# Teachers' Perception of Distance Learning during the Covid-19 Pandemic: The Moroccan High School as a Case Study

Abdelkrim Mouaziz

Maha El Biadi

mouaziz.karim@gmail.com

maha.elbiadi@usmba.ac.ma

The CREDIF Laboratory

Laboratoire: Cultures, Représentations, Education, Didactique et Ingénierie de la Formation Faculty of Letters and Human Sciences Dhar El Mahraz, Sidi Mohamed Ben Abdellah University, Fez, Morocco

Abstract— Due to the rapid spread of Covid-19 in Morocco and other corners of the globe, several countries have resorted to the implementation of distance education as an alternative to guarantee learning continuity and save the academic year. Laying the ground for an effective online learning environment was a noticeable challenge for both Moroccan teachers and students, especially those underprivileged ones. Given the limited availability of information technology tools, distance learning in Morocco is not quite appealing and it is not well-encouraged by a number of practitioners. In this regard, the present paper aims to investigate the extent to which Moroccan high school teachers are satisfied with the implementation of online learning. It also endeavors to question the impact of distance education on students' learning. Besides, the present study attempts to raise and answer a set of research questions like: What are the challenges encountered by EFL teachers in dealing with distance learning? What are the types of online platforms used by those teachers? What is the impact of distance education on students' learning? And what are the teachers' perception of this type of learning? To answer questions, both quantitative and qualitative approaches are employed. The Former consists of the use of questionnaires which are administered to high school teachers adopting online learning. The latter takes the form of an interview that is carried out with the same teachers. The rationale behind is to dig further in their teaching experiences and obtain insightful data regarding their beliefs as well as perceptions of online learning. A close analysis of the findings revealed that the majority of teachers face numerous challenges when conducting distance learning such as students' lack of interest, connection issues, etc. Another obtained result showed that a huge number of teachers were frustrated when delivering their lessons

because of the limited number of attendees. **Keywords**—Covid-19, Distance education, Distance learning, Distance teaching, ICT, ITQANE, Telmid-Tice.

# I. INTRODUCTION

Similar to other countries in the world impacted by the abrupt outbreak of Covid-19 and as a way to fight this pandemic, Morocco has strived to impose various measures to avoid a dramatic calamity, especially in vital sectors. With regard to education, the Moroccan Ministry of Education has struggled to implement new educational policies in an attempt to save the academic year. This includes the launching of several online projects and platforms such as Microsoft Teams to ensure the continuity of learning for Moroccan students. It is noteworthy that the adoption of distance teaching has been an inevitable stage in the field of education. Hence, the government has directed the attention of both public and private schools to contribute to the facilitation of this new update (distance teaching) through incorporation of Information Communication Technology (ICT). This online experience was meant to help students follow their studies and avoid an educational blockage. However, this sudden initiative was not totally successful and, thus, it was doomed to failure. Generally, this can be explained due the fragile nature of the educational system, the unreadiness of schools and lack of training on the part of teachers. Therefore, the present paper aims to investigate distance teaching in Moroccan EFL classes. It also endeavors to unpack the major challenges encountered by teachers in conducting this online teaching experience. This present paper is divided into 5 parts. The first part is dedicated to a general introduction, which provides a general overview about the way Morocco has shifted to distance teaching to guarantee the continuity of the school year and

avoid blockage. The second part is devoted to define distance education and discuss previous related works in the field. The third part is concerned with the description of the research methodology adopted, namely the research objectives, research questions, research hypotheses and design. It also attempts to explain how the study is carried out by giving a clear idea about the research process and the participants targeted. The fourth part focuses on the analysis of the main findings. Last but not least, part 5 is devoted to the discussion of the obtained results by making some general conclusions.

#### II. THEORITICAL CONTEXT

It is obvious that distance learning has triggered a tremendous controversy in Morocco particularly during Covid-19 pandemic. It is a revolutionary tool that has suddenly changed our perception of education and offered great benefits to Moroccan teachers and students. In fact, distance learning can be an essential locomotive that brings about change in the educational system, improves the quality of the teaching-learning process and orients Morocco into a more digitalized world of information technology. It also serves as an unavoidable alternative that ensures learning for Moroccan students and mitigates the loss of education in the country. According to Belanger and Jordan (2000), distance education fosters flexibility and promotes life-long learning. It follows that distance learning is an extension to traditional-based classes where teachers and learners are expected to try new teaching-learning experiences and increase their chances for professional development and autonomous learning respectively. In the same vein, Hafa (2020) indicates that distance teaching is totally different from face-to-face courses and its importance resides in granting learners the opportunity to participate actively in the process of interaction, construct meaning and reflect on their progress. Besides, it allows them to feel comfortable and develop their critical thinking skills. This means that in online communication, students do not have to pay attention to the amount of time or the physical barriers which might imped their access to learning. Hence, distance learning could largely contribute to the democratization of education by enabling learners to carry on their learning regardless of the force of circumstances. In an attempt to account for the abrupt need of distance learning, the Moroccan Ministry of Education has placed a huge effort in this context. This is manifested in directing the attention of national channels towards educational programs for all levels during lock down. Apart from that, the Ministry has offered several learning platforms where students can benefit from an array of content-based programs and lessons such as Telmid-Tice,

Google Classroom and Microsoft teams. The purpose behind such a step is to avoid wasting school time and save the academic year. Yet, despite the role of distance learning in sustaining education, there are plenty of challenges hindering its effective implementation. In this respect, Sadeghi (2019) claims that there is no clear and effective approach to distance learning. Similarly, Bouziane (2019) argues that distance education is a complex issue and it is not viewed from a consistent angle on the part of decisionmakers. As a result, this makes its adoption in the educational system challenging. Article 10 in the National Charter of Education (1999) insists on the incorporation of ICT in learning to familiarize students with digital tools and platforms, enhance their interaction and provide them with better learning opportunities. For instance, Genie, which is a 3-year program, was introduced by the King Mohamed VI in 2005 to promote digital learning and facilitate the task for Moroccan teachers to deliver their courses. ITQANE (Improving Training for Quality Advancement in National Education) was another launched online program with the purpose of offering distance education and teacher training. This remarkable shift led to a new training program known as Internet-Based-Training Network for Quality in Education (RAFIQE). The accomplishment of this latter was based on the collaboration between ITOANE participants. Therefore, it can be stated that there should be a strong connection not only between technology and content construction, but also pedagogy for Moroccan students' benefits. If we consider teacher training in Moroccan schools with regard to distance teaching, we can say that it is insufficient by all means. This is because many teachers lack the necessary skills to deal with technological tools. They have poor knowledge when it comes to the integration of ICT in their classrooms including interactive-boards, software and other learning platforms. However, one cannot put the blame on teachers only for their unreadiness since there is another issue related to the lack of equipment such as the absence of internet connection in both institutions and homes. Consequently, this hinders the success of distance teaching and impedes its effectiveness in Moroccan education. Besides, Mumtaz (2000) claims that "teachers' beliefs about teaching and learning with ICT are central to integration". This means that if teachers perceive the incorporation of technology positively, they are more likely to alter their vision about its adoption in their classroom practices. Additionally, Hutchison and Reinking (2011) state that students' learning cannot be supported if teachers are not well-knowledgeable about the necessary skills to use ICT tools effectively. Several studies have been conducted in this respect. For example: (Messoudi, 2012, as cited in

Bachiri, 2020) investigated ICT and its infrastructure in both Moroccan public and private schools. More specifically, she attempted to investigate the impact of ICT implementation on the teaching-learning process and how it is perceived by both teachers and students. The findings of the study revealed that some subjects such as Physics, Mathematics and Biology entail more analysis and hard work. It follows that despite the successful experiences reported by some Moroccan teachers regarding distance teaching, issues like training, instruction and pedagogy are still causing a challenge. In this respect, the present study endeavors to question the complexity of distance teaching, its perception by Moroccan high school teachers and the challenges that imped its adoption.

# III. RESEARCH METHODOLOGY

# A. Research Objectives

This study aims at investigating Moroccan high school teachers' perception of distance learning and how they tend to implement it during Covid-19 pandemic. It also endeavors to investigate the major challenges hindering its adoption in Moroccan education.

# B. Research Questions

The current study attempts to raise, investigate and answer the following questions:

- ➤ What are the challenges encountered by teachers who implement distance learning?
- To what extent does distance teaching affect students' learning?
- ➤ What types of technological tools and platforms do teachers use in distance learning?
- ➤ What are the impacts of distance teaching on Students' learning?

# C. Research Hypotheses

It is assumed that Moroccan teachers face a huge difficulty in implementing distance learning. It is also hypothesized that providing Moroccan teachers with training and the necessary tools is more likely to contribute to the effectiveness of distance learning.

# D. Research Approach

To put this issue into practice and test the validity of the research hypotheses, both the quantitative and qualitative approaches are adopted. The rationale behind using the quantitative approach is to quantify the problem and obtain numerical data regarding the perceptions and the attitudes of Moroccan high school teachers about distance learning. The statistics obtained will be of a great help to identify the extent to which this type of learning influences students'

motivation and achievement. On the other hand, the qualitative approach will be beneficial in getting more indepth data, explanations and digging further in the different aspects of the raised issue. To achieve this, interviews will be conducted with teachers with the purpose of getting more detailed information. Hence, the main instruments used in this study are the questionnaire and the interview.

#### E. Data Collecion Instuments

To reach the research objectives mentioned above, the present study relies on many data collection instruments. On the one hand, questionnaires are administered to Moroccan high school teachers to obtain statistics regarding their views and experiences with distance learning. On the other hand, interviews will be needed to provide teachers with the opportunity to elaborate on their answers and obtain rich data. What follows will be a detailed description of each instrument.

# 1) Questionnaire

The questionnaire is considered as the most important technique of gathering data from large numbers of respondents in a short period of time. Conway (2006) defines the questionnaire as follows:

A questionnaire is an internal research tool and is one of the means of eliciting thoughts, feelings, beliefs, experiences, and attitudes of a sample group of individuals.

It is a concise, preplanned set of questions designed to yield specific information about a particular topic from one or more groups of people (p: 3)

The questionnaire is meant to investigate the respondents' attitudes and beliefs towards an issue; it helps researchers to collect data in a standardized way. Questionnaires have a predetermined purpose that is related to the main objectives of the study. That is to say, the questionnaire should be used as a tool for collecting data when the researcher believes that it has an added value to the research. The efficiency of a study relies heavily on the strength of the questionnaire that is used. In other words, the way in which the questionnaire is organized guarantees the collection of valuable data. The majority of researchers (Pannerselvam, 2004) claim that there are varieties of questions that are used according to the needs of the study, such as: Open-ended questions, Checklists, Close ended questions, Multiple-choice questions, Ranking scales. The questionnaire is chosen in this paper as a research technique for the purpose of investigating the perception of Moroccan high school teachers about the implementation of distance learning. It is selected since it is less "intrusive" and can encourage respondents to answer questions freely. It is also selected as it is time-saving, enables contact with participants quickly and can be administered without the presence of the

researcher. The questionnaire used in this study consists of four sections. It will be distributed in English as well as Arabic because the majority of high school teachers do not speak English. In the first section, the participants are asked to provide some background information that can help in the interpretation of the results. The first item is about the age of the respondents while the second item deals with their sex. The third item is about their level of education. Accordingly, the other sections are devoted to the investigation of Moroccan teachers' views about distance learning, the extent to which it impacts students' learning and the major challenges impeding its implementation.

#### 2) Interview

Interviewing is a method used to collect data in qualitative research, particularly in social sciences. There are three approaches to interviewing; structured approach, semistructured approach, and unstructured approach. Structured interview is the most formal approach of interviewing. Tavakoli (2012) defines the structured interview as "an interview in which the organization and procedure of the interview, as well as the topics to be asked about, the questions, and the order in which they will be presented, have all been determined in advance". So, it involves the researcher drawing up a schedule of questions which are asked in exactly the same order to all participants in the sample and employing exactly the same words each time a particular question is asked. Semi-structured approach is another approach to interviewing. It is between structured and unstructured models on the continuum of formality; elements of structured and unstructured approaches are used. Moreover, the list of questions, interview schedule or protocol, used by the interviewer can include open-ended questions which are not uniformly worded and which are designed to allow the researcher to probe questions and ask the respondent to elaborate on his or her answers to gain better understanding. An unstructured interview, also sometimes referred to as discovery interview, is an interview in which there is no specific set of predetermined questions, although the interviewer usually has certain topics in mind that they wish to cover during the interview. Unstructured interviews flow like an everyday conversation and tend to be more informal and open-ended. This is in contrast to a structured interview, when a list of predetermined questions is used. Unstructured interviews allow new questions to emerge based on the interviewee's responses. The advantages of the unstructured interview are:

➤ Unstructured interviews are more flexible as questions can be adapted and changed depending on the respondents' answers. The questions can be constantly changed in accordance with the flow of the interview.

Unstructured interviews also have increased validity because they give the interviewer the opportunity to probe for a deeper understanding, ask for clarification and allow the interviewee to steer the direction of the interview and to elaborate on their answers.

One major limitation of unstructured interviews is that they lack the reliability and precision of a structured interview because each interviewee is asked a different series of questions and each question can in its turn lead to other series of questions. In the context of our investigation, a huge focus will be on semi-structured interviews. That is to say, the interview carried out will be based on a set of prepared and predetermined questions asked to high school English teachers, who are supposed to share their views about distance teaching. Besides, this type of interview will pave the way for more details regarding the extent to which teachers consider distance teaching effective.

### IV. RESULTS

Before embarking on the analysis and the interpretation of the gathered data, it is important to provide information about the sample of the population targeted in this study. The following chart displays the respondents' demographic variables including gender, age, level of education and place of work:

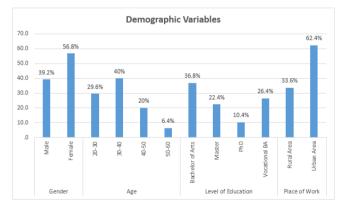


Figure 1: Demographic variables

A close analysis of the graph reveals that female teachers constitute the majority in this study with a number of 56.8%, while males form 39.2%. Also, this figure shows that teachers between the age of 30 and 40 years old form 40% of the whole sample; teachers aged between 20 and 30 made up 29% of the participants whereas teachers between 40 and 50 reached 20%. As far as the level of teachers is concerned, the results demonstrate that 36.8% are BA holders, 26.4% hold a vocational BA, while teachers who have a PhD diploma constitute 10.4%. Finally, it is clear from the graph above that 62.4% of teachers work in urban areas and 33.6% of them teach in rural areas. After having described the

background information related to the teachers who have taken part in this study, the following sub-section is devoted to the analysis of teachers' perception about distance teaching and the main technological devices they used during Covid-19 pandemic.

# A. Teachers' Perception about Distance Teaching and the Technological Tools UsedBottom-up approach

To investigate teachers' perception about distance teaching, the following question was asked: "Do you conduct distance teaching?" The figure below indicates the distribution of their answers:

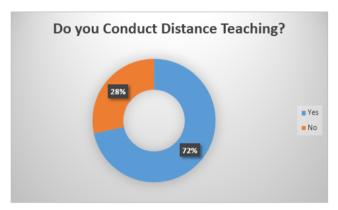


Figure 2: Conducting distance teaching

It is striking from the chart that 72% of the participants resort to distance teaching during Covid-19 pandemic. This implies the significance of education despite challenges and makes a lot of sense since the Moroccan ministry of education has launched several online platforms to facilitate interaction with students. In fact, this remarkable shift to the online world has caused a controversial debate among teachers, parents and students. Some of them argue that distance teaching is an inevitable alternative in these circumstances, but not all students have the necessary equipment to benefit. Other teachers claim that this type of teaching would only increase the gap between urban and rural learners who have no access to internet connection. However, it can be stated that there was no other choice to save the academic year from failure in the absence of distance education. When schools closed, several countries around the world were obliged to reconsider their policies and focus on an instantaneous way to finish the school year by all means. Therefore, one can clearly say that distance teaching was a real opportunity which challenged teachers to develop new skills in conducting distance teaching despite their lack of training. It was also a chance for students, especially the shy ones, to interact and express their learning needs confidently thanks to the physical absence of the teacher. Additionally, when asked about the online platforms they resorted to in their distance teaching experiences,

teachers reported discrepant results as it is clearly made in the chart below:

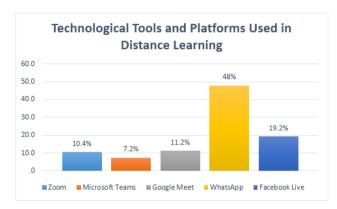


Figure 3: Technological tools and platforms used in distance learning

A close statistical analysis of the figure indicates that 48% of teachers chose WhatsApp application as an alternative to carry on their teaching, while only 7.2% took part in Microsoft Teams. Some teachers prefer WhatsApp because they think that it is an accessible platform and common among students. To elaborate on this point, teacher 5 argues that: "in fact, I tried other platforms, but they were not successful at all. So, I went for WhatsApp since it can be used easily by students". In the same vein, teacher 2 points out: "WhatsApp is useful for me and it doesn't require high network connection". More than that, the importance of WhatsApp was explained by other teachers as a crucial feature that makes learners feel at ease and kindles their interest. For instance, teacher 1 states that, "students are more interactive when using WhatsApp and they can record audios and send messages with the help of their parents, sometimes". However, the graph above demonstrates that the majority of teachers had a poor experience with other online platforms, especially Zoom and Google Meet, with a number of 10.4% and 11.2% respectively. They believe that these spaces require a high network connection and they go beyond students' financial abilities. They also assume that launching such projects entails a solid ground to guarantee their effectiveness and this cannot be achieved in the light of the present circumstances (poor technological devices, lack of training and poor connection quality). To have an idea about the different devices employed by teachers to carry out distance teaching, they were asked the following question: "What types of technological devices did you use in your online teaching? The analysis of this question can be plainly noticed in the graph below:

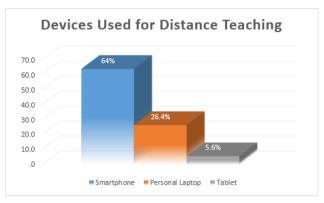


Figure 4: Devices used for distance teaching

As it is clear in the figure above 64% of the respondents claimed to use smartphones in their teaching, 26.4% resorted to personal laptops, while only 5.6% went for tablets. To explain this point, most of teachers declared that they find it very easy to teach via their smartphones anywhere they like. They can launch an online meeting with their students without being restricted with time or place. For example, teacher 3 points out that "personally, I use my smartphone and it is effective since it allows me interact with students easily, be it at home or outside". Similarly, teacher 1 states: "I don't use laptop; I use my mobile phone because I can take it with me anywhere I go unlike laptop". It follows that smartphones are regarded as the most effective tools, by the majority of teachers, which facilitate their task of online teaching compared to other digital instruments. Yet, one cannot overlook the role of laptops in providing teachers with multiple options and features that make their job easier such as the large screen, the visibility of content and the quality of visual texts.

# B. The Impact of Distance Teaching on Students' Learning

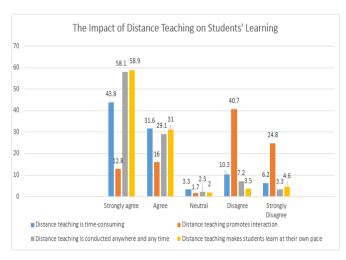


Figure 5: The impact of distance teaching on students' learning

It is obvious from the chart that 58.1% of respondents strongly agree with the idea that distance teaching could be

conducted anywhere and at any time, while those teachers who disapprove constitute only 3.3%. Teachers can choose to meet their students online whenever and wherever they want to without being confined with time or physical constraints. They do not need to be stuck in their classrooms, but they can carry their digital tools (smartphones) with them to a café or a garden easily. Also, the graph demonstrates that a large number of participants (58.9%) strongly agree with the statement that says: "Distance teaching makes students learn at their own pace", whereas few of them (3.5%) disagree. This suggests that, with online classes, learners become able to ask questions, type messages, or record audios to express their lack of understanding and make comments without being intimidated. In other words, in traditional-based classes, students are often cautious and unable to reveal what they really think about the lesson and whether they have grasped its content or not. Moreover, numerical data discloses that 41.3% of teachers perceive distance education as time-consuming compared to face-toface teaching and only 6.2% strongly disagree with this view. This proves that teachers encounter numerous obstacles in their online teaching. Sometimes, they need to wait for students to join the group so that they could start classes. In other cases, students along with teachers have problems with their internet connection, which leads them to extend their sessions. Besides, the graph demonstrates that 40.7% of the participants disagree with the statement saying: "Distance teaching promotes positive interaction, 24.8% strongly disagree, whereas there is a low percentage of teachers who strongly agree (12.8%). This implies that online classes are more lecture-based and practitioners rarely encourage students to speak because of the absence of planning and organization. Therefore, one can declare that the impact of distance teaching differs from one student to another depending on each one's social and financial circumstances.

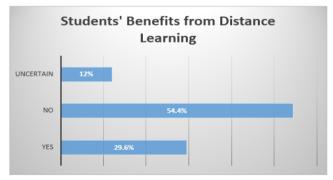


Figure 6: Students' benefits from distance learning

In relation to what has been discussed before, a question was devised to investigate whether students benefit from distance learning or not. In this respect, numerical data demonstrated

that 54.4% of the participants argued that distance teaching does not entirely respond to the multiple learning needs of students, 29.6% of teachers stressed that distance learning is viewed positively by learners and it does enrich their learning experience, whereas only 12% of the respondents expressed uncertainty about the practicality of online learning and, thus, remained undecided as it is made crystal clear in the graph below:

C. Challenges Facing Distance Teaching Implementation
To investigate the major challenges and problems hindering
the success of distance teaching, teachers were asked the
following question: "What are the challenges you
encountered while conducting online teaching?" The results
showed that there were numerous obstacles affecting the
fruitfulness of this online experience as it is conspicuously
manifested in the graph below:

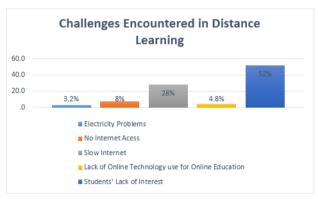


Figure 7: Challenges encountered in distance learning

The figure above displays that 52% of teachers reported students' lack of interest as a leading factor which marked the failure of their distance learning journey. This claim was reportedly justified in various arguments provided by teachers in their interviews. For instance, teacher 5 mentions that "the problem with distance learning is that a huge number of learners do not care; even if they own a smartphone, they turn a blind eye to what goes on in the WhatsApp group". In the same context, teacher 2 says: "I work with only five or six students. They seem to be online, but no positive interaction develops between us". Besides, the findings disclose that 28% of the participants consider slow internet connection as the main hindrance of distance learning. They ascertain that a considerable number of students have issues with internet connection, which lead them to miss their online classes. To illustrate this point, teacher 1 asserts: "I have problems when teaching online. Sometimes, I start giving my lessons and I need to stop because many learners do not follow due to their slow connection". Additionally, statistical data indicate that a few number of teachers believe that lack of electricity (3.2%) and technological tools (4.8%) prevent them from building a productive online teaching as well as learning environment. Hence, the construction of a fertile ground for distance learning is a challenging step which requires a consistent planning and hard work to ensure its productivity. It is true that the Moroccan Ministry of Education has made a huge effort to establish an online-based teaching culture, but its practical implementation remains pointless without the active collaboration of the different parties including stakeholders, teachers and parents to erase the digital gap between students and make their learning meaningful.

#### V. DISCUSSION AND CONCLUSION

The present study investigated the issue of distance learning during Covid-19 pandemic. It primarily emphasized Moroccan teachers' perception and beliefs towards this form of teaching and outlined the main challenges as well as the problems they encountered in its implementation. More specifically, this study aimed to highlight teachers' experiences with digital tools and the extent to which they maintained a positive interaction with their students. Based on the findings obtained out of the questionnaire and interview, it is obvious that distance learning is still in its initial steps, as it is faced with numerous technical and pedagogical obstacles. For instance, despite the availability of new effective online platforms like Microsoft Teams, the results featured that WhatsApp is the most extensively used application. This suggests that teachers choose the most common platforms they are already familiar with. They use WhatsApp since it is easy to handle and they find it difficult to shift from their comfort zone into new applications they know nothing about. This perplexity can be also explained in terms of the inability of students to install these new applications on their mobile phones due to lack of quality internet connection. Besides, the study revealed that teachers were more involved in the new online experience in spite of hurdles. The collected data unveiled that a huge number of teachers reported students' lack of interest as the main challenge. However, they are not to blame since this fact could be interpreted according to many factors. On the one hand, there is the teachers' inability to satisfy their students' needs and meet their expectations because they received no training in this area. On the other hand, there is the absence of consistent pedagogy in giving online classes. This means that teachers are in a dire need to be trained and empowered technologically in order to help their students become independent and introduce the best for them. In sum, distance learning is still in its preliminary stages and it is too early to decide on its effectiveness as an approach to teaching. It requires more in-depth empirical investigations

to determine its position in the world of education and predict its future in the Moroccan community. It is a defying process that needs thoughtful decisions on the part of the Moroccan Ministry of Education to ensure its effective application in classes and improve its use.

#### REFERENCES

- [1] Bachiri, H., & Sahli, R. (2020). The Need of Distance Learning in the Wake of COVID-19 in Morocco:: Teachers' Attitudes and Challenges in the English Foreign Language Instruction. International Journal of Language and Literary Studies, 2(3), 240-256.
- [2] Belanger, F., & Jordan, H. (2000). Evaluation and Implementation of Distance Learning: Technologies, Tools and Techniques. London: Ideal Group Publishing.
- [3] Bouziane, A. (2019). ELT Issues in Morocco: A Research-Based Perspective (pp.137-149). MATE ELT series: Book 4. Moroccan Association of Teachers of English (MATE).
- [4] Conway, M. J. (2006). How to Collect Data: Measurement & Evaluation. American Society for Training and Development.
- [5] GENIE Directorate. (2012). Programme GENIE : Guide de Formateur. Module PDPTICE 2012. MEN.

- [6] Hutchison, A., & Reinking, D. (2011). Teachers' perceptions of integrating information and communication technologies into literacy instruction: A national survey in the United States. Reading Research Quarterly, 46(4), 312-333.
- [7] Lahmine, S., Darhmaoui, H., Kaddari, F., Elachqar, A., & Ouahbi, I. (2016). Experiencing ITQANE: pre-service and inservice distance teacher training program in Morocco. In Proceedings of INTED2016 Conference (pp. 3654-3659).
- [8] MOROCCAN MINISTRY OF NATIONAL EDUCATION, 1999: National Charter for Education and Training [NCET]. Rabat: Nadia Editions.
- [9] Moroccos-experience-with-covid-19-distance-learning-and-fragility/ Retrieved March, 26, 2021 from https://www.moroccoworldnews.com/2020/07/307157/
- [10] Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: A review of the literature. Journal of Information Technology for Teacher Education, 9(3), 319-341.
- [11] Pannerselvam, R. (2004). Research Methodology. PHI Learning, New Delhi.
- [12] Sadeghi, S. H. (2019). Training in cyberspace. In Pathology of Learning in Cyber Space (pp. 39 53). Springer, Cham.
- [13] Tavakoli, H. (2012). A dictionary of research methodology and statistics in applied linguistics. Rahnama press.