=Yes/ T7=Yes)**

T1 started their lesson by displaying its title and a picture right beside it. They ask the students to link the image to the title and explain how the two are related. The students soon digitally raise their hands and they all give their guesses, and try to logically build links between the two items. When six students have answered and the rest was hooked to the content, the teacher elaborates on their responses, and starts giving the lecture. Similarly, T7 displays a Word document containing various SmartArt items open alongside the Word document. They were explaining the concept by swiping through the text, afterwards, they directed the students' attention towards a SmartArt figure and asked: "*Who is brilliant enough to briefly re-explain this concept in a nutshell, based on this figure*". One student answered in the chatbox, and another verbally after raising their hand.

**14) Prompt learner-learner interaction by encouraging discussions and allowing peer feedback: (T1=Yes/ T7=Yes)**

T1 asks the learners their opinion on a certain topic related to the subject matter. Many students have raised their hands to participate and the teacher chose one of them to answer. Afterwards, the teacher asks the rest of the students to say whether they agree with the student's opinion or not. They quickly start taking stances and advancing arguments in agreement or disagreement with one another. The raised-hand option allowed the discussion to go smoothly in a very organized way.

In T7's class, a display of learner-learner interaction is seen in the chatbox, where one student wrote that they did not understand a concept the teacher has explained, so two other students dropped comments in the chatbox and tried to explain to him the best they could. The teacher approves of their feedback and says: "*Yes, that's it, thank you*".

**15) Prompt teacher-learner interaction through regular Q&A opportunities: (T1=Yes/  
T7=Yes)**

When T7 noticed that the students' participation has completely died down, they suddenly paused and said: "*We have here the word 'Stigmatisation', this is a very very interesting word to know, I doubt any of you has ever heard of it before?*" The students then started taking guesses according to the context, some clearly googled the word and put its definition in the chatbox. The teacher then added a series of questions to which the students responded, and asked them to give examples that illustrate the meaning of this word. Throughout the back-and-forth discussion, T7 made sure to give instant feedback to every student who answered, and thanked them by name with expressions such as "*very good*", "*yes, you are very close*", "*excellent*". As for T1, they were checking with their students' understanding every now and then by asking them if they have understood. The students respond with "yes" in the chatbox or with the "like" emoji.

**Conclusion**

This chapter has outlined the findings of the interview tailored for online EFL teachers at the Department of English at Mouloud Mammeri University of Tizi-Ouzou, as well as the findings of two classroom observation sessions. These results provide insights into EFL teachers use of synchronous and asynchronous tools and methods at different levels of technology integration and probe into the alignment of their synchronous teaching strategies with pedagogical practices. The following chapter is concerned with the interpretation and discussion of the said findings.



## Discussion of the Findings

## *Discussion of the Findings*

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### **Introduction**

This chapter aims at answering the research questions and testing the validity of the hypotheses set forth in the general introduction. It is devoted to the interpretation and discussion of the previously presented findings elicited from the teachers' interview and the classroom observation, based on the key literature and analytical frameworks that underpin this study. It unfolds in line with the two research questions as follows: It first examines the levels at which EFL teachers integrate synchronous and asynchronous e-learning methods as both enhancement and transformation of the teaching experience beyond traditional classroom practices, and then it evaluates EFL teachers' use of webconferencing tools in light of Moser & Smith's (2015) Best Practices for the Conduct of Synchronous Courses,.

### **4.1. Levels of Technology Integration in the Synchronous and Asynchronous Modes**

This section answers the first research question of this study. It thoroughly interprets and analyzes the results obtained from the fifteen questions of the interview. It discusses under which levels of technology integration the synchronous and asynchronous methods adopted by EFL teachers precisely fall. The pattern follows Puentedura's (2006) model, it goes from the Substitution and Augmentation levels of Enhancement to the Modification and Redefinition levels of Transformation. This framework will guide the discussion to explore the extent to which the teachers' use of digital tools upgrade the experience beyond traditional practices.

#### **4.1.1. EFL Teachers' Digital Literacy**

The first six questions of the interview gave informative insights about the relationship EFL teachers had with digital tools for e-learning. They answered questions about the types

of tools they use and their perceived competence in them. The majority ranked themselves intermediate; they are either self-taught or professionally trained to use different webconferencing platforms for online synchronous teaching (Zoom/Google Meet/BigBlueButton), and LMS for online asynchronous teaching (Moodle/Google Classroom), in addition to other digital instruments. Some EFL teachers have a tendency for sophisticated tools, since they are quite knowledgeable in their use and constantly seek to learn more about ways to enhance the experience through their unlimited functionalities. T1 expressed that when they said: *“I’ve always been fascinated by everything digital. When I started teaching online I immediately saw potential in all the available tools which were at hand, so I started looking into ways through which I can actually enhance the experience”*. Other teachers have a limited proficiency in tech-teaching, and admitted that they do not feel *“at home”* with e-learning. They did not seek to reinforce the knowledge they have mandatorily acquired from their traineeships. Moreover, when asked about the ways in which they think digital tools enhance their teaching experience, they firmly answered with *“none”*. They claimed that traditional practices are irreplaceable, and online practices do not really improve the experience in their opinion. This proves Ghounane’s (2022, p. 493) previous statement about certain Algerian teachers having *‘technophobia’* in getting involved in an e-learning setting; consequently preventing themselves from unlocking the full potential e-learning has. The rest of the teachers have unequivocally expressed their opinion that digital tools absolutely improve the teaching and learning experience in online settings.

To conclude, it can be inferred from these findings that upgrading the teaching experience beyond traditional practices to reach enhancement and transformation levels depends primarily on the teachers’ attitudes and perspectives on the use of digital tools in language instruction. EFL teachers who have negative attitudes consequently limit their perspective on e-learning and prevent themselves from leveraging their digital literacy. As

for EFL teachers who have positive attitudes towards it, their perspective is wider, which allows them to strive to achieve the best results the use of e-learning tools can offer in terms of enhancement or transformation of the teaching experience.

#### 4.1.2. **Interview Section: Enhancement Level**

##### 4.1.2.1. **Substitution**

Questions seven, eight, ten, eleven and twelve demonstrate that teachers integrate different digital functions which they believe may enhance the teaching-learning experience.

Beginner-level teachers believe that the ‘chatbox’ and ‘raise-hand’ features act as a mere replacement to their traditional counterparts, and state that there are no differences or improvement whatsoever. This is refuted by Caukin & Trail (2019, p. 48) as they have found following their investigation that “...Using the method of substituting technology for paper, thereby giving students some choice in their medium of work, proved empowering”. This emphasizes that even the lowest level of technology integration can improve the overall experience, which is supported by the following teachers’ substitution acts.

Another teacher said that they use the “Suggestion” feature present in Google Docs, which allows the teacher to give colored comments and remarks as annotated feedback. This serves the same function as the traditional practice of correcting students’ assignments with the use of highlighters, pens and papers, with enhanced nuances such as organization and practicality. Moreover, another teacher affirms that while traditional handouts and notebooks serve their purpose well, digital tools allow them to integrate multimedia content into their synchronous lessons, such as pictures and videos to engage the learner better. This is similarly done in traditional settings via data-shows where the teacher projects different types of multimedia to support the face-to-face course. Furthermore, the practice of assigning tasks in the form of written text and lessons attached as PDF/Word e-handouts via Gmail, like it is done by some online EFL teachers, does not differ much from handing out tangible paper

assignments the conventional way, the function is practically the same. Additionally, the question of monitoring attendances was asked to see if the classroom management aspect is actually enhanced in a virtual learning environment. Some teachers take screenshots of the list of students present in the synchronous classroom before the end of the session, another one asks their students comment their names under a post in Google Classroom. This does not show any functional improvement in classroom management.

These findings align with Bicalho et al. (2023, p. 565) claim that despite the effort dedicated by the teacher to use a certain technology, it is still insufficient to shift the functional value of the practice. All things considered, these practices reflect the ‘Substitution’ level because there is no significant alteration in the pedagogy, or the teaching approach and methods, and there is no higher-order skills being put into practice at this level, as it was outlined by Puentedura (2006).

#### 4.1.2.2. **Augmentation**

The previous questions additionally revealed another level of technology integration attained by EFL teachers. Some teachers argued that the chatbox, reaction icons and raise-hand functions have more potential than they are actually attributed. One teacher stated that the way chatboxes allow students to share ideas and drop comments the moment they come to mind, without interrupting the flow of the lecture is a great upgrade to traditional verbal communication. Indeed, in traditional settings students are limited in regards of ‘what’ and ‘when’ to speak, the teacher does not allow talking unless necessary in order for the lesson not to be disrupted. The chatbox’s function is thus augmented in an online setting in that regard. Similarly, the use of reaction icons by shy students as a quick and informal way to express themselves before the teacher and their classmates is affirmed to be highly effective. Emojis substitute non-verbal communication which usually happens between a learner and their teacher in a traditional setting. In the latter, a nod or a confused face by a student may often

go unnoticed by teacher; however, in a synchronous class, sending a “like” or “confused face” emoji pops up in the screen for everyone to see. This adds functional improvement since it allows the teacher to gauge the students’ understanding more efficiently. Moreover, the raise-hand feature which is linked to a panel that keeps track of the students’ raised-hands by chronological order, allows the teacher to give all learners an equal opportunity to participate.

Furthermore, EFL teachers praised the automatic quiz feature available on LMSs like Moodle and Google Classroom. They said that it considerably enhances the ‘assessment’ experience since it saves time for the teacher. Others mentioned how it can enhance the feedback experience for the students too, since they can instantly self-assess their performance based on the given results. Indeed, it was observed that the functional augmentation which automatic quizzes bring about to the assessment and feedback experience actually bear enhanced results. One teacher stated: *“This (automatic quiz) mirrors real-world testing situations where time management is important, and I also observed that those who completed these quizzes performed well in the first-term exam”*.

Furthermore, some EFL teachers ask of their students to present oral PPPs in synchronous courses, and then later on submit them asynchronously via Gmail and Google Classroom, to be corrected in terms of *“clarity of their visuals and ... how well they have structured their information”*, as it was stated a teacher. This displays a functional enhancement to traditional oral presentation tasks. Feedback is given on digital and visual aspects, and the presentation can be archived for further learning purposes.

Finally, while the previous teachers could not show functional improvement in classroom management practices, T4 actually achieved that thanks to the built-in attendance tracking feature in Moodle. The latter does not only allow the instructor to view students’ login and interaction activity for both synchronous and asynchronous courses, but also sends

notification alerts when students exceed the authorized number of absences set by the teacher in the 'Attendance' panel. This takes the function of attendance monitoring a step further.

These findings suggest that the line between the Substitution and Augmentation levels actually depends on the way EFL teachers make use of the additional features digital tools offer. Two teachers can use the exact same tool, and one would still be at the substitution level, while the other has reached functional augmentation. This supports the previous findings' discussion as on how EFL teachers' digital literacy accounts the most for their upraise in their enhancement levels of technology integration.

#### **4.1.3. Section of the Interview : Transformation**

##### **4.1.3.1. Modification**

Question ten, thirteen and fourteen demonstrate that some teachers do not restrict themselves to assignments in the written format. One stated that they prefer to record their synchronous PowerPoint presentations and send them via Google Drive to the students for asynchronous use. Two others have been able to redesign classroom activities in a way that requires of their students to collaboratively create an original digital product. The students were asked to create PowerPoint presentations as well as filmed and edited videos and present them synchronously, before submitting them in an asynchronous format. Additionally, another teacher made their students collaborate on a joint project which consisted of creating an original template using Google Docs. The collaboration was real-time and done with digital features: using electronic writing tools, embedding pictures, and the built-in live chat feature. This aligns with Alivi's (2019) findings which showed that 'learning task transformation' requires the involvement of higher order thinking skills. Indeed digital task modification involves analysis, evaluation as well as creation. Such innovative tasks are in parallel with simple collaborative tasks in a face-to-face meeting; however, the features that actually modify and thus transform the tasks are the inclusion of hyperlinked PowerPoint

slides that get the students to different resources in an instant, as well as the real-time collaboration by use of electronic features, and its submission on asynchronous learning platforms for further learning opportunities. All these features qualify these teaching practices displayed by online EFL teachers to reach Puentedura's (2006) Modification level of technology integration.

#### 4.1.3.2. **Redefinition**

Findings of the rest of the interview questions showed that EFL teachers redesign some of their tasks. While two teachers opposed this practice, four teachers approved of using AI tools such as Quillbot, Grammarly for purposes like students' self-assessment, brainstorming and revision. The teachers themselves affirmed that they ethically use AI-powered tools such as ChatGPT, Copilot and Gemini as assistance in task design. They use them to design lectures, quizzes, essay questions and to do a self-evaluation of personal assignments that they have designed. More over, one teacher creates educational videos which are to be uploaded to YouTube, and the links are shared on Moodle, making them accessible to students anytime and anywhere. All of these suggest a complete transformation of teaching practices, they display peak creativity in using technology for the realisation of tasks which were unthinkable before such technologies. This aligns with the findings of a previously mentioned study by Alivi, J. S. (2019), which showed that "teachers can incorporate ICT into higher level tasks by letting students be more creative and having more practice in language learning utilizing technology". Thus, some EFL teachers do reach the highest level of technology integration by redefining task design in ways that were previously unconceivable.

To conclude, the discussion of the findings of the interview shows that digital literacy is at the core of technology integration in online classrooms. The more digitally literate the teacher is, the more innovative their teaching practices get. Moreover, the

transition from the lower levels of Enhancement up to the highest levels of Transformation in the EFL e-learning setting sits on the teachers' thinking skills. The higher their creativity gets, the more the teaching and learning experience is improved. Furthermore, the findings of this study clearly show that most EFL teachers' practices fall under the Substitution and Augmentation levels, the Modification and Redefinition levels are less achieved. This aligns with previous findings from international studies, such as the one by Al-Khalidi & Nizwa (2021) which showed that teachers integrated technology into their classrooms mainly at the lower levels of 'Substitution' and 'Augmentation', and the advanced levels of 'Modification' and 'Redefinition' of digital task re-design were rarely reached. Thus, this answers our first research and confirms the initial hypothesis that EFL teachers at Department of English in Mouloud Mammeri University of Tizi-Ouzou integrate synchronous and asynchronous e-learning methods as both enhancement and transformation of the teaching experience beyond traditional classroom practices.

#### **4.2. The Conformity of EFL Teachers' Online Synchronous Strategies to Pedagogical Practices**

This section answers the second research question by analyzing the results obtained from the fifteen items of the observational checklist, in addition to the ninth question from the teachers' interview. It discusses which practices were fully displayed, and which ones were only partially displayed, and finally those which were completely unmet during online synchronous courses.

##### **4.2.1. Fully-Displayed Online Synchronous Practices**

The findings showed that seven established practices were fully adopted by EFL online teachers exactly as they should. First, the two teachers did make sure to notify the class of their presence, which was the second best practice for a synchronous course as prescribed by Moser & Smith (2015). The teachers did so by greeting every student by name upon their

arrival. The number of the attendees was noticeably small, it did not exceed ten for each session. Right before class started, they did a sound check and made sure equipment was all set from the students' side. The students responded with "Like" reaction icons as well as affirmative comments in the chatbox. The display of this practice allows the synchronous session to begin smoothly with no interruptions later on.

Second, the two participants did provide easily accessed methods for their students to enter the virtual classroom. T1 and T7 both made sure to electronically communicate to all the students the link or RID to their virtual Google Meet classrooms before the start of every lesson. Implementing this third practice suggested by Moser & Smith (2015) has proven to be very effective, as students were all able to join the session on time.

Third, both teachers maintained virtual office hours, as they would in a traditional setting. They declared to their students that if further clarification is needed, they could reach out via Gmail. So, the students were allowed additional contact in case they needed instructor guidance for any problem that they might encounter. This goes in line with the aspect of learners seeking instructor help for problems they find difficulty in solving alone, which Moser & Smith' (2015) have adapted from Vygotsky's (1978) ZPD theory, as it has been previously reviewed in the second chapter.

Fourth, both teachers made sure to respect the practice of pre-loading the software to be used during class presentations as it is the seventh practice advised by Moser & Smith (2015). T1 had their PPP and Chrome window set ready, and T7 had their PDF and Word files set in the right size and position before class begins. This reflects good classroom management from the online teachers, as it minimizes any technical errors that may delay the class.

Fifth, the flow of learner-content interaction was indeed increased by means of multimedia. Both teachers displayed judicious strategies in applying this practice. T1 incited

the students to engage in a challenging cognitive process with the content when they asked the students to guess the link between the picture and the title of the lesson. The challenge to build a link between the multimedia displayed got the students curious and spiked their interest for the content of the lesson. Similarly, T7's use of a diagram incited the students to interact with the content. Instead of just passively listening to the teacher's explanations through the PDF, they were asked to interpret the diagram based on the teacher's previous speech, which they attempted to do. This aligns well with the general principles Moore (1989) has set for a learner-content type of interaction, where he affirmed that the teacher needs to provide reasonably thought-provoking materials that will hook the student to the content of the lesson, rather than bore them.

A sixth practice which has been successfully demonstrated by the teachers was to prompt learner-learner interaction by allowing discussions that stimulate peer feedback. T1 made the students take stances to support or counter argue in response to a student's opinion. The teacher thus stimulated a classroom discussion that turned into a debate; the students were responding to each other while trying to convince one another. This confirms Moore's (1989, p.3) statement where he claimed that in the case of adult learners, inter-learner interaction is mainly prevalent in peer discussion and analysis. Moreover, T7 positively acknowledged the students' live responses to each other in the chatbox to answer the question of a student who needed clarification. This shows that interaction among learners is indeed less challenging in online settings than it is in face-to-face classrooms as it was proclaimed by Moore (1989). Because in a traditional setting, discussions which do not happen under the supervision of the teacher soon turn into chaos in the classroom. Thanks to live-chatting in synchronous courses, peer feedback can be done discretely, productively and without unnecessary chit-chat.

The seventh and last practice which was demonstrated precisely like it was suggested is the prompt of teacher-learner interaction through Q&A opportunities. When T7 noticed that the students' participation has died down, they suddenly paused and said: *"We have here the word 'Stigmatisation', this is a very very interesting word to know, I doubt any of you has ever heard of it before?"* They picked up this unfamiliar concept and embellished it by emphasizing its importance, and then proceeded to claim that they had doubts that any of them knew its meaning. In such a way, the teacher purposefully challenged their knowledge, in order to make them want to show that they actually know it. This has successfully sparked their competitive spirit, and each student tried to show the teacher that they are the "one" who actually knew this "unfamiliar" word. This technique stimulated a back-and-forth discussion between the instructor and learners. Furthermore, T7 ensured that the students stay engaged by giving them instant positive feedback using expressions like *"very good"*, *"yes, you are very close"*, *"excellent"*. Similarly, T1 checked if their students understood by frequently asking them questions along the course.

EFL teachers who participated in the interview also explained that they respect this practice well, it was shown in their answers to the ninth question about the techniques they use to stimulate Moore's (1989) three interactions. For instructor-learner interaction, they all invite students to ask questions, or they direct questions to them. T2, for instance, also stimulates debates, as they have previously reported: *"When I see them leaning to a position, I oppose them, in order to prompt them to discuss and back up each other against me with arguments"*. Moreover, some stated that they use multimedia resources like videos and other multimedia to enhance learner-content interaction. These results align with Moore's (1989) statement on e-learning techniques considerably facilitating interaction in virtual classrooms compared to traditional ones.

T4 was the only one to disagree: *“It can be challenging to facilitate direct interaction among e-students. I just encourage them to share their thoughts with the entire class, so they can learn from each other’s ideas”* .This was counter-argued by the other teachers’ experiences which support Moore’s (1989) previously-stated claim. Indeed in virtual settings, students feel more outspoken and free to share their opinion behind screens, they do not hesitate to correct, argue and debate thanks to the mic, chatbox and even reaction icons.

These findings denote that EFL teachers use varying techniques to engage their learners. Teachers who are skilled in aligning their techniques in accordance with their learners’ cognitive and affective needs obtain satisfying results.

#### **4.2.2. Partially-Displayed Online Synchronous Practices**

There were three (3) practices which were not precisely displayed as they were indicated in the checklist items, but were rather demonstrated in an alternative way. First, the teachers all routinely send electronic reminders to their classes via Moodle’s automated calendar thanks to notifications, and via e-mail respectively; with a light description of the course. This strategy serves the same purpose as the first practice Moser & Smith (2015) have advocated; which is a the display of a welcome slide in order for the students to recognize their course upon entry. In fact, it can be argued that the two EFL teachers took this practice a step further thanks to the automated reminders sent to every student individually for them to access the class. Second, a practice which was not adequately displayed was equipping the teaching or production facility with various video options. Moser & Smith (2015) suggested having more than two cameras. They take for granted that a webcam of the ‘talking head’ is always activated during any synchronous course, so they advise having a secondary one to ‘support’ their teaching. Ironically, both EFL teachers had their personal webcams off as they consider that the document camera is the necessary one to present printed materials pertinent

to the class topic. And this might be true for the context of electronic language teaching, the modules taught synchronously by these teachers primarily require the use of textual digital material; however, the instructor's presence still needs to be visually felt by the learner in order for his/her to socially connect and built more trust in their teacher. A third practice ,which was not precisely demonstrated as it should have been, is the use of various resources. The only material used is the one displayed on the screen; the teachers did not really make use of extraneous resources to teach during the synchronous session. They prepared support material such as the live AI-tool practical demonstration, and a PDF multimedia file, but this practice could have been better demonstrated. What Moser & Smith (2015) suggest is having an electronic textbook shared beforehand for the students to annotate and highlight from, yet EFL teachers choose to only share the lesson material in its asynchronous format after having synchronously presented it live. Not many instructors realize that the students could have followed with the lesson better had they been able to tangibly interact with the digital material, rather than be limited to simply follow it with their other senses.

#### **4.2.3. Unmet Online Synchronous Practices**

There were five (5) recommended practices which were completely unmet during the observations. None of the teachers recorded their synchronous lessons as Moser & Smith (2015) stressed. Respecting this practice would have allowed students to asynchronously access and review the content at their convenience, in case they had not been able to follow well through the live session. Indeed, in a previously mentioned research, Amity (2020) showed how combining synchronous and asynchronous modes, also called 'hybrid e-learning', is the approach which bears the most optimal results in an online course.

Furthermore, another unmet practice was the discouragement of unnecessary use of video sharing so as not to overcrowd the screen and overwhelm the students. The teachers did not instruct their students of this, simply because they did not feel the need to. This sheds light

on another shortfall of EFL synchronous classes, which is that students are relatively passive in output in terms of sharing material with the instructor and their other classmates. It would have been more enriching for the class had the students been incited to share support material through their screens too.

A third unmet practice is having more than one monitor or display. While one teacher did not encounter problems with operating on one monitor since they were skilled in sizing and display, the other struggled with having to turn screen-casting off whenever they had to transition to another software. Moser & Smith (2015) have suggested this practice to avoid such turbulences. And this aligns the previous claim findings of Benkhider & Kherbachi (2020, p. 341) on deficiency in digital literacy being one of the obstructions teachers face most in e-learning settings here in Algeria.

A fourth practice which has not been observed was the encouragement of students to participate in virtual study sessions/group meetings. Moser & Smith (2015) state that one of the weaknesses of the synchronous e-learning modality is that the student is often isolated from his or her peers until the next session, and the creation of breakout rooms for collaborative work is essential in e-learning. It is important to note that, however, the absence of this specific practice during the observed lectures does not imply their complete absence at the level of the online setting, as it was proven otherwise in the results of the interview which will follow later.

The fifth practice which was completely absent was the integration of additional software systems to augment the virtual classroom experience. None of the teachers supported the use of external applications of the students' own choosing. They all relied on formal webconferencing tools they deemed fit.

The grouping, analysis and discussion of the findings above showed that online EFL teachers displayed various synchronous teaching practices, at varying degrees, for various

reasons. The majority of practices has been precisely and successfully demonstrated by the teachers as it was recommended by Moser & Smith (2015) in their ‘Best Practices for Online Synchronous Courses’, and guided by Moore’s (1989) techniques for stimulating the three types of classroom interaction in an online setting. These seven practices which were fully displayed by EFL teachers reflect their awareness of theory-driven e-learning. It suggests that a certain level of pedagogical awareness combined with appropriate e-learning training programs has allowed them to develop their digital literacy to a decent degree. The latter is the backbone of their conduct of online courses. Moreover, the three practices which were partially demonstrated in alternative ways reflect online EFL teachers’ ability to adapt to the needs of a synchronous class despite not fully adhering to established practices. Finally, five practices were completely unmet despite their importance and the emphasis e-learning experts put on them, due to lack of experience and in-depth knowledge about synchronous e-learning theories. Such findings align with Bellatreche & Alloti’s (2020) previous research findings which directly sync e-learning practices to ‘pedagogical depth’, or the theory-informed design of instructional content and practices for active teaching and learning. To conclude, this discussion answers the second research question and confirms the hypothesis that EFL teachers’ use of webconferencing tools moderately aligns with pedagogical practices recommended for synchronous courses.

## **Conclusion**

This chapter laid out a discussion and interpretation of the findings obtained from the data collected through the classroom observation and interview, in light of Puentedura’s (2006) SAMR Model of Technology Integration in Online Instruction, Moser & Smith’s (2015) theory of Best Practices for Online Synchronous Courses, in addition to the literature review. It has answered the two research questions and has confirmed the validity of the hypotheses set forth in the general introduction. The analysis of the findings confirmed that

the integration of synchronous and asynchronous e-learning methods happen at the level of enhancement and transformation with varying degrees, and that EFL teachers' strategies moderately align with established pedagogical practices.



# General Conclusion

## *General Conclusion*

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The dissertation at hand has examined the effectiveness of synchronous and asynchronous e-learning methods and tools utilized by online EFL teachers affiliated with the Department Of English at Mouloud Mammeri University of Tizi-Ouzou.

This research has been conducted with two objectives in mind: First, to explore the extent to which teachers' use of synchronous and asynchronous methods improve the classroom experience beyond traditional practices; second, to evaluate the conformity of the teachers' online synchronous practices to pedagogically established strategies endorsed by e-learning experts. It was guided by two analytical frameworks: Puentedura's (2006) 'Substitution, Augmentation, Modification, Redefinition' Model of Technology Integration into Online Instruction, in addition to Moser & Smith's (2015) theory of Best Practices for Online Synchronous Courses.

This evaluative-exploratory case study employed the Qualitative Method due to the non-numerical nature of the data. The procedure of data collection has been carried out by means of two instruments: a structured interview conducted with six (6) online EFL teachers, and two (2) classroom observations. The participants were chosen through convenience sampling, and the collected data has been thoroughly analyzed using Qualitative Content Analysis.

The findings of this study show that EFL teachers' use of webconferencing tools moderately aligns with pedagogical practices recommended for online synchronous teaching. Nonetheless, there is more room for them to improve in this area by seeking pedagogical depth in e-learning matters, and adopting theory-driven practices suggested by experts in the field.

Moreover, the findings of this research aligned well with the findings of international studies, in that EFL teachers mainly operate at the level of Substitution and Augmentation,

and very few reach the Modification and Redefinition levels. Additionally, their synchronous and asynchronous methods and tools for online teaching depend heavily on their digital literacy. Therefore, it holds implications for both teachers and students. Teachers may get insights about effective synchronous and asynchronous methods of online teaching, as well as practices established by specialists of the field. They may learn from the shortfalls of some methods and benefit from the participants' innovative techniques through which they displayed their creativity in classroom technology integration. Furthermore, students may benefit from this investigation as it was done from the teachers' point of view, they may discover novel ways to use digital tools and integrate their features into their e-learning journey.

This study was no exception in the encounter of limitations. The limited population was the first obstruction on the way. The number of online EFL at the department of English at Mouloud Mammeri University of Tizi-Ouzou is relatively small, add to it the data collection procedure which was carried out in a restricted period when most teachers were unavailable due to the second term exams. Consequently, only two classroom observations have been conducted, thus limiting the generalization of this research. Furthermore, the lack of open access academic resources was quite a hindrance.

Despite the limitations, this study could open up new doors for further research. The educational field in Algeria is quickly evolving in digitization; new tools and methods constantly emerge, so does the need for further investigation, with other technology integration theories. Investigating the topic from a students' point of view would bring new insights that could complement the ones obtained from this investigation. An exploration of EFL students' perceptions and engagement with synchronous and asynchronous digital tools will provide a more holistic understanding of the effectiveness of e-learning methods.

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# **Appendix 1**

## **Teachers' Interview**

### **Section 1: Background Information**

- 1) How long have you been teaching EFL online?
- 2) How experienced would you say you are with using digital tools for teaching(beginner, intermediate, advanced)?
- 3) Have you received any training in the use of digital tools? Please elaborate..

### **Section 2 : Digital Tools and E-Learning Modalities (Substitution & Augmentation for Enhancement)**

- 4) What digital tools do you use for synchronous teaching?
- 5) What LMS and digital tools do you use for asynchronous teaching?
- 6) On what basis did you choose these digital tools?
- 7) Do you use digital tools primarily as direct substitutes for traditional tools? (e.g., whiteboard, physical handouts, pens and notebooks, data show, face-to-face group work, printed tests). Or do these tools offer enhanced functions compared to their traditional counterparts?
- 8) What added features in these digital tools do you think enhance your lessons?
- 9) How do you encourage instructor-learner/ learner-learner/ learner-content interaction in a synchronous session?
- 10) How do you archive lessons for asynchronous e-learning, distribute course material and assign tests/assignments remotely?
- 11) How do your students submit their tasks in an asynchronous format?
- 12) How do you monitor attendances?

### **Section 3: Innovative Synchronous and Asynchronous Teaching Practices**

#### **(Modification & Redefinition for Transformation)**

- 13) Can you describe how do you and your students make use of PowerPoint for synchronous and asynchronous e-learning?
- 14) Have you redesigned any classroom activities in a way that incites your students to collaboratively create an original digital product(e.g. video, blog, podcast, a multimedia product)?
- 15) Do you resort to the use of real-time digital resources (like YouTube videos, zoom guest speakers, live news sites, twitter feeds for global events related to your lesson, interactive tools like Quizizz or Google Docs' collaborative writing) during your synchronous courses? If so, please explain.
- 16) Do you encourage or train your students to ethically use AI-powered tools as part of their EFL e-learning?
- 17) Have you ever used technology to create a task previously inconceivable? If yes, kindly explain in which ways.

## Appendix 2

### Observation Checklist

Date:

Session number :

Time:

**Legend:**

(SOC) = Synchronous Online Course

- Yes = The teacher demonstrates this practice precisely
- No = The teacher does not demonstrate this practice at all
- Partially = The teacher demonstrates the practice in an alternative way

Best Practices for the Conduct of an (SOC)	Yes	No	Partially
Provide a welcome message that is displayed approximately 15 minutes before class			
Notify class of your presence and encourage equipment checks			
Provide easily accessed methods to connect/enter the virtual classroom			
Record class meetings			
Discourage unnecessary use of video sharing			
Maintain virtual office hours			
Pre-load software that will be used during class presentation			
If possible have more than one monitor/display			
Equip your teaching/production facility with various video options			
Use electronic textbooks and other reference materials			
Encourage (require?) students to participate in virtual study sessions/group meetings			
Integrate additional software systems to augment the virtual classroom experience			
Prompt learner-learner interaction by encouraging discussions			
Prompt teacher-learner interaction through Q&A opportunities			
Increase the flow of learner-content interaction by means of multimedia			

(Adapted by Moore, 1989; Moser & Smith, 2015)