# Computer-mediated Communication (CMC) in the Algerian EFL Classroom: An Innovative Means to Enhance Interactivity

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*ABSTRACT*

Technology nowadays is affecting how educators teach and how learners learn. Thus, the effective use of technology can foster the relationship between schools and communities which use teaching and learning to ensure high level of social engagement and interaction. Today, the incorporation of computer literacy into teaching classes through programming and computer literacy tasks has characterized our industrialized world. Students may be familiarized with using the computer as a tool for learning by using different computer Software including database and graphing programs, problem-solving programs, writing tools, and board communications software because they may be more productive, interactive, and communicatively competent. In order to validate this hypothesis and achieve the aim of investigating the benefits of using Computer-mediated communication (CMC) in achieving interaction in the classroom, a semi-structured interview has been conducted with a sample of EFL teachers at ENS of Laghouatto collect qualitative data which were analyzed through content analysis. The results proved that teacherswho are familiar withCMCcoursesassured adequate responses regarding their students' writing and grammar knowledge because they can learn at their own expense and they can have independent choices fortasks, which fit best to their learning needs and interests, regardless the needs of other students in the classroom.

**Keywords**: Computer Software, interaction, Computer mediated communication, digital learning, self-directed learning

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## INTRODUCTION

The integration of new technologies to the EFL classroom came along a new pedagogical practice, which is Computer Assisted Language Learning. It has developed in the sixties, and was first applied during the seventies. In the last decade, the use of Computer assisted Language Learning (CALL) in teaching English as a foreign language has been evident, as it focuses on the use of computers in language teaching and learning processes. CALL may have different types, it may put emphasis on the teacher, andthis is known as computer-assisted language teaching, it may also focus on discussions and this is called Computer-Mediated Communication.

The use of the computer as a teaching and learning tool has developed, as educators raised innovative techniques for teaching, and helped students develop their own Hyper card projects, such as using applications, platforms, and electronic databases. Educators can also create assignments around students' interaction in web-based learning environments. It has been argued that designing collaborative project works around the computer and using computer-mediated communication (CMC) tasks highly affected students' learning engagement and make them actively involved in learning.

Multimedia technology represented by the CD-ROM shows the combination of different media such as sound, graphics, hypertext, and video on the computer which in turn allows students to learn all language skills at the same time in a particular context. There are many different programs designed to create opportunities for language learning through email, chat communications, mobile, and computer use. These computer-mediated communication materials can distinguish the students' needs and what they are expected to do with language. In the 1990's, an approach emerged which integrates both project work and CALL to be called later integrative Computer-assisted language learning. It emphasizes the learning in an authentic social environment.

The rationale of this study is to collect qualitative data to investigate the integration of CMC in a constructivist web-based teaching and learning environment. Also, we tempt to elicitEFL teachers' pedagogical responses and perceptions about the use of computer software in an interactive learning environment. To validate the aforementioned hypotheses, and to achieve the aimof the study, we come to raise the subsequent research questions:

1. Can the integration of Computer-mediated Communication be effective in enhancing Interactivity in a digital learning environment?

2. What is the impact of using integrative computer tools on developing EFL students' communication skills?

3. What is the impact of using integrative computer tools on increasing the EFL students' level of cooperation in constructivist learning environment?

4. What is the impact of using integrative computer tools on increasing the EFL students' self-directed learning?

We can build our assumption on the fact that integrating computer mediated communication can change the traditional learning process; it can ensure effective learning experience through students' interaction and cooperation within a given community. Integrative computer tools and software can have a great potential in fostering communicative language teaching and learning, multimedia computers use in this context may not be effective if teachers realize that there is something more efficient in the classroom, which needs to be addressed to ensure high levels of interactivity, communication skills, and cooperation including interactive boards, video conferencing, computer labs, software, and digital media tools which all contribute to achieving self-directed learning.

**Fig.1.**Hypothetical Model

Interactivity    H1

Communication skills  H2       Computer-mediated

Level of Cooperation  H3        communication

Self-directed learning  H4
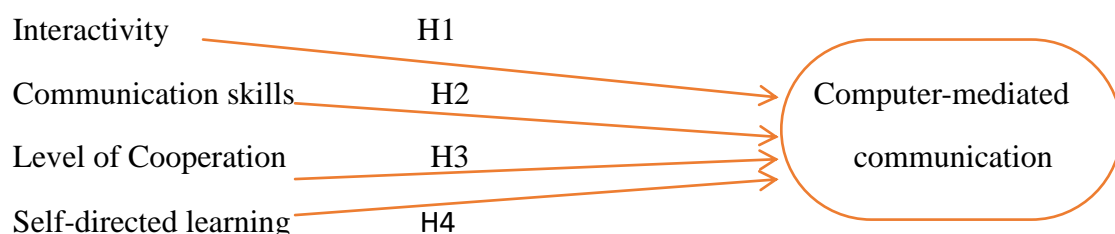
## 1. Innovating the Pedagogy through Computer Literacy

With the advent of technology, the creation of CD ROM, and many software activities, the process of learning has become easier with the integration of videos and images (Thomas et al, 2013). Students became able to interact and engage in an authentic learning environment by interacting with real life individuals through videos and through using authentic materials. Joiner (1997) brought in a set of multimedia materials including immediacy, interactivity, control, multisensory input, and the availability of other multiple preferences, which can allow students to explore, discover, question, and

receive feedback (Brett, 1998). The availability of multiple media such as hypertext and hypermedia including video, music, and sound in an interactive environment can provide students with different learning preferences and needs, and multiple modes of delivery (Pusack and Otto, 1997).

According to Lemke and Coughlin (2009), technology is authorizing students with construction of knowledge and multimodal learning. They can democratize knowledge through the internet which has become vital for the curriculum content, providing students with free access to valuable courses, information sources, and experts. Also, the integration of multimedia learning tools provides EFL students with the opportunity to use the target language in meaningful ways and in authentic situations, especially in engaging in innovative interactive and communicative-based tasks. These multimedia tools may involve webcasts, podcasts, YouTube, and Talk Shows, and multiple Websites (Chapelle, 2001).

Also students can be provided with opportunities for cooperation and interaction with their peers through project work and role play and simulations between individuals and groups. Further, using audio and video in authentic contexts and real world experiences can help EFL students to comprehend the content in relation to their needs (Kumar and Tammelin, 2008).

The theory of Computer-assisted language learning can provide materials which can make students self-guided and make them work at their own pace at any time and at any place. The planner of CALL materials is designed based on both the language pedagogic assumptions and methodological perspectives derived from multiple learning theories including behaviorist, psychological, constructivist and second language acquisition (SLA) theories. In addition, face-to-face instruction and integrative CALL is typically referred to as blended learning which is meant to broaden the learning potential, and is more systematically considered than pure CALL (Pegrum, 2009).

Considering that CALL pedagogical practices which are integrated into the existing curriculum according to students' needs and computer literacy adaptation, educators need to investigate the entire potential of CALL programs and employ them innovatively in the classroom. The move from teacher-centered teaching to computer-assisted, learner-centered learning requires the teachers' readiness and innovation to work in a Web-based environment (Boyles and Pazvant, 2005, cited in Son, 2002). In order to adapt with digital learning paradigm shifts constructively, thence, educators need to become familiar with multimedia and technological tools, and have digital competence

required to adapt with CALL programs and applications and utilize them for educational and academic purposes (Cunningham, 2000). In this vein, we come to adopt Sang et al., (2010) model which reveals their belief that teachers' use of multimedia and ICT tools depends on a set of internal teacher variables as shown in figure 2.

**Fig.2.**Teachers' Internal Variables
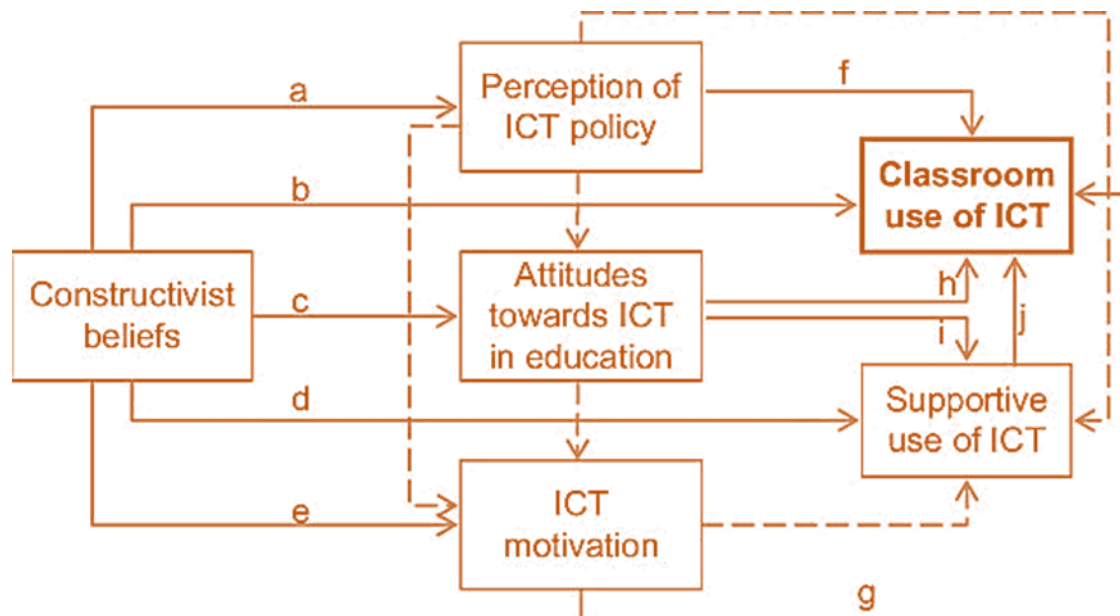


**Source:**(Sang et al., 2010, p. 163)

## 2. Computer-mediated Communication (CMC)

Multimedia and internet use has become prominent in the world's education. Unlike the communicative approach which provides students with simulated interactions, the integrative approach made authentic communication between the teacher and the learner and also with real people in an authentic environment through the use of the internet, in addition to, providing access to a large amount of data and information. Warschauer (1996) stated that "CALL activities were no longer limited to interaction with the computer and with other students in the class but included communication with learners in other parts of the world" (p. 23). The interactive nature of multimedia environments can allow students to choose the pace and sequence of the learning process, and learning content and tasks. Therefore, interactivity can also play a valuable role in providing access to instant help with the linguistic demands of a task, including synchronized subtitles and feedback (Day, 2004).

The use of multimedia and hypermedia can create an authentic learning environment through the integration of media like videos, sounds, texts, and

animation. Hypermedia and computer related environments are influenced by the ideas of Vygotsky (1987) who emphasizes that learning occurs as a result of social interactions with individuals of the society. Brown (2000) states that "social constructivist perspectives drew our attention to language as communication across individuals…foreign language learning started to be viewed not just as a potentially predictable developmental process but also as the creation of meaning through interactive negotiation among learners" (p. 245). On the other hand, Davies (2010) suggests that CALL is "an approach to language teaching and learning in which computer technology is used as an aid to the presentation, reinforcement, and assessment of material to be learned, usually including a sustainable interactive element" (p. 261).

**Fig.3.**CALL and Learner Interaction Model
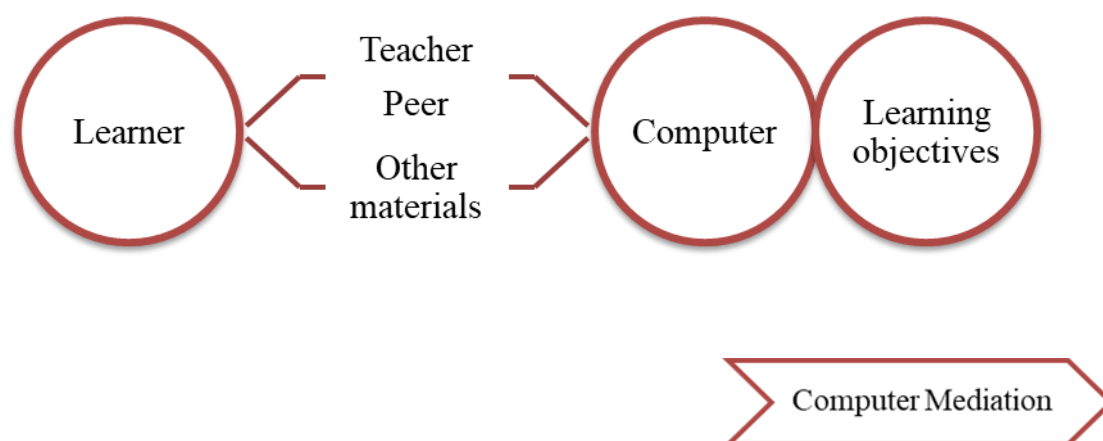


**Source:** (Hubbard & Levy, 2006, p.05)

Merrill (1989) states that computer-assisted language learning basically involves "the interaction by displaying information, getting response, and then providing feedback and subsequent follow-up instruction to be tailored to the needs of the learner" (p. 121) CALL allows an inclusive interaction between the teacher, student, and technology  for the sake of facilitating and enhancing teaching and learning processes. Besides, Clifford and Ganoien (2008) believe that "a CALL program, in order to support language acquisition and proficiency must be capable of interacting with the learner, of recording, analyzing, and interpreting learner output, and of providing feedback for correction, all in a context of meaningful tasks with authentic input" (p. 38)

In this vein, Constructivist web-based learning environment involves engaging in different learning tasks and computer programs for students, which

can appear in the use of online resources including online information and communication resources which are beneficial for effective learning courses (Becker and Ravitz, 1999). Students can construct ideas, make inquiries, negotiate meaning, and make reflections towards improving their cognitive and metacognitive competences. According to social constructivists, students construct their own knowledge through negotiating meaning (Hand et al., 1997, cited in Arnold et al., 2005). Also, cognitive competence of students in classroom is related to their interaction with their peers (Taylor and Cox 1997; Barron, et al. 2003).

According to Vygotsky (1978), students' negotiation of meaning is fundamental in affecting their knowledge, ideas, and attitudes through their interaction to each other. As Davis and Yung (2005) emphasize that students' negotiation is a key concept in constructing classroom learning environment. Schunk (2000) indicates that constructivist learning occurs in authentic contexts, and students construct knowledge in relation to their experiences in situation. Students also use their creative thinking in a constructivist learning environment to construct their knowledge (Woo, et al., 2007). Schunk (2008) claims that knowledge is physically constructed by students who are engaged in active learning situations and authentic tasks, with the guidance of the teacher which can motivate them and help them solve problems they face by developing their metacognitive competence during accomplishing tasks (Kirschner, et. al, 2006).

## 3. Method of the Study

In an attempt to collect the data, the researchers managed to choose a qualitative method to increase the reliability and constancy of the data and their analysis. A semi-structured interview was employed to portray the teachers' responses about Computer literacy and computer-mediated communication integration in teaching. The choice of teachers for the interview was done through convenience sampling method which is non-probability sampling where respondents are chosen because of their convenient accessibility to the researcher (Merriam, 1998).

The interview includes ten (10) open-ended questions which cover five sections: integrative multimedia use, computer software and tools use in classroom, significance of computer mediated communication integration, main challenges of CMC, integrative Multimedia computers hindrances. Data were gathered during March 2022. Teachers were asked for permission to contribute in this research, as they showed their willingness to participate in the study. The

semi-structured interview was conducted with six (06) teachers who belong to the English department at ENSL,and was held between May 15th and 22nd, 2022. Every interview took around 13 minutes with each teacher, and was audio recorded.

**Table 1.**Research Population and Sampling

| Research Population | EFL teachers at ENSL Department of English |
|---|---|
| Sample of the Population | Six (06) participant teachers |

**Source:**The Researchers' Output

An inquiry into teacher's perspectives about teaching with multimedia tools will provide useful perspective about how teachers respond to secular requirement of integrating computer software in English language teaching and learning processes. Indeed, to enable respondents to achieve the outstanding contribution of educational technology in the Algerian EFL education context, teachers' responses according to practices and institutional environments have to be examined. Accordingly, to get intuition into teachers' perception of computer mediated communication use in a social teaching environment; we opted for the interview as a data collection tool. Burns (1999) indicates that interviews are widely used as a means of collecting qualitative data; the researcher tempts to get data directly from well-informed respondents. Flick (2006) also believes that the goal of interview is to show existing knowledge in a way that can be expressed in the form of answers which can be accessible to interpretation and analysis.

The descriptive analysis was adopted to inspect the fact of using integrative multimedia computers in Algerian EFL classrooms; particularly to elicit the teachers' responses towards adopting computer mediated communication through using software, labs, and interactive digital media tools. Provided that the major qualitative data in this research were collected through interview, they were dispensed to content analysis which tempts to evaluate and establish links between data, and extracts hypothetical deduction from the script. Data analysis was accomplished by reading all responses, listening to all recordings, and writing down the data into script form. So as to get a broad meaning of the data, all the responses were inspected and ideas about the data were noted.

## 4. Analysis of the Data

In relation to the analysis of interview findings, the participants were asked about their responses corresponding computer mediated communication integration in the EFL classroom teaching and learning processes. The six interviewee teachers assured their positive responses, they were asked about the integration of multimedia tools in teaching as they ensured that they considered the potential of being adapted to integrative multimedia use in their EFL classrooms. To validate the four hypotheses of the study, we tempted to analyze the data through content analysis to affirm whether adopting computer mediated communication can contribute to ensuring a high level of interactivity, develop communication skills, provide a high level of cooperation skills, and preserve self-directed learning of students.

Regarding the first question of the interview, most teachers expressed that they had confident perceptions towards integrating multimedia tools in their teaching as they are aware of accessing knowledge through technology, and how to employ it in teaching environments. While two teachers had negative responses towards using multimedia computers, they considered the use of computer software in teaching as time consuming and not efficient for educational needs and goals. To quote one answer:

| Response of Teacher A |
|---|
| The use of computer tools and software are a waste of time and non-practical for teaching, because they cannot assure the outcomes that traditional teaching methods and teachers can afford. |

Another issue revealing through the interview was about the impact of integrating integrative multimedia into teacher education. Based on the respondents' responses, it is realized that utilizing a variety of materials, methods, and techniques in EFL content curricula, teachers can make progress in their teaching, and be more aware about their pedagogical practice, they could obtain from integrative multimedia to reinforce the quality of teaching and increase their professional growth. One teacher compiled this claim by affirming that:

| Teacher B Response |
|---|
| Multimedia integration in teaching and learning would be profitable for teachers. Also, utilizing technological devices can boost the quality of teaching, and assist teachers to successfully proceed in the process of teaching and learning in their classroom. Teachers can be better proficient by getting |

technological support.

Most interviewee teachers indicated that teachers should assist their students with technology competencies and computer literacy. One teacher described these major competencies as follow:

| Teacher C Response |
|---|
| Teachers need to be intellectual about how using multimedia devices efficiently, they need to be aware about how to use the computer and the internet. They need to receive adequate training on how to search information online, how to utilize e-mails, and how to create and run web sites and social learning platforms. |

Another teacher emphasized on the prominence of integrating integrative multimedia as an institutional matter by affirming the impact of practice as an upholding for conceptual and theoretical knowledge for multimedia computers utilization process. She emphasized that:

| Teacher D Response |
|---|
| Multimedia computers adoption process should be considered in a more contextual and framework based process, not only a content-based process. I think that presumptive data of this process should be propped by educational institution experiences. |

Respondents agreed that computer software, digital media and online tools contributed to promoting their language and content courses in interactive and communicative learning environments. They proclaimed that technology and integrative multimedia provided paths of communication with students through computer mediated communication approach. These following quoteshowsone of the respondents' responses:

| Teacher E Response |
|---|
| Looking for a research tool as Google is helpful for teachers to ensure effective and adequate tasks and materials. Nowadays, teachers can design course materials at their own pace in front of a computer without leaving their offices, or heading to the library, which time and energy saving. |

Teachers also hold positive attitudes about utilizing interactive multimedia tools. They assured the efficiency of language teaching through hypermedia tools like video, audio and interactive content can motivate students, and also may foster their self-reflection and learning engagement. In this vein, one respondent claimed the following:

| Teacher F Response |
| --- |
| It would be more enjoyable for students to study the language and content from both visual and audio inputs. For instance, there is a difference when we familiarize the students with a script of a story to read, and provide them with the movie of that story to watch. Students became compelled and attracted by communicative multimedia computers. Another example, teacher and students can communicate via email, and subsequently they establish a communicative learning environment. I frequently provide them with an assignment and they can send their tasks from their home, we can also share interactive feedback. |

Respondents also admitted that adopting Computer mediated communication in their teaching provided their students with more learning opportunities such as raising their full responsibility, making independent choices, interacting with peers, and ensuring self-guided learning. Some of the responses of teachers are summarized as follow:

| A Summary of Some Teachers' Responses |
| --- |
| Integrative Multimedia and the internet may provide a variety of language materials and digital tools for students, and can ensure inclusive interaction by developing communication skills. Students can collect any form of data and learn with computers by themselves. Computers and internet can encourage communication through interactive feedback, peer questioning, and project work, therefore integrative computer use would typically compensate students for the lack of real life experiences, interactions, and authentic communication in the classroom. Also, since some of our students lack this sense of communication and interaction, because they do not share acquired knowledge, interactive feedback, and do not engage in project work groups. |

Indeed, prior to the worth of integrative multimedia or hypermedia adoption, educators should teach their students via digital learning tools and online materials which lead to increased level of interactivity and communication in their EFL classrooms.

## 5. Discussion

The qualitative analysis of the teachers' semi-structured interview manifests that EFL students may face a real impediment in communicating with others due to lack of practice in the target language. They may not be very involved in the learning process and this is related to their own learning styles and learning strategies, also this depends on the teaching approaches and materials implemented. The teachers in their responses mentioned the idea of teaching materials, cooperative work, and peer feedback whereby which may

affect the students' engagement and their level of motivation to learn. The interview excerpts prove that multimedia tools and computer software are very fundamental for enhancing students' communicative competence and interactivity. They provide them with opportunities to practice the target language at their own pace, and expose them to authentic language use and real life experiences.

Teacher interviewees emphasized the effectiveness of integrative computer use as a means of enhancing students' interactivity in the classroom, and it familiarizes them with more learning opportunities and materials. Apparently, there is significant affirm of the approved potential of computer mediated communication adoption in assisting language teaching and increasing students' level of interaction in the classroom. This prospect has been acclaimed by investigators as a key affecting factor for integrative hypermedia adoption in classroom.

Teachers acknowledged reasonable use of integrative computers software, using video conferences, interactive boards, and social learning platforms in their teaching and learning processes, for the sake of creating an interactive learning environment. In this respect, a claim grew out about teachers' perspectives on considering the interactive potential of computer mediated communication approach to ensure more interactions among students and more opportunities for them to perform the language in authentic learning conditions. Warschauer (1996) indicates that students can manage and reflect on their own learning, and to communicate their ideas at their own pace in web-based and digital language learning environments. Accordingly, most teachers who participated in this research work think that emphasizing interaction in computer-based courses and tasks could develop students' communicative competence, and increase their digital self-engagement and raise their autonomy competence.

## 6. CONCLUSION

Based on the participant teachers positive responses upon adopting computer mediated communication approach, we can prove that CMC played a major role in making computer use reasonable in processing language courses. The analysis findings indicate that ensuring practical CMC integration; teachers need to have appropriate perception as to how it can ameliorate the language teaching progress, and to have the willingness to adopt new multimedia tools in their teaching process. This is persistent with findings from other studies, which reveal that teachers sympathetic perceptions towards integrative multimedia and computer software within a community of inquiry framework, and towards achieving classroom interactivity within a technology-enhanced

teaching environment.

Inevitably, the above stated claims about CMC constructive integration were not a matter of having advanced hypermedia tools in their classrooms. In effect, respondents considered that hypermedia employment needs to be combined with teachers' expertise and positive responses and attitudes, , and the learning content and environment. Consistent with the hypotheses of the study, we come to prove the assumption that computer mediated communication would be best utilized when adequate pedagogical practices are yet considered and blended. Indeed, teachers should consider such flexibility in the language content and curricula which are very important for authenticity from both teachers and students. This indicates that interactive digital media tools adoption such as computer software and labs for teachers needs pedagogical support, assisting facilities, supporting pedagogical planning, and institutional teaching materials and strategies.

The potential of integrative computer tools can enhance EFL students' communication skills and level of cooperation. However, integrative computer was utilized for what may be contemplated as comparatively intermediate tasks in content and language courses which mostly contributed to developing students' self-efficacy, communicative competence, and motivation. Even teachers who had not engaged their students in communicative and interactive utilization of computer devices in their teaching process, their portrayed perceptions show prospective integrative multimedia computers adoption in an interactive EFL classroom environment, when other innovative pedagogical practices are secured. For instance, a more adaptable curriculum, effective computer resources, sufficient cooperative work tasks, appropriate level of student communication skills, and high level of interactivity.

Crucial advantages of computer software and devices use in language teaching, along with supportive teaching materials and high level of students' communicative competence, were investigated. Although, respondents in this study conveyed a certain level of apprehensions they confronted with the complexities of the limitations regarding the external and internal aspects of multimedia computers integration in a communicative learning environment. The main aim of this study was to consider the significance of the adoption of multimedia computers in a communication-based learning environment, addressing the fact of how teachers have been ready to utilize computer mediated communication approach in their EFL classroom teaching.

For future investigations, it can be highly supportive when teachers

exploit communicative and integrative multimedia computers in a blended learning environment, and improve the current teaching and learning conditions of the Algerian higher education, regarding how teachers use computer labs and software in their teaching. Also, teachers should constantly consider the cognitive level of students in blended learning environment through encouraging thinking-based instruction which can typically lead to developing students' self-directed learning.

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## 8. Appendices

### Semi- Structured Interview Questions

1. Do you use multimedia tools in your EFL classroom?

2. What types of computer software do you adopt frequently with your students in the classroom?

3. Have you made training regarding computer use courses?

4. If you are asked to reveal your responses and perceptions about integrating multimedia computer tools in EFL teaching, what can you believe?

5. Do you think that using computer Software can ensure a communicative learning environment?

6. How could the integration of computer mediated communication affect your classroom management practices?

7. Can you consider CMC as pedagogical support for an interactive learning environment?

8. What would support CMC adoption in EFL classroom?

9. Have you ever faced hindrances when teaching with computer software?

10. Can you suggest some possible challenges to overcome such multimedia computer tools hindrances?