

ESP Online Learning in the Post-COVID19 Pandemic Era: A Step towards Autonomy, Intercultural Competence and Critical Thinking

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Abstract

The closure of educational institutions across the globe due to the COVID-19 sanitary crisis has highlighted technology as the only tool to continue the teaching-learning activity. However, continuity should not be regarded as the sole objective of remote education. While initially conceived a measure to cope with the unprecedented disruptions, remote education revealed significant potential beyond education continuity and mere knowledge transmission. Throughout this paper, it is argued that technology-mediated education cannot be only used to continue curriculum delivery and transmit subject-knowledge, but also to develop students' skills: autonomous learning, critical thinking, and intercultural communicative competence. The central argument is that ICTs, which have added another facet to language teaching/learning process, bring to the fore the necessity to link language mastery to autonomy, intercultural competence, and critical thinking. To this end, this study proposes an approach to ESP education based on the socio-constructivist learning theories. The principles of the proposed approach make it possible to reciprocally develop professional and life skills which are of high importance for future engineers. By aligning the socio-constructivist principles with the potentialities of ICT, this paper presents a research-informed perspective on enhancing ESP education in the digital age by making a shift in the perception of remote education from a temporary necessity to a valuable and permanent component of modern education; essential for fostering skill development and preparing Algerian engineering students for the challenges of the 21st century.

Keywords; ESP, future engineer, ICTs, life skills, online education.

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Introduction

All countries around the globe, including Algeria, took numerous actions to help prevent the spread of COVID-19. The major solutions which have achieved unanimity revolves around social distancing, isolation and quarantine. In Algeria, quarantine measures were applied very early, paralyzing all sectors of activity and education is no exception. Following the confirmation of the first corona virus death in Algeria, the authorities ordered the closure of schools and universities throughout the country in an attempt to contain the spread of Covid-19 from 12 March 2020. The closure concerned national education institutions, vocational training centers, universities and Quran schools in the public and private sectors.

However, the university community remains aware of the need to maintain educational activities and maintain a minimum of continuity. At the beginning of the pandemic there was an emergency adaptation to virtual education. In this regard, The Ministry of Higher Education and Scientific Research instructed all rectors of universities to make online pedagogical resources available to students in order to complete the 2nd semester of the 2019/2020 academic year remotely. Before entering the 2020-2021 academic year, the Ministry sought to implement hybrid education, combining face-to-face teaching with various degrees of virtual teaching. During the next year, 2021/2022, the same measures were taken.

For example, article 1 of Order 915 of August 11, 2021, which sets the exceptional provisions authorized in terms of educational organization and management, evaluation and progression of students during the COVID-19 period for the academic year 2021-2022, instructs tertiary education institutions to adopt hybrid mode of education:

Distance and/or online learning is a recognized form of pedagogical learning included in students' higher education curricula.

The combination of distance and face-to-face teaching methods, called hybrid teaching, is adopted for the 2021/2022 academic year. (Arrêté 915 du 11 Août 2021)²

This article recognizes virtual education as legitimate approach for completing a course and obtaining a university degree. It also instructs all universities across Algeria to combine two learning environments: face-to-face classroom instruction and online instruction along the 2021/2022 academic year.

Given that Technical English Course is categorized within the transversal and discovery units, the order in its article 4, gives a possibility of delivering it remotely: "Teaching of cross-curricular and discovery units can be provided remotely"³. (Arrêté 915 du 11 Août 2021) On the other hand, this article demonstrates that educational stakeholders' have taken the necessary precautions to maximally prevent the spread of the virus amongst students. On the other hand, it indicates their intention to transform tertiary education towards digital learning space. This transformation, according to Fullan (2020), is inevitable and it is taking place all over the world.

During the post pandemic era, the same educational policies and measures have been adopted. These policies and measures led to a transition from traditional education to digitalized education. However, the online and/or blended modes of education should not solely target the transmission of subject-matter knowledge of disciplines; rather, it should mobilize students' social and intellectual competences. This paper, therefore, aims at re-defining the objectives of

² « L'enseignement à distance et/ou en ligne est une forme d'apprentissage pédagogique reconnue entrant dans les cursus de formation supérieure des étudiants. La combinaison des modes d'enseignement à distance et en présentiel, appelé enseignement hybride, est adopté au titre de l'année universitaire 2021/2022. »

³ « L'enseignement des unités transversales et de découverte peut être assuré à distance. »

online ESP course at the Algerian university by turning it into an opportunity to go beyond targeting students' linguistic competence to developing their 21st century skills.

1. Methodology

This paper adopts a research-informed theoretical approach, grounded in the analysis of existing literature and educational frameworks. The research draws upon key concepts from constructivist learning theory, intercultural communicative competence (ICC), and critical thinking to explore the role of ICTs in ESP education. Drawing on Maxwell's (2013) principles of synthesizing theoretical perspectives, the study develops a conceptual understanding of how autonomous learning, ICC, and critical thinking can be enhanced through technology-mediated education. The analysis is based on a review of relevant academic sources and the application of research-informed theoretical models to the context of ESP instruction.

2. Findings

The reviewed literature has established the value of learner autonomy, intercultural competence (ICC), and critical thinking in ESP education. Building upon these foundations, it has appeared that integrating technology into the learning process, within a socio-constructivist framework, not only enhances the development of these skills but also fosters their interconnection. Through ICTs, ESP students can actively engage with learning in a way that promotes self-directed learning, collaborative problem-solving, and intercultural dialogue.

2.1. Developing Students' Life Skills through Technology-Mediated Education

Previous researches (Byram, 1997; Sercu, 2000; Deardorff, 2009, Amziane & Guendouzi, 2013) have already established a case for integrating learner autonomy and critical thinking in an intercultural contextualized foreign language teaching/learning process. However, these experts' ideas were to be applied in classroom-based education. Through this paper, we want to argue that integrating technology into this process makes it more possible to develop these competences within a socio-constructivist framework.

The potential of ICTs to enhance students' 21 century skills is certainly mentioned, but how it would facilitate developing them in an intertwined way has not been the subject of any thorough discussion. Therefore, in this section we discuss how ICTs develop each one of them and then, in the next section, we will discuss how students' autonomous learning skills, critical thinking, and ICC are intertwiningly developed throughout technology-mediated ESP course.

2.1.1. Learner Autonomy

The social distancing measures taken in the context of the fight against the COVID-19 pandemic, the freezing of all forms of face-to-face educational activities, and the resuscitation of distance learning platforms (MOOC, Moodle, Zoom, Google Classroom, etc.), combined with the proliferation of new multimedia technologies, have inspired, more than ever, a reflection on the ability of students to adapt to this situation, to the new techniques it mobilizes, and to the new learning devices implemented.

Though it is fair to say that for 21st-century students, shifting from face-to-face learning to online learning does not seem to challenge most of them (Vladova et al., 2021), it is important to remember that these new forms of learning derive their appeal from the ability to learn at their own pace on their computer, tablet, or smartphone. The learners, responsible for the objectives of their learning, sees themselves developing a cognitive autonomy which is based on the principle of "learning to learn"; it constitutes both a goal and a means of acquiring the ability to autonomously acquire and apply a foreign language.

E-learning offers students with the opportunity to develop autonomous learning skills since pedagogical resources (handouts, videos...) are deposited on the university platforms so that

students consult them at their own pace. Throughout learning process, students may choose their learning strategies, organize their schedule, choose the relevant information from the available resources, analyze, observe and evaluate their learning progress, identify difficulties, and maintain motivation. Doing so makes students responsible for their own learning.

Kwon et al (2021) claim that contrary to classroom-based education, technology-based education presents more possibilities of changing teacher's role from knowledge transmitter to learning facilitator. This change in roles has been described by Park (2011) as "identity shift". He argues that online education allows the teacher to transit from being "a didactic purveyor of information" to "an interactive instructor" (p. 179). With the advent of online education, teachers have the opportunity to transition into facilitators of learning, fostering interactive and engaging educational experiences for their students.

With this in mind, it would be fair to say that giving students more responsibility during online language learning process increases their self-confidence. A self-confident student can build a personal and autonomous approach that enables them to determine their needs and choose the means and ways to satisfy them (Ingkavara et al., 2022). He works at his own pace by organizing study periods in his living environment, be it personal, social, academic or professional.

2.1.2. Intercultural communicative competence

Internet has been regarded as an alternative for international student mobility which was paralyzed by the health crisis triggered by Covid19. More importantly, not only did the internet enable students to continue their studies at home, it also enabled them to make contacts at national and international levels. Hence, despite quarantine, technology-based learning makes intercultural encounters very possible. This suggests that the intercultural approach can be implemented in the ICT-mediated ESP course.

According to Lewis and O'Dowd (2016), virtual exchanges prove to be an affordable engagement tool across universities as they promote student engagement with peers from other cultural backgrounds and other geographic regions to carry out virtual intercultural interactions. Universities, therefore, may create platforms for students to interact, share perspectives, and learn from one another. This approach not only enriches students' academic experience but also enhances their intercultural competence, preparing them for the globalized world they will navigate beyond the classroom.

Byram (2008) also argues that these exchanges should not only focus on the linguistic aspect; people who communicate in person or virtually should also develop certain attitudes to interact with people from other cultures. This presupposes a higher level of complexity of the exchange, which demands not only linguistic competence but also cultural intelligence and empathy, fostering meaningful connections and mutual understanding among individuals from diverse backgrounds.

In line with this, the implementation of the intercultural approach in virtual ESP course is not the acquisition of additional knowledge about one or more foreign countries, but rather the organization of courses and academic methods in such a way that the students adopt new points of view (*savoir-être*), acquire new capacities (*Savoir apprendre/faire*), develop interpretive skills (*Savoir comprendre*), and critical cultural awareness (*savoir s'engager*) (Byram, 1997).

The online ESP course, therefore, should be designed taking into consideration the intercultural dimension of EFL so that graduates become interculturally competent, or as Byram (1997) terms "intercultural speakers" who can successfully communicate in multicultural academic/professional settings, reflecting the globalized nature of today's world. The interculturalized online ESP students are well-equipped for the international stage of their

professional careers, making them proficient in both technical knowledge and intercultural communication.

2.1.3. Critical Thinking

Transition into virtual education due to the COVID-19 pandemic had pushed educationalists and researchers to come up with the pedagogical techniques that would help develop students' skills such as critical thinking which they used to target in classroom-based teaching. Research indicates that using a digital approach may encourage students to solve problems and make decisions: two core elements of critical thinking skill.

The study conducted by Demircioglu, Karakus, and Ucar (2023) on the utility of Augmented Reality technology underscores the pivotal role of digital approaches in encouraging students to critically analyze information and construct compelling arguments. The researchers conclude that the immersive and interactive nature of technology-mediated education not only captivates students' attention but also empowers them to explore diverse perspectives, thus fostering a deeper understanding of complex issues.

For Byram (2008), the human being is essentially political. In this sense, virtual international exchanges in the course of foreign language learning may enable learners to develop critical cultural awareness and political education (Byram and Wagner, 2018). This political dimension is closely tied to critical thinking, as individuals must question assumptions, evaluate diverse perspectives, and recognize the influence of power structures in their lives. Giroux (2011) holds the same perspective. He argues that education plays a crucial role in fostering this awareness by encouraging students to critically engage with societal norms and challenge dominant ideologies. By connecting politics to critical thinking, educators can help students develop a deeper understanding of the world and empower them to navigate and transform the complexities of their social contexts. Byram (2008) calls the foreign language teacher to integrate "intercultural citizenship education" and create spaces for learners to exchange in collaboration with transnational partners in order to identify important problems and provide solutions on concrete action in their community. The notion of action in the community is therefore revealed as the outcome of critical pedagogy.

The fact that E-learning platforms and resources increase communication, debates, collaborative work, knowledge production, among others, indicates that critical thinking is possible, not only in face-to-face education, but also in virtual education. With special focus on virtual communications, O'Dowd and Ware (2009) propose collaborative tasks that may fit the ESP context. This category of tasks involves students not only in information exchange and comparison, but also in performing collaborative work in order to produce a product or arrive at a common conclusion. Collaborative working entails coordination and planning, which leads to the negotiation of meaning at the linguistic and cultural levels when sharing. O'Dowd and Ware point out that this negotiation of meaning occurs when students try to come to an agreement to achieve the final product.

2.2. ICT-Based Constructivism for Autonomy, ICC, and Critical Thinking

Research in technology-based education these last years strives to develop approaches and to implement techniques for the sake of facilitating foreign languages learning. Our approach to learning/teaching ESP through ICTs has its origins in socio-constructivism. It is important to point out that the ideas of socio-constructivists have had a great influence on the world of foreign languages learning.

ESP is so much about teacher-student and student-student interaction; therefore, the constructivist interactionist approach may help teaching practices go in this direction. It gives voice to students so that they maintain social relations, develop interpretative abilities, and widen their world views. Evanoff (2004) emphasizes the acquisition of knowledge in an interactionist process:

In the constructivist view knowledge, values, and ethics cannot be derived from theology, metaphysics, or nature, but are instead actively constructed. Humans formulate concepts not in isolation from, but through interactions with, the external world. From this interactionist perspective meaning, knowledge, values, aesthetic beauty, as well as ethics, are not seen as being the exclusive property of an objective reality standing outside of all human perceptions and valuations (objectivism) nor as being merely the product of mental processes (subjectivism). (...) Mind is constituted by the particular interactions it has with both its natural and its social environments and does not exist apart from them. (p. 449)

This quote proves that a constructivist interactionist approach to ESP allows learners to be both actors and responsible for their knowledge construction, that is for their own learning. Evanoff's words explain a fundamental principle of the constructivist interactionist approach which emphasizes that learning is an active process where students are not passive recipients of knowledge but actively engage with the learning material. They construct their understanding through interactions with the content, their peers, and the teacher. Involvement in the learning process fosters a sense of responsibility towards their learning journey, which greatly enhances their understanding of the subject matter.

This approach can be applied into a virtual learning context. Thus, within a constructivist interactionist learning framework, technology-mediated learning allows each student to construct knowledge according to their experience and lived reality. Knowledge is no longer a factual or cultural datum to be transmitted from the teacher to the student; it is rather, according to this framework, deconstructed, then reconstructed.

This particularity of the constructivist interactionist approach applies to the specificities of ESP students who study English for professional and/or academic purposes. According to constructivist learning, the ESP student has the freedom to autonomously build his or her knowledge according to his vision of the world that he has already developed during interactions with those around him. As a result, the knowledge constructed by each student is personalized and shaped by their individual experiences, and this creates variations in understanding from one learner to another.

Learner autonomy has been brought into the center of foreign language education research in the sense that it aims to prepare learners for intercultural and inter-linguistic communications by providing them with the tools for both autonomous and critical understanding of themselves and others, of the learning process and of the factors that come into play in communication (Sercu, 2002). Autonomy, therefore, represents a holistic educational perspective, preparing students to navigate diverse linguistic and cultural landscapes with both confidence and critical insight.

Given that the engineering professional world is a place where not only is crosscultural encounter in one form or another inevitable, but also its precise circumstances cannot be limited to a given setting or context, future engineers' autonomous learning and critical thinking skills are asset. An argument for autonomy is put forward by Byram, Gribkova and Starkey (2002) who firmly state that instructors cannot teach students everything about interculturality simply because "whatever is taught [...] is inevitably insufficient."

Cultural differences can be seen in the institutional organization and behaviors of individuals. For example, Algerian engineers have neither the professional culture nor the behavioral culture of their international colleagues. This is why these engineers must know the cultural aspects of the other engineering profession before joining a multinational work place. Neglecting the cultural dimension of ESP course renders, on the one hand, the proposed training incomplete and, on the other hand, poses problems when the learners come into contact with their international colleagues.

Moreover, the presence of multiplicity of life experiences and perspectives in ESP context would bring interculturality into the center of learning process. The intercultural dimension of EFL

responds to the constructivist approach in that mutual cross/cultural understanding can be socially constructed when different ideas and experiences are brought into learning settings. Communicating consists, among other things, in understanding the culture of the other, especially when the two interlocutors have completely different system of references.

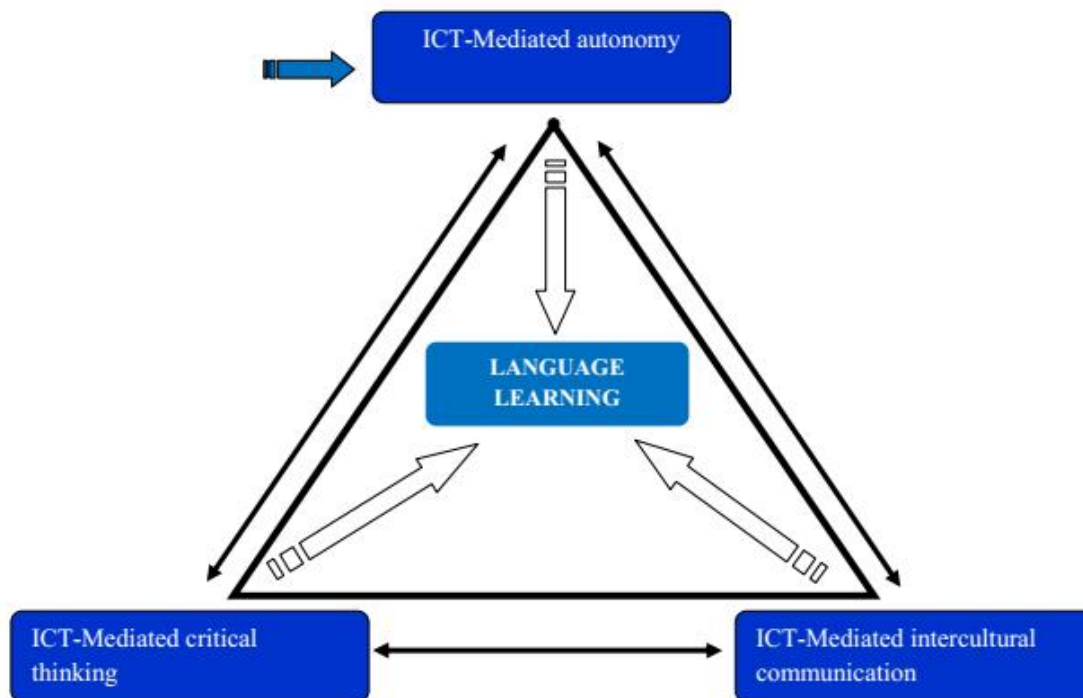
In such a learning situation where different perspectives and ideas are discussed and developed in a respectful and autonomous way, students' intellectual competence is very likely evolve. In other words, discussion of different perspectives and experiences in a respectful atmosphere allows each student to deconstruct already existing ideas and construct new ones in an autonomous way and this develops students' critical thinking skills. The respectful exploration of diverse perspectives in ESP learning environment expands intellectual competence and nurtures essential skills like critical thinking, open-mindedness, and empathy.

The argument for developing critical thinking skills within intercultural foreign language learning is presented by Deardorff (2009). She claims that in culturally complex contexts, critical thinking allows the interlocutor to make effective and appropriate decision. The development of learner' critical cultural awareness with respect to his own country and to others and for a capacity to integrate into the living contexts has also been supported by Byram (1997). Addressing the cultural dimensions of a target language, Byram affirms, should be complemented by emphasizing the processes and methods for analyzing with critical tools the social processes and the outcomes that the learners offer.

Regarding the development of autonomy and critical thinking, Little (2002) and Benson (2003) argue that both skills are parallelly developed through decision-making, critical reflection and social interaction. Above all, they are developed when students collaboratively work on observing, analyzing and evaluating information. The same idea is echoed by O'Dowd (2020) who puts both skills in an intercultural learning context. The author argues that tasks which actively engage students in learning process have significantly positive impact on the development of students' ICC. These tasks, O'Dowd (2020) goes on, allow learners to open dialogue and perform critical reflection about their culture and that of others. They render language learning active and interactive, which enriches the overall educational experience.

All together, these competences facilitate the process of language learning. They first strengthen one another, which by extension reinforces the acquisition and application of language elements. The following diagram illustrates this idea.

Diagram 1: Connection between ICTs, learner autonomy, critical thinking, intercultural competence, and language learning



The diagram highlights the interconnectedness of ICTs, learner autonomy, critical thinking, intercultural competence, and language learning. In this intricate web of connections, these elements not only coexist but also mutually reinforce each other, creating a synergistic effect that enhances language acquisition and application. As shown in the diagram, the relationships between these skills can be complex and multifaceted, often involving bidirectional influences. This interconnected relationship fosters a more holistic and comprehensive approach to ESP learning.

Conclusion

Since 2020, the closure of educational institutions due to COVID-19 has highlighted the critical role of technology-mediated education. Based on a research-informed approach, this study examined how ICTs can be utilized to enhance students' autonomous learning, intercultural competence (ICC), and critical thinking in ESP education. By moving beyond the traditional view of ICTs as mere tools for continuity, the study argued that they provide a unique opportunity to develop essential life skills, including digital competence, autonomy, and critical thinking. The discussion underscores the importance of ESP teachers recognizing these skills and designing technology-based educational strategies that not only ensure course delivery but also prepare students for the complexities of a globalized world. However, challenges remain. Teachers may struggle to integrate ICTs due to insufficient training, while students face unequal access to technology, making the move toward ICT-enhanced learning difficult. To address these issues, both educators and students need to be supported through comprehensive training and improved access to resources, ensuring that technology fosters an inclusive and equitable learning environment for all.

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