

Perception and use of ICT materials among Algerian EFL secondary school teachers

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Abstract

The Algerian educational system has gone through substantial changes and improvements since the adoption of the Competency-Based Approach (CBA) in 2003. There has been a continuous call for more investigation in the area of information and communication technologies (ICT) in order to assure quality in education. Accordingly, the aim of this study was to explore the Algerian secondary school English as a foreign language (EFL) teachers' perceptions about the use of ICT tools in their classes and their teaching practices. A mixed methodology based on questionnaires ($N = 62$) and interviews ($N = 9$) was used. Results revealed that EFL teachers are aware of the importance of using ICT in EFL contexts and they manifest positive attitudes towards its integration. The analysis also revealed that most teachers used computers and data projectors in their classes and this resulted in elevating the learners' motivation. However, teachers enumerated a number of challenges they faced, namely lack of ICT tools, insufficient training, and support in using new technologies as well as of updates. Hence, continuous training on ICT integration, technical support, and ICT tools facility in Algerian secondary schools are highly recommended to overcome such challenges and allow professional development.

Keywords: Algerian education; competency-based approach (CBA); English as a foreign language (EFL), information and communication technology (ICT); secondary school teachers

1. Introduction

Information and communication technology (ICT) is becoming omnipresent in individuals' educational and professional lives. In the field of education, ICT has been tremendously and rapidly growing around the world for at least the last two decades. Its use is highlighted by the Organization for Economic Cooperation and Development "OECD" (2001, p. 11) to be of crucial importance to increase "the breadth and richness of learning". It also aims at attaining the goal of improving the quality of education with the help of educational software and technology in general. Given its daily evolution, many scholars are interested in research related to ICT in educational contexts (Bouchefra & Baghoussi, 2017; Bouguebs, 2020; Drossel et al. 2017; Eickelmann & Vennemann; 2017; Guerza, 2015; Hadj Djelloul, 2020; Idri, 2013; Naima, 2017; Oussou, 2020; Saihi, 2020).

The Algerian Ministry of National Education has made significant efforts to introduce technology into schools especially after the adoption of the competency-based approach (CBA) The e-Algérie plan is a program that aims at modernizing all sectors including education. According to "The report: Algeria 2010" (2010, p. 216), "in January 2009, the minister of education, Aboubakr Benbouzid announced that the government would distribute computers to every school in the country and would encourage their use in all fields of study" Gherbi (2015, p. 6), in turn, pointed out in his research that the statistics of the Algerian Ministry of Post, Information, and Communication Technology (MPICI) revealed that "over 9000 schools of various levels (23% represent primary schools, 77% are middle schools, and 88% are secondary schools) are actually connected to the national internet network where teaching courses in schools are being digitized." These statistics demonstrate the considerable efforts to introduce ICT into our schools in order to improve the educational level of Algerian learners and encourage the efficacy of the CBA.

The introduction of ICT into Algerian schools should be followed by its efficient integration in order to assure the quality of both learning and teaching to some extent. This integration is claimed to be of crucial importance in different school subjects among which is EFL. In this respect, Mekhoukh (2012) argued that ICT renders a broad array of multimedia resources, authentic materials, and a window for possibilities of rigorous learning in language laboratories. Idri (2013) stresses the role of technology in enhancing and extending students' learning. She argues that its appropriate use can make complex processes clearer through the use of visuals and multiple examples found in online simulations or animations, images or photos from websites or CDs, or graphics or data tables. According to Bouguebs (2020), "ICTs bring to surface new teaching/learning approaches such as e-learning courses, computer mediated learning via e-mails, podcasts, computer facilitate for the educational system a safe shift from traditional mode of learning to an online one" (p. 1).

Yet, both the introduction and integration of ICT into school instruction should be supported by adequate training. There must also be an emphasis on considering ICT as a means, not an end. This is what Al-Bataineh and Brooks (2003) highlighted when they commented that “teachers must receive adequate ongoing training” (p. 479). Consequently, teachers need primarily to learn how ICT is used as a teaching and learning tool. This would certainly facilitate its better integration. In Algeria, some workshops and conferences have been conducted which have trained both teachers and inspectors on ICT tools. For instance, it is mentioned in the Panafrican Research Agenda of Pedagogical Integration of ICT (2010) that there were ninety (90) Algerian teachers and school principals who were trained by the British Council, Algeria, which is continuing its work in this area. Additionally, Jones (2001) pointed out that “if teachers do not feel comfortable with the technology, they are less inclined to incorporate it into their plans” (p. 35). Accordingly, teachers need to consider ICT as a facilitating means. Integrating ICT into teachers’ plans depends sometimes on how teachers perceive their ability to implement ICT in their teaching. Therefore, there must be encouragement either through training or through ongoing support on ICT sources use and implementation

Considerable literature on ICT in education has been devoted to factors affecting the successful implementation of ICT in schools (Afshari et al., 2009; Buabeng-Andoh, 2012; Cher Ping Lim et al., 2013; Drent & Meelissen, 2008; Drossel et al., 2017; Eickelmann & Vennemann, 2017; Espino, 2012; Gichoya, 2005; Mumtaz, 2006; Vermeulen et al., 2017). Several factors have been highlighted as barriers to ICT use and its integration into teaching. These barriers include, but are not limited to, lack of competence and ongoing support for ICT usage. Hennessy, Ruthven, and Brindly (2005) pointed out that “increasing investment in technology infrastructure has not been matched by the investment of time and resources to develop new ways of learning and teaching” (p. 6). Therefore, providing schools with technology will be of no significance if there are sufficient efforts to support both teachers and learners in this respect in order to assure quality in both teaching and learning.

Algerian secondary schools are claimed to be equipped with various technological tools in order to improve teachers’ performance. However, providing schools with software and technologies is not sufficient since their effectiveness depends to a large extent on teachers’ perceptions and their understanding of how to use them (Webb, 2014). There must also be integration of ICT into classrooms as well as into different teaching and learning activities. Thus, investigating this issue stems from the authors’ personal interest and observation of the surroundings in the field of education since we have witnessed that a number of EFL teachers do not fully integrate ICT into their teaching. This can be either

because they exhibit negative attitudes towards new technologies or because they do not know how to use the ICT tools available in their schools.

Therefore, the authors have decided to identify the perceptions of Algerian secondary school EFL teachers with respect to ICT integration and use, and diagnose their teaching practices accordingly. The study also aimed at identifying the factors that make ICT integration challenging for such teachers according to their lived experiences. Investigating these issues would pave the way to an appropriate integration of ICT to improve the quality of teaching and learning in the Algerian schools. To achieve these goals, three research questions motivated the present study:

1. How do EFL teachers perceive ICT use in their teaching?
2. What ICT sources do EFL teachers use in their EFL classes?
3. What are the factors promoting the incorporation of ICT and the challenges teachers face when using ICT in their classes?

2. The study

2.1. Participants

This study was conducted with the voluntary participation of 62 secondary school EFL teachers from 28 different provinces in Algeria. The choice of the participants from different provinces aimed at assuring diversity in terms of regions since e-Algérie was a national program. The sample consisted of 28 males (45.2 %) and 34 females (54.8 %) whose age ranged from 23 and more than 50 years old. Their teaching experience ranged from 1 to more than 15 years. Such characteristics make the sample heterogeneous in terms of age, experience, and region. This allowed collecting data from different categories of teachers. As for the qualitative part of this research, nine informants were randomly selected and asked to be interviewed. This sample comprised 6 female and 3 male teachers. Detailed information about these participants can be found in Table 1.

Table 9 Demographic information about the interviewees

	Age	Years of experience	Gender	Province
Teacher 01	26	4	Male	Souk Ahras
Teacher 02	27	5	Female	Setif
Teacher 03	31	6	Female	Setif
Teacher 04	39	15	Female	Setif
Teacher 05	28	3	Male	Adrar
Teacher 06	32	9	Female	Setif
Teacher 07	30	4	Female	Blida
Teacher 08	26	3	Female	M'sila
Teacher 09	27	2	Male	Bourdj Bouariridj

2.2. Methods and materials

A mixed-methods approach was used to gather the quantitative and qualitative data: a questionnaire and an interview. The quantitative data from the questionnaires were analyzed using descriptive statistics. For this, we used two computer software programs: one designed for general statistics, that is Microsoft Excel 2007, and Statistical Package for Social Sciences computer program (SPSS 20). The demographic data for this study were discrete (nominal and ordinal); therefore, descriptive statistics were used calculate for percentages, mean and standard deviation. Then, the interview data were also analyzed to see how they validate the quantitative data. The results of the analysis of the data gathered by means of these tools were discussed, interpreted, and compared with the existing empirical literature in order to answer the research questions and reach a conclusion.

Following an extensive literature review of the instruments used to investigate ICT perception and usage (Gulbahar & Guven, 2008; Nedjah, 2010; UNESCO, 2009), a questionnaire was developed to gather data about the perceptions of Algerian secondary school EFL teachers towards the use of ICT tools. The questionnaire consisted of two parts with close-ended questions. The first part concerned participants' personal information, such as gender, age, EFL teaching experience, the availability of ICT tools at the school and home as well as ICT training. The second part of the questionnaire contained seventeen items based on a 3-point Likert scale, ranging from 2 – *agree*, 1 – *neutral*, and 0 – *disagree*. These items were designed to elicit teachers' perceptions about the use of technology in EFL classrooms. The informants were asked to rate statements based on their level of agreement or disagreement in order to indicate their perceptions of technology. Some EFL teachers were contacted via email and Facebook because they were from different parts of Algeria, whereas others were administered the questionnaire in their schools. After the explanation of its objectives and any technical jargon, the questionnaire was administered to teachers. The questionnaire data collection took 32 days to complete.

After the data were collected via the questionnaire, a preliminary analysis of the results was carried out. Then, interviews were conducted with nine secondary school EFL teachers who were randomly selected. The qualitative methodology aimed at eliciting information about teachers' ICT implementation in their own teaching contexts as well as the different barriers they face when integrating ICT tools in their EFL classes. The nine respondents were interviewed throughout one week. We opted for diverse interview formats to suit the interviewees' preferences and availability, namely, online interviews, face-to-face interviews, and phone interviews. Some interviewees agreed to have their answers recorded to better serve the research purposes and facilitate the task to

the researchers. The recorded interviews were fulfilled through LG voice recorder and Windows 7 Free Sound Recorder program.

2.3. Results

2.3.1. Questionnaire

The findings of the questionnaire are reported using percentages, means, and standard deviations. In order to gather data on the Algerian secondary school EFL teachers' accessibility of ICT tools, we asked the informants about the availability of computers and the internet. We limited the questions related to ICT tools to computers and the Internet. Many secondary school EFL teachers in this study (67.7%) had access to a computer at work and among them, 62.9% had access to the Internet. Weekly computer use of EFL teachers was found to be as follows: 40.3% used a computer for more than ten hours, 14.5% used a computer for 7 to 10 hours, 37.1% used a computer for 2 and 3 hours a week, 4.8% used a computer for less than an hour a week while 3.2% did not use the computer at all. Concerning Internet use, the results were a little similar to those regarding computer use. Half of the informants (50%) stated that they spend more than 10 hours a week using the internet. These findings show that though some ICT tools, namely computers and an Internet connection, are available in some secondary schools, there are still other schools that suffer from a lack of those sources.

Table 2 Algerian EFL secondary school teachers' perception about their ability to use ICT tools

<i>Perceptions</i>	<i>Agree (2)</i>	<i>Neutral (1)</i>	<i>Disagree (0)</i>	<i>M</i>	<i>SD</i>
1. I use computers as much as other resources (books, overhead projectors etc.) for instructional purposes.	47	8	7	1.64	.70
2. I am aware of the opportunities that computers offer.	62	0	0	2.00	.00
3. I can provide help for my students to use computers.	51	9	2	1.79	.48
4. I am sure that I am able to use computers and related technologies efficiently in my classes.	51	7	4	1.76	.56
5. I want to use computers in my classes.	56	2	4	1.83	.52
6. I can handle different learning instructional preferences of my students having different learning styles by using technologies.	43	15	4	1.63	.61

In order to gather data on ICT integration, we asked the informants whether they had received any training on how to integrate ICT tools into their EFL classes. 59.7% indicated that they had learned new technologies by themselves. Moreover, 14.5% of the participants pointed out that they did not know how to use ICT, whereas 25.8% stated that they were trained in ICT tools' integration. When we asked the last category of teachers about the areas of ICT

training, 68.75% of them indicated that they were trained on computer applications such as Microsoft Word and Microsoft Excel. Such a focus is clearly insufficient to suit the challenges of the present-day world where technology is developing fast with new applications, updates, platforms, and virtual spaces.

More quantitative data from the questionnaire can be found in Tables 2, 3, and 4. Table 2 presents teachers' perceptions of their ability to use ICT tools. The means for items 1, 3, 4, 5, 6 score are higher than 1.6, demonstrating agreement. Yet, the *SD* of items 1 and 6 is exceeds .60, which suggests that there was some variation among the participants with respect to their perceptions of the use ICT tools for instructional purposes in their EFL classes. Nevertheless, the means for item was as high as 2 (*SD* = .0). This indicates that the respondents are aware of the opportunities that computers offer. Hence, the respondents are aware of their ability to use ICT tools. This awareness can contribute to facilitating the effective integration of ICT tools into education, including EFL classes.

Table 3 Algerian EFL teachers' beliefs about the use of ICT for communication

Perceptions	Agree (2)	Neutral (1)	Disagree (0)	M	SD
7. I believe that tools like e-mail will make communication with my students easier.	32	17	13	1.31	.80
8. I believe that tools like chat will make communication with my students easier.	26	14	22	1.06	.88
9. I believe that tools like e-mail will make communication with my colleagues easier.	57	3	2	1.89	.41
10. I believe that tools like chat will make communication with my colleagues easier.	58	3	1	1.92	.32

Table 3 summarizes the findings concerning participants' beliefs about the use of ICT to facilitate communication with students and colleagues. Opinions about the use of ICT tools as e-mail and chat to communicate with students differed considerably. The means of items 9 and 10 score exceeded 1.8 (*SD* = .32 and *SD* = .41, respectively), demonstrating agreement among the respondents. That is to say, the overall mean was between 1 and 2, or the "neutral" and "agree" options. Hence, the participants manifested a positive belief regarding communication with their colleagues via email and chat. The mean of item 7 was 1.31, also demonstrating agreement. As far as item 8 is concerned, its mean equaled 1.06, which indicated neutrality. Yet, the *SD* values for items 7 and 8 stood at .80 and .88, respectively. This implies that there was much individual variation with respect to beliefs about using emails and chat to communicate with learners. These results indicate that Algerian secondary school EFL teachers believe that ICT tools are useful for communicating with their colleagues. Yet, some of them are still reluctant and conservative to extend the scope of its use to communicating with their learners.

Table 4 Algerian EFL secondary school teachers' perceptions of the importance of some ICT tools

<i>Perceptions</i>	<i>Agree (2)</i>	<i>Neutral (1)</i>	<i>Disagree (0)</i>	<i>M</i>	<i>SD</i>
11. I think that technology-supported teaching makes learning more effective.	59	2	1	1.94	.31
12. I think the use of instructional technologies increases students' interest toward courses.	58	4	0	1.94	.25
13. I think the use of instructional technologies increases the quality of courses.	53	9	0	1.85	.36
14. I think that usage of instructional technologies makes it easier to prepare course materials (assignments, handouts etc.).	58	4	0	1.94	.25
15. I think instructional technologies as data shows and computer help me achieve my teaching objectives.	57	4	1	1.90	.35
16. I think using instructional technologies makes me more productive as a teacher.	57	4	1	1.90	.35
17. I think that using technology makes it easier to reach instructional resources	58	4	0	1.94	.25

Table 4 shows the results of the questionnaire regarding the participants' perceptions of the importance of ICT tools in the EFL teaching and learning. As can be clearly seen from the data, the means of the items exceed the value 1.85 (*SD* values in the range of .24 and .35), demonstrating agreement by the respondents. Besides, the overall mean close to the value of 2, indicating "agree." What is also interesting are low *SD* values, which suggests that there was little individual variation among the respondents in this respect. All of this speak to the positive attitudes of the participants towards the importance of the selected ICT tools in their teaching of English. Thus, the respondents think that ICT tools are important and acknowledge the advantages they offer to them when teaching English as a foreign language.

2.3.2. Interview

To gather more detailed information about Algerian secondary school EFL teachers' perspectives on ICT implementation in their own teaching contexts, interviews were conducted with nine teachers (see). These interviews aimed at gathering qualitative data to complete the results we got from the questionnaire.

Our interviewees were asked about their use of ICT tools at school and more specifically in their EFL classes. All of them mentioned different tools they generally use such as laptops, data projectors, speakers, and the Internet. Besides, most of them pointed out that they use them as something that can enhance their preparations and their lessons. For instance, Teacher 1 commented: "I've always preferred to prepare my lessons using my laptop with the help of the internet of course." This reflects the role that ICT plays in lesson preparation. He also added the following: "I copy the audio files on my mobile and I use them with the Bluetooth speaker, so they become easier to be managed . . ." In doing so, the teacher can share these files with his or her colleagues and even with learners.

Concerning ICT use in EFL classes, all the interviewees stated that they used ICT in order to achieve their teaching objectives. Some of them mentioned examples of online language programs they advised their learners to use like the *Rosetta Stone* website. In addition, some of the interviewees pointed out that they used ICT as a warm-up before starting a new unit or lesson (Teachers 3 and 4) whereas others used different downloaded pictures and videos which enabled their learners to grasp new vocabulary and learn the pronunciation of new words (Teachers 2, 3, 4 and 6). Moreover, ICT tools were used to explain grammar lessons through Power-Point presentations as well as to teach different EFL language skills. Furthermore, all the interviewees believed that ICT offered many advantages, which facilitates EFL teaching and learning. They asserted that ICT tools make objectives achievable as learners get involved in lessons more easily. Teacher 9 offered the following comment: "the factor that encourages me more to integrate ICT tools in our lessons is because of the new ministry program (CBA)" That is, EFL teachers found it a requirement to use ICT in their lessons as these tools help their learners to be more competent especially when teaching different language skills (Teachers 3 and 5). For instance, Teacher 2 stated: ". . . show is better than tell, i.e. to show our learners pictures or listen to a video done by a native speaker is better than delivering our endless speeches." This indicates that teachers considered the use of ICT as facilitating better achievement of the objectives of each lesson.

When asked about school facilities for the use and integration of ICT tools, two points of view emerged. Only Teacher 8 stated that access to ICT tools was easy in her school. She stated: "We can use ICT during our classes, very provided whenever we need, there is no problem with the administration." Yet, most teachers indicated that ICT tools' availability and use were not facilitated in their schools especially by their administration. They emphasized that they depended on their own tools (Teachers 1 and 9). Besides, all of the interviewees mentioned different obstacles to appropriate introduction of ICT into Algerian secondary school EFL classes. Some of those barriers were related to the lack of equipment as well as insufficient administrative and technical support.

3. Discussion

This study has highlighted a number of issues relevant to understanding Algerian secondary school EFL teachers' perceptions and use of ICT tools in their classes. The interpretation of the findings enables answering the research questions posed.

3.1. Teachers' perceptions of of ICT use

There are many studies that have attempted to explore teachers' perceptions concerning ICT tools' use. The questionnaire results revealed overwhelming agreement

among Algerian secondary school EFL teachers about the significance of ICT stresses as well as their awareness of the importance of using such tools in their classrooms. This provides evidence for positive perceptions of ICT. Similar to the findings of Benettayeb (2012), our respondents were also aware of the opportunities that ICT offers to both teachers and learners. Besides, although there are teachers who seem still reluctant to use emails and chat for communication with learners, there are still some others who pointed out in the interview that they used tools like social media (mainly Facebook) to communicate with their learners. Thus, the findings show that EFL teachers are willing to use ICT because of its utility. Such positive perceptions of ICT tools may encourage them even further to integrate such tools into their classes.

3.2. The use of ICT tools

As regards access to ICT tools, their use, as well as training in the employment of ICT tools, the questionnaire responses showed that access to new technologies, in particular computers and the Internet, was still a problem in a number of secondary schools in Algeria. Besides, the participants reported use of some ICT sources such as emails, chat, computers, and overhead projectors to prepare course materials. Some interviewees also mentioned some tools they usually use when teaching English as USB, laptops, speakers, printers, data projectors, social media, camcorders, and so on. They pointed out that these tools enabled them to collaborate with their colleagues, not only in their respective schools but also throughout Algeria. Additionally, the participants indicated that they use ICT tools in their EFL classes because they are simply helpful.

At the same time, most of the respondents indicated that they had not received any training on ICT integration. This may justify their negative perceptions of their ability to use ICT tools for instructional purposes in their classes. In effect, teachers learn how to use ICT in L2 instruction hand-on as they conduct their lessons. Being unfamiliar with some ICT tools may be a problem for many EFL teachers. Even though there were respondents who indicated that they had received training on ICT, this training was mostly focused on quite basic computer applications such as Microsoft Word or Microsoft Excel. Most importantly, there was no sufficient training on how to integrate ICT tools into classroom instruction. In their study about ICT and secondary school teachers' professional development in Algeria, Guemide and Benachaiba (2012) insisted that the teacher is the key to the effective integration of ICT in EFL classes. Indeed, our findings demonstrated that secondary school EFL teachers use different ICT tools. However, there is a lack of training on ICT integration as most of those teachers learned how to use these tools on their own.

3.3. Factors promoting ICT integration

Previous studies into Algerian EFL teachers' use of ICT have identified different factors for promoting ICT integration in different educational contexts (e.g., Alachahar, 2014; Guerza, 2015; Nedjah, 2010). For instance, in her study on the challenges of using ICT in Algeria, Boukhatem (2015) highlighted that considering ICT as an instrument of modernity helps to enhance the quality of Algerian education. This claim goes hand in hand with our findings. Indeed, our informants mentioned some factors that encourage them to introduce and integrate ICT in their teaching-learning process. These factors can be summarized as follows:

Motivation

Similar to the findings of Benmansour (2015), the results of our questionnaire indicated that teachers believe that ICT tools motivate learners to learn and enjoy their learning. Furthermore, these results were reinforced by the interviewees' answers. This view was shared by Teachers 1, 2, 7, and 9 who explained that these tools can improve the interaction between the teacher and his or her learners.

Usefulness

Throughout the analysis of the questionnaires and interviews, we found out that most participants tended to use ICT tools because they save time and energy (Teachers 1, 2, 3, 4, 6 and 8). This was in agreement with the beliefs about the importance of ICT use in the classroom. Besides, the interviewees pointed out that ICT enables them to achieve the objectives of their lessons. All of this points to the usefulness of new technologies.

Modernity

Some interviewees indicated that ICT attracts their learners' attention as they are living in the era of technology in a modern and globalized world. Thus, ICT use in EFL classes enables both teachers and learners to be up-to-date with the technological development in the domain of education. These findings indicate that teachers believe that technology has a lot of advantages and it has the potential to motivate learners. Such benefits encourage instructors to integrate ICT into their classes.

3.4. Barriers to ICT integration

Some Algerian researchers who have investigated ICT integration into EFL classes mention many barriers in this respect. For example, Nedjah (2010) reported

that though EFL teachers were increasingly recognizing the value of ICT in their profession, there were different obstacles within educational contexts which often prevent them from successfully using ICT tools. Similarly, we have noticed that most of our interviewees focused a lot on the barriers that hinder successful technology use. They also mentioned a large number of technical problems that can be listed as follows:

- problems with access to existing hardware (computer, overhead projector, and so on) in their school;
- technically inappropriate and inadequate ICT tools;
- lack of a ready show-room or a language laboratory that would help save time;
- absence of technical support and Internet facilities;
- insufficiency of teachers' technical knowledge to prepare materials based on new technologies;
- inefficiency of instructional software/electronic resources.

These findings help us address the last research question. It would seem that the attempts of the Algerian Ministry of Education to encourage ICT integration in most secondary schools require competent, well-trained and well-prepared staff in order to meet the objectives of the reform. Such staff would be charged with responsibilities to provide necessary assistance on how to use ICT tools in different classes, solve technical problems teachers might meet, ensure proper functioning of existing tools, develop instructional materials, help choose appropriate materials and content adequate to a given school, the number and level of the students, and regularly conduct workshops and training sessions the latest technological developments that can be used in language education.

4. Conclusion and implications

We are aware that the scope of ICT and education is so broad and there are many issues to be discussed. Yet, we have deliberately limited our study to the perceptions of Algerian secondary school teachers of English regarding ICT use as well as the limitations of such use in their teaching. Besides, the findings we reported in the questionnaire were based on our participants' perceptions. Our study also concerns a limited sample consisting of just 62 EFL teachers of secondary schools in Algeria, which makes the results difficult to be generalized. A larger population would have certainly provided better insights into the issues under investigation. Nevertheless, the findings can serve as a basis for a number of pedagogical implications. These are as follows:

- The Algerian Ministry of National Education should prioritize the investment in teachers' training on ICT integration. The ongoing in-service training on ICT would facilitate teachers' use of technologies as means in their EFL teaching.

Seminars, workshops, and school sessions by ICT experts would certainly promote successful and effective implementation of new technologies.

- Technical support and Internet facilities should be provided and supervised by the school administration.
- EFL teachers should bear in mind that ICT is a means of helping them achieve the objectives of their lessons and not an end in itself. Their integration would motivate learners to be more involved in the lesson.
- It is high time the Algerian government thought of ways of making basic ICT tools such as computers accessible to all schools, teachers and learners. This would push the development of Algerian education. In effect, EFL teaching and learning would likely become much more effective.

The suggestions we have provided pertain to ICT and EFL teaching and learning in the Algerian context. Although there are many studies worldwide about ICT and language education, we still need more empirical investigations related to ICT in this particular context. Besides, exploring the use of these tools in different schools in Algeria requires more time and the use of more data collection tools such as class observations. This would provide some more evidence on teachers' use of technology in their classes and highlight barriers they are confronted with during its implementation. Additionally, future studies could examine the impact of technology integration in EFL classes on learners' achievement. Equally important would be investigating learners' perceptions of ICT in EFL classes. This study should thus only be seen as a springboard for further research into ICT in Algerian schools. Although this study has shed some light on the use of ICT in EFL classes, there are still many other questions that remain unanswered.

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APPENDIX 1

Teachers' questionnaire

Dear teachers,

You are kindly invited to complete this questionnaire. It is intended for Algerian secondary school teachers of English in order to gather the necessary information about teachers' ICT resources perception and usage. When answering, please put a tick in the brackets/box of the selected answer.

What is your age?

23-29 years old () 30-39 years old () 40-49 years old () +50 years old ()

What is your gender?

Male () Female ()

How many years have you been teaching English?

1-3 years () 4-10 years () 11-15 years () More than 15 years ()

Where do you teach?

..... (Name of the school and your province)

Do you have a computer at home?

Yes () No ()

Do you have Internet access at home?

Yes () No ()

Do you have computer at school?

Yes () No ()

Do you have Internet connection at school?

Yes () No ()

How many hours a week do you spend using a computer?

None () less than an hour () 2-6 hours () 7-10 hours () more than 10 hours ()

How many hours a week do you spend using the Internet? None () less than an hour ()

2-6 hours () 7-10 hours () more than 10 hours ()

Have you received training on how to integrate technology tools into your EFL teaching?

Yes () No () No, I learnt by myself ()

If yes, what type of training have you received?

Basic computer literacy (On/Off operations, how to run programs, ..) ()

Computer applications (Word processing, Excel, etc) ()

Computer integration (how to use computers in classrooms) ()

Other (please mention it)

Where did you receive your training?

Online courses () College/University () A private school () Other ()

Perception and use of ICT materials among Algerian EFL secondary school teachers

Perceptions about use of ICT	Agree	Neutral	Disagree
I use computers as much as other resources (books, overhead projectors etc.) for instructional purposes.			
I am aware of the opportunities that computers offer.			
I can provide help for my students to use computers.			
I am sure that I am able to use computers and related technologies efficiently in my classes.			
I want to use computers in my classes.			
I can handle different learning preferences of my students having different learning styles by using instructional technologies.			
I believe that tools like e-mail will make communication with my students easier.			
I believe that tools like chat will make communication with my students easier.			
I believe that tools like e-mail will make communication with my colleagues easier.			
I believe that tools like chat will make communication with my colleagues easier.			
I think that technology-supported teaching makes learning more effective.			
I think the use of instructional technologies increases students' interest toward courses.			
I think the use of instructional technologies increases the quality of courses.			
I think that usage of instructional technologies makes it easier to prepare course materials (assignments, handouts etc.).			
I think instructional technologies as data shows and computer help me achieve my teaching objectives.			
I think using instructional technologies makes me more productive as a teacher.			
I think that using technology makes it easier to reach instructional resources.			

Thank you for your collaboration!

APPENDIX 2

Teachers' interview

Dear Colleagues,

This interview is about the different ICT tools you use in your teaching of English. It also aims at shedding light on the barriers you face when you integrate ICT tools in your EFL classes.

- a) What are the technological tools available in your school?
- b) Is there any encouragement to implement Information and Communication Technology (ICT) tools in your EFL classes? Please explain!
- c) What are the factors that encourage you more to integrate ICT tools in your lessons?
- d) How can ICT sources help you in your teaching of English?
- e) What are the barriers which hinder your ICT tools usage in your EFL classes?
- f) What are your recommendations concerning ICT tools use?