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The Impact of Technology-based Instruction on Enhancing Learners' Development of Intercultural Knowledge in Foreign Language Classrooms.

Case Study: Third year students of English at the department of letters and English language, at the University of 8 Mai 1945-Guelma.

This thesis submitted to the Department of Letters and English in candidacy for the Degree of 'Doctorat LMD' in Didactics of Foreign Languages and Cultures.

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Dedication

I dedicate this work to:

My beloved parents who supported me much by encouraging me and taking care of my

Son.

My beloved husband Rahim

My beloved son Taim

My dearest brothers: Djalil and Djassim

My dearest friend: Amel Lakehal, who helped me a lot in conducting my research.

All my friends.

All my teachers.

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Abstract

It is widely agreed that teaching culture in foreign language classrooms aims at enriching the learners' intercultural knowledge for effective and appropriate intercultural communication in the twenty-first century globalized world. Yet, it was observed that most of third year License students in the department of English, University of 8 Mai 1945, Guelma (Algeria), have poor intercultural knowledge background. Therefore, the current research aims at investigating the impact of technology-based instruction on enhancing learners' development of intercultural knowledge in foreign language classrooms. In this regard, the research hypothesized that technology-based instruction may lead to enrich and develop foreign language learners' intercultural knowledge. To achieve the research aim and to test the research hypotheses, the researcher mixed the quantitative and the qualitative approaches. Within the quantitative approach, the quasi-experimental method was used along with the students' and the teachers' questionnaires. Within the qualitative approach, a follow-up interview was conducted with the students of the experimental group by the end of the quasi-experiment to corroborate the research results. According to the statistical analysis of the experimental and the control groups' results in the pre-test and post-test, technology-based instruction proved to have a significant effect on students' intercultural knowledge development. In addition, findings from the students' and the teachers' questionnaires supported the quasi-experiment results.

Keywords: Intercultural knowledge, Technology-based Instruction, intercultural communication

List of Abbreviations

AECT	Association for Educational Communications and Technology
CAL	Computer-Assisted Learning
EFL	English as a Foreign Language
ESL	English as a Second Language
ESP	English for Specific Purposes
ET	Educational Technology
FL	Foreign language
GPL	General Public License
GSMA	Group Special Mobile Association
IC	Intercultural Communication
ICC	Intercultural Communicative Competence
ICT	Information Communication Technology
IK	Intercultural Knowledge
IT	Instructional Technology
LCMS	Learning Content Management Systems
LMS	Learning Management System
MAL	Mobile-Assisted Learning
SPSS	Statistical Package for the Social Sciences
VLE	Virtual Learning Environment

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General Introduction

1. Background of the Study

In today's global world, foreign language (FL) education is highly influential and crucial, since it offers practical and intellectual benefits to anyone who is engaged in it. FL education in the twenty-first century tends to prepare learners for the challenges of an adult life in the current era of technology explosion that requires learners to be effective intercultural communicators. Yet, poor intercultural knowledge (IK) background may hinder learners from running effective and successful intercultural interactions. Because it is hard to imagine a room in a given educational setting in the twenty-first century era that does not contain any technological device, Herschbach (1995) acknowledged that there is a strong belief among technology educators that technology constitutes a type of formal knowledge that can be reduced to curricular elements. The term 'technology' comes from the Greek *technologia*, which refers to the systematic treatment of an art. According to Herschbach (1995), the root 'techne' combines the meanings of an art and a technique, involving both a knowledge of the relevant principles and an ability to achieve the appropriate results. The root 'logos' has wider meaning, including argument, explanation, reason, and principle. Differently put, technology encompasses reasoned application of abstract ideas. Moreover, it implies a high degree of intellectual sophistication applied to the arts and craft for creating new devices. It refers to the application of science to solve various technical problems.

Tomei (2011) stressed the importance of incorporating technology into teacher education programs in meaningful and professional ways. This is because technology has the ability to foster the learning process, and to help the teachers for their professional development. Otherwise stated, the educational systems must be designed to infuse technology into all its aspects. Following the same line of thought, Aitken et al. (2012) asserted that educators increasingly rely on communication technologies, defined as the systems used for connecting communicators through electronic multimedia devices including computers, video, audio, and

phones, for pedagogical development. They added that technology-based instruction (TBI) offer instructors new opportunities of effective teaching and interactions with learners in and out of the classroom. Otherwise stated, harnessing the utility of communication technologies for instructional use is a top priority to educators in the twenty-first century. This is due to the fact that technology is a vital tool to foster learning in the twenty-first century.

According to Jourdan (2006), learning about new languages and cultures allow people to be competent intercultural communicators, and to negotiate meanings in intercultural interactions. Intercultural communication (IC) is widely regarded as being much more challenging than the normal communication, since it occurs between two or more people with different cultural backgrounds. Deardorff (2006) defined intercultural communicative competence (ICC) as the ability to develop targeted knowledge, skills, and attitudes that lead to visible behaviour and communication that are both effective and appropriate in intercultural interactions. Deardorff (2006) added that intercultural knowledge (IK) is the key subcomponent ICC, because it contributes to the intercultural communicator's capacity to communicate effectively and appropriately in different intercultural situations. Therefore, skilful intercultural communicators acquire a rich intercultural knowledge background that allow them to behave adequately and in a flexible manner in intercultural interactions. They are able to develop critical cultural awareness and cultural tolerance while communicating with peoples from different cultural backgrounds. This implies that educators must focus on enriching FL learners' IK, since it is believed to be the key for any successful and appropriate intercultural interaction.

According to Maimone (2018), technology could play a crucial role in facilitating knowledge transfer and exchange inside and outside local communities and on a global scale. It can foster the creation, dissemination and sharing of intercultural knowledge, facilitating the creation of bridges across political, cultural, social and organizational boundaries (p. 9). This implies that TBI is an effective strategy that can enrich learners' intercultural knowledge, as it

supplies the FL classroom with multiple and many authentic materials. Authentic materials include audio, visual, and printed tools that enable FL learners to make direct contact with the target culture.

Therefore, the current research is among the few studies that empirically investigate the impact of technology-based instruction on enhancing FL learners' development of intercultural knowledge in FL classrooms. Moreover, it examines FL teachers' and students' opinions about the effectiveness of TBI to enrich FL learners' intercultural knowledge background. The research introduces a new contribution to the literature about the effectiveness of TBI to enrich FL learners' IK for effective and appropriate IC.

2. Statement of the Problem

FL educators have long advocated that language and culture should be integrated in the language classroom in ways that enable foreign language learners to be skilful intercultural communicators. Indeed, numerous instructional techniques and strategies have been developed to foster learners' ICC. Yet, it is often observed that despite being foreign language learners, most of third year Licence students in the department of English, University of 8 Mai 1945, Guelma (Algeria), have poor IK background; which hinders them from being effective and successful intercultural communicators. In this respect, TBI is suggested by the current study to have a positive effect on learners' acquirement of the needed intercultural knowledge background for successful and appropriate intercultural communication.

3. Aims of the Study

This study aims at achieving two main objectives. The first one is to investigate the effectiveness of using technology-based instruction in developing and enriching the intercultural knowledge of third-year License students in the department of English, University of 8 Mai 1945, Guelma (Algeria). The second one is to probe teachers' and students'

perceptions on the impact of technology-based instruction on fostering FL learners' intercultural knowledge as basic component of intercultural communicative competence.

4. Research questions

This research work is motivated by the following questions:

- 1- What are the perceptions do students and teachers in the department of English, University of 8 Mai 1945, Guelma (Algeria) have on the importance of fostering FL learners' intercultural knowledge as basic component of intercultural communicative competence?
- 2- Can technology-based instruction develop intercultural knowledge of third-year Licence students in the department of English, University of 8 Mai 1945, Guelma (Algeria)?

5. Research Hypotheses

The research hypothesizes that:

H1. Technology-based instruction is effective to develop FL learners' intercultural knowledge.

H0. Technology-based instruction has no effect on the development of intercultural knowledge.

6. Research Methodology

6.1. Research Method

The present research was conducted following the quantitative and the qualitative approaches. Within the quantitative approach, the quasi-experimental method was used along with the students' and the teachers' questionnaires. Within the qualitative approach, a follow-up interview was conducted with the students of the experimental group by the end of the quasi-experiment to explore their opinions about the effectiveness of TBI on enhancing FL learners' intercultural knowledge. What distinguishes experimental from quasi-experimental research is the randomization of the sample. When a sample is chosen randomly, the method is totally experimental. However, when the sample is not selected randomly, the method is quasi-

experimental (MacKey 2006). Therefore, the research followed the quasi-experimental method, because the researcher was allowed to teach only two groups from the whole third year batch.

6.2. Population and Sampling

The present study has been conducted with third year students of English at the department of letters and English language, at the University of 8 Mai 1945-Guelma. Third year students are supposed to possess good experience that enables them to evaluate the importance of implementing a technology-based approach in English as a foreign language (EFL) classroom. Moreover, they have already studied English as a FL for nine years at least. Hence, they are supposed to be introduced with some aspects of the target culture. The study depends on using the random sampling technique to achieve generalization

6.3. Data Gathering Tools

Data collection is based on the instrumentality of three main tools: A quasi-experiment, two questionnaires (one for the students, and the other for the teachers), and follow-up interview with the students of the experimental group.

7. Significance of the Study

The present study focuses on enriching FL learners' intercultural knowledge background through TBI for effective and appropriate intercultural interactions in the twenty-first century globalized world. Moreover, the research emphasizes the importance of integrating culture in FL education, since FL learners need to master not only the linguistic competence, but also the intercultural competence to cope with the new requirements of the globalized world.

The significance of this research is its contribution to the literature by investigating and discussing the impact of technology-based instruction on enriching and developing the intercultural knowledge background of third year students of English as FL at the department of letters and English language, at the University of 8 Mai 1945-Guelma, Algeria. As the body of knowledge about enriching FL learners' intercultural knowledge background in Algeria is

very poor, the present empirical study attempts to fill this gap via enriching the literature concerning the effectiveness of TBI to enhance FL learners' IK. Finally, the researcher aims at contributing to the development of FL education in Algeria through relying on the research results for possible future educational reforms.

8. Structure of the Thesis

The thesis is divided into five chapters along with a general introduction and a general conclusion. The first two chapters introduce the theoretical framework of the study; while the other two chapters are devoted to the practical part, and the last chapter is devoted to some pedagogical recommendations.

The first chapter is entitled 'Culture and Intercultural Knowledge'. It discusses culture and its integration within FL education. Moreover, it introduces the notion of intercultural communication, along with its importance in the twenty-first globalized world. Finally, it stresses the importance of intercultural knowledge as a crucial component of ICC that needs to be enriched and developed. The second chapter is entitled 'Technology-based Instruction'. It explains the notion of technology-based instruction, and explores the importance of integrating technology in foreign language education to enrich FL learners' intercultural knowledge.

The third chapter is entitled 'Research Design and Methodology'. It sheds light on the aims and the population of the quasi-experiment, the questionnaires, and the follow-up interview. Moreover, it illustrates the content of the experiment and explains its design. It also presents the description and the administration of the students and the teachers' questionnaires, along with the follow-up interview. Chapter four is entitled 'Data Analysis and Interpretation'. It introduces coding and analysis of the quasi-experiment, the questionnaires, and the follow-up interview. Then, it interprets the findings in the light of the research questions and hypotheses. Finally, chapter five is entitled 'Pedagogical Implication and Limits of the Study'. It suggests some recommendations, and highlights strategies to develop FL learners'

intercultural knowledge through technology-based instruction. By the end, the chapter points out the limitations of the study.

Chapter One: Culture and Intercultural Knowledge

Introduction

1. Culture

1.1. Definition of Culture

1.2. Views of Teaching Culture in Language Curriculum

1.2.1. The Communicative View

1.2.2. The Classical Curriculum View

1.2.3. The Instrumental or Culture-Free-Language View

1.2.4. The Deconstructionist View

1.2.5. The Competence View

1.3. Some Common Approaches to Teach Culture

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1.3.2. Intercultural Approach

1.3.3. Multicultural Approach

1.3.4. Transcultural Approach

1.3.5. Topic-based Approach

1.3.6. Skill-centered Approach

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1.6.2. Kim's (2001) Model

1.6.3. Deardroff's (2006) Model

1.7. Intercultural Knowledge as a Key to Intercultural Development

1.8. The Importance of Fostering Learners' Intercultural Knowledge in FL Education

1.9. Strategies to Enhance Foreign Language Learners' Intercultural Knowledge

1.9.1 Inquiry-based Instruction

1.9.2. Cooperative learning

1.9.3. Technology-based Instruction

Conclusion

Introduction

It is widely recognized that integrating the target culture in FL education is of paramount importance. A considerable body of research on teaching culture has revealed that both language and culture are inextricably related (e.g., Brown, 2000; Damen, 1987; Fantini, 1997; Kramersch, 1998; Fantini, 2000; Akharraz & Tamer, 2021). Indeed, culture and language are inseparable notions in the field of FL education. This implies that the twenty-first century FL learners need to develop their intercultural communicative competence to be able to use the linguistic system effectively and appropriately in the target language context and culture. Being effective intercultural communicator necessitates that FL learner is knowledgeable about the basic characteristics, facts, and components of the target culture. Therefore, developing FL learners' intercultural knowledge is vital and crucial in FL education.

1. Culture

1.1. Definition of Culture

According to O' Sullivan et al. (1994) there are numerous definitions related to the word "Culture", since it has been used to refer to different concepts, contexts, and disciplines throughout history. In addition, the term culture can be changed in a number of different discourses (p. 68). This means that one fixed definition of culture does not work in every context, field, and situation. Following the same line of thought, Moran (2001) claimed that culture is multifaceted and there is no consensus on what culture is (p.13). This explains why writers tend to provide different definitions to the term "Culture" depending on the field of the study. In this context, Taylor (1874) asserted that culture is a multifaceted set of knowledge, belief, art, law, morals, customs and any other capabilities and habits acquired by man as a member of society. Similarly, Merriam-Webster Dictionary defined culture as the set of shared attitudes, values, goals, and practices that characterizes an institution or organization. Williams (1992) added that culture is the whole way of life, or a structure of feeling. Therefore,

culture is the lifestyle of a group of people, and the center of society. Without culture, no society can even exist.

Haviland (1990) stated that culture is a set of rules or standards that, when acted upon by the members of a given society, produces behavior that falls within a range of variance that the members consider proper and acceptable. That is, culture is the social system, which comprises the values, norms, and ways of appropriate behaviors in a given human society. Barnlund (1988) defined norms, as the “codes that are unconsciously acquired and automatically employed” (p. 13). Lusting and Koester (1993) added that norms are “the outward manifestation of beliefs and values, which are socially, shared expectations of appropriate behaviors” (p. 109). According to Samovar and Porter (1991), culture is the deposit of knowledge, experience, beliefs, values, attitudes, meanings, religions, notions of time, roles, special relations, concepts of the universe, and possessions acquired by a group of people (p. 51). This means that culture is made up with a given social group’s knowledge, common sense, assumptions, and expectations. In addition, it includes the rules, norms, laws, and morals that govern the society, and the symbols that they use to express meanings, ideas, and concepts. It encompasses religion, food, clothes, language, marriage, music...etc.

Verma (1991) defined culture as a system of the patterns and the modes of expectations, expressions, values, institutionalization, and enjoyment habits of people in general. This implies that culture is the guideline that guides its members, at a conscious and unconscious level, to behave in appropriate ways in various cultural interactional situations. Furthermore, Goodenough (1957) wrote that:

A society’s culture consists of whatever it is one has to know or believe in order to operate in a manner acceptable to its members, and so in any role that they accept for anyone of themselves. Culture, being what people have to learn as distinct from their biological heritage, must consist of the end product of meaning: knowledge, in a

most general, if relative, sense of the term. By this definition, we should note that culture is not a material phenomenon; it does not consist of things, people, behaviours, or emotions. It is rather an organization of these things. It is the forms of things that people have in mind, their models of perceiving, relating, and otherwise interpreting them (p. 36).

This implies that people who share the same culture must know some basic facts, and recognize the different components and elements of that culture. That is, people who identify themselves as members of a social group acquire common knowledge and ways of viewing the world through their interactions with other members of the same group.

Despite the fact that culture has different definitions and meanings, scholars agreed upon some fixed features that characterize culture. For instance, Helman (2007) pointed out that “culture can be seen as an inherited “lens” through which the individual perceives and understands the world that he inhabits and learns how to live within it” (p. 2). This quote connotes that humans learn their culture from childhood, and they transmit their inherited culture from one generation to another through means of socialization. Furthermore, (Otten, & van Oudenhoven, 2011) argued that culture is kind of shared systems of values, norms, ideas, attitudes, behaviors, means of communication, and the products of all these (p. 3). This means that people who belong to the same culture share the same practices and understandings. Culture is shared among the members of the same social group, which means that they all think and behave the same way because they grew up in the same culture. Moreover, Clifford and Marcus (1986) claimed that culture is contested, temporal, and emergent (p. 19). That is, culture is dynamic. Cultural process undergoes changes but with different speed from society to society and generation to generation. As most cultures are in contact with other cultures, they exchange ideas. All cultures change, otherwise, they would have problems of adaption with the changing environments.

Kramsch (1998) declared that it is worthwhile to point to an important and well-established distinction in the literature between “High Culture” and “Low Culture”. According to her, high culture focuses on the way a social group represents itself and others through its material productions, arts, literature, social institutions, or artefacts of everyday life and the mechanisms for their reproduction and representation through history. However, low culture comes from the social sciences, or the attitudes and beliefs, ways of thinking, behaving and remembering shared by the members of that community. This means that high culture refers to a set of cultural products that are held in high esteem by society. In the past, for instance, high culture existed for the pleasure of the elite or the aristocratic. Low culture; however, refers to the works of art that are more associated with the masses. It is widely known as popular culture, and it is resulted from the daily interactions that make up the everyday lives of the same social group.

Lustig (2003) claimed that culture is a set of shared interpretations of beliefs, values, and norms, which affect the behaviors of a relatively large group of people (p. 27). This implies that those shared interpretations establish the very important link between communication and culture. According to Akharraz and Tamer (2021), the concepts of culture and communication are strongly related, in the sense that, an individual cannot learn or acquire any aspect of culture without going through the process of communication. Culture is something that is learnt from parents, schools, the media, and the broader community through communication. Indeed, culture influences communication, and it is the product of communication. Additionally, communication, which is the basic feature of human life, plays the most pivotal role in shaping human cultures and the ways of acquiring that culture.

As a matter of fact, many scholars agreed that there is a close relationship between culture and language (Kramsch, 1993; Lange, 2003). Damen (1987) stated that language serves to facilitate classification within cultures and reflects relationships within cultures. Furthermore, Lange (1998) connected language and culture claiming that language is one

aspect of culture and is the medium for understanding, sharing, and negotiating meaning for all aspects of culture. These statements indicate that there is an obvious link between the language one uses and the culture one belongs to. Therefore, the cultural dimension in the teaching of foreign language becomes an important concern for researchers in the field, and incorporating culture within FL education becomes highly crucial and vital.

1.2. Views of Teaching Culture in Language Curriculum

Regarding the inseparability of language and culture, foreign language teaching and learning requires the incorporation of the target language culture in the FL classroom. For instance, Sapir (1970) argued that language does not exist apart from culture (p. 207). Moreover, Brown (2000) made it clear that: “A language is a part of a culture, and a culture is a part of a language; the two are intricately interwoven so that one cannot separate the two without losing the significance of either language or culture” (p. 164). Holme (2003) asserted that language teachers in the communicative era tend to focus on teaching culture according to a combination of five views: the communicative view, the classical curriculum view, the instrumental or culture-free-language view, the deconstructionist view, and the competence view (p. 18).

1.2.1. The Communicative View

According to Holme (2003), the communicative view is derived from the communicative approach focusing on giving the student the language that can be put to quick use in a specific context. For instance, if a teacher introduced a video on recent race riots in the UK, the instrumental nature of much communicative teaching would be to enhance discussion skills, or more specifically, to acquaint students with a discourse peculiar to the situation that is being shown the register of protest...etc. (p.18).

1.2.2. The Classical Curriculum View

Holme (2003) stated that in the classical curriculum view, the interest of languages is secondary to how they function as access routes to the alien and, in some sense, enlightening

modes of thought, which their host communities are held to have engendered. Accordingly, the culture to which the language gives access can also enhance the intellectual value of the language (p. 18).

1.2.3. The Instrumental or Culture-Free-Language View

According to Holme (2003), the instrumental or culture-free-language view could proceed from a common concern in respect of the hidden political and cultural agenda of a language. This means that a language becomes a mechanism of cultural transmission, promoting the values of its host-culture against those of the regions to which it is exported. For instance, the wide spread adoption of English-medium education in the Arabic Gulf could be perceived as making those countries perpetual consumers not just of the language of the British old colonization, but of the knowledge and value systems implicit in it. The obvious counter would be to declare linguistic independence by developing Arabic as a medium for modern scientific education in those Arab countries (p. 19).

1.2.4. The Deconstructionist View

Holme (2003) explained that the deconstructionist view describes the language as a social construction, and entails that the cultural construction of a text means that the language learner may be manipulated by the text's implicit messages. Moreover, Holme (2003) considered that the Hallidayan concept of language as a social semiotic perceives a language's structure as reflecting the communicative needs of a given social context. Many scholars have interpreted a language, which is fashioned around the representation of meanings in society, as a language of socially constructed meanings. This interpretation moves language from its more neutral representation of a social context towards the perpetuation of the social order and the value systems implicit in its forms of use (p. 19).

1.2.5. The Competence View

Holme (2003) argued that the competence view means that knowledge of the language's culture is essential to a full understanding of that language's nuances of meaning. That is, knowledge of the target culture presupposes a competence, which is highly important to the grasp of the target language's true meaning. Thus, learning a language should be completed by a sustained and ethnographically structured encounter with the language's culture. Indeed, it becomes easy to discover the relationship between language and culture in the different language-based practices of different groups in different societies. Yet, a language, by the fact of its being intelligible to its users, constructs itself as a singular entity whose code would be unlocked by the acquisition of a singular core competence. Therefore, linguistic practices are, in their diversity, antithetical to the concept of a monolithic culture. However, because a language has a singular nature, it is likely, over time, to become the single collecting ground for the products of the diverse cultural practices in which it is involved (p. 21).

1.3. Some Common Approaches to Teach Culture

The various definitions of culture by FL educators have a significant influence on the development of teaching culture. The different beliefs about culture resulted in different opinions and approaches for teaching culture (Lange & Paige, 2003; Damen, 1987). This implies that numerous approaches can be noticed in the history of culture teaching (e.g. mono-cultural approach, intercultural approach, multicultural approach, transcultural approach, topic-based approach, and skill-centered approach...etc.).

1.3.1. Mono-cultural Approach

Risager (1998) called it also, the foreign language approach, and stated that it is based on the concept of the single culture associated with a specific people and a specific language. That is, the mono-cultural approach to culture teaching focuses on the target language culture without paying any attention either to the FL learners' own culture, or to the similarities and the

differences between the two cultures. This approach; however, has been heavily criticized because of the lack of comparison between cultures.

1.3.2. Intercultural Approach

According to Risager (1998), the intercultural approach to teaching culture is based on the concept of comparison between the target culture and FL learners' native culture. Comparison between learners' native culture and the target culture gives them a new perspective of their own culture, and can lead to increased knowledge, understanding, and acceptance of the other (Byram, 1998). Differently said, intercultural approach to teaching culture is about identifying FL learners' own cultural values along with the target culture ones. Moreover, it aims at to enabling the FL learners to function as mediators between the two cultures, as it facilitates understanding how native culture may be different to other people, and appreciating these differences for appropriate and effective intercultural interactions.

1.3.3. Multicultural Approach

Risager (1998) argued that multicultural approach to culture teaching emphasizes the principle that cultures are not monolithic, and that balanced and anti-racist view of cultures should be involved. In other words, multicultural approach seeks to empower FL learner so that they may function in a global society. It is based upon democratic values and beliefs, and seeks to enhance cultural pluralism within culturally diverse societies and an interdependent world (Keats, 1978). This indicates that the multicultural approach focus on the ethnic and linguistic diversity that exists in the target culture as well as on the learners' own culture.

1.3.4. Transcultural Approach

Transcultural approach to teaching culture is drawn upon the idea that modern world cultures are interwoven because of extensive tourism, migration, worldwide communication systems, and globalization (Risager, 1998). For instance, Kramsch and Hua (2016) asserted that some educators have felt that English is a (culture-free) skill that anyone can appropriate and make

his/her own. That is, the transcultural approach aims at developing FL learners understanding of the impact of globalization on cross-cultural communication. In addition, it aims at fostering their abilities to communicate effectively and appropriately in today's integrated and interdependent world, in which the different cultural boundaries are transcended.

1.3.5. Topic-based Approach

According to Kean and Kwe (2014), extensive knowledge about the multiple components of the target culture fosters intercultural awareness, and promotes greater personal interest in both the target language and culture. Accordingly, topic-based approach to culture teaching aims at enriching FL learners' knowledge about the various components of the target culture, and at providing greater depth in key areas of foreign cultures learning (Seelye, 1993). As a result, teaching culture through the topic-based approach means incorporating some general topics about the different elements that shape the target culture. In this context, Verner (2022) acknowledged that topic-based approach deals with integrating culture-specific topics such as food, holidays, clothing, music, sports, traditional stories, religion, history, family...etc.

1.3.6. Skill-centred Approach

Seelye (1993) stated that skill-centered approach is more behavior-oriented and focuses on developing the skills needed to understand how the multiple cultural components affect one's intercultural communication. Phrased differently, skill-centered approach to culture teaching aims at promoting FL learners' intercultural skills to comprehend and adapt to different cultural situations and perspectives. That is, to know what is appropriate to say to whom, and in what situations, and to understand the beliefs and values represented by the various forms and usages of the target language (Kean & Kwe, 2014). Therefore, Skill-centered approach can help FL learners to avoid intercultural misunderstandings, and to communicate with people from different cultures effectively and appropriately.

Given the above, the different approaches to culture teaching can be divided into four main classifications. The first category refers to those approaches that stressed only the teaching of the target language culture (mono-cultural approach). The second category is called the comparative approach and it refers to those approaches (intercultural approach, multicultural approach, transcultural approach), which emphasized the need for comparing the target language culture and the learners' native culture (Risager, 1998). Moreover, theorists who see culture as fact would view the learning of culture as the acquisition of facts and may only conceptualize culture as the teaching of stereotypes, famous events, and hero figures (topic-based approach). In contrast, teachers who believe culture is a dynamic entity would view the teaching of culture as a process of construction of the cultural skills (skill-centered approach), which are needed for effective and appropriate intercultural communication (Yang & Chen, 2016).

1.4. Importance of Integrating Culture in Foreign Language Education

Sun (2013) pointed out that language is inextricably bound up with culture, and the cultural values are both reflected by and carried through language. Moreover, Byram (1989) claimed that teachers of a language are also teachers of culture. Therefore, contextualized and linguistically adjusted communication in FL education has to be accompanied with multidimensional cultural awareness supposed to lead to a relationship of acceptance where self and other are trying to negotiate a cultural platform satisfactory to all parties involved (Guilherme, 2000). Following the same line of thought, Deam and Moeller (2012) argued that culture plays a vital role in the mediation of the second language learning process. Similarly, Fantini (1997) claimed that FL teachers implicitly and explicitly offer learners the possibility to transcend their singular worldview through teaching another language. Hence, the connection between language and culture raises FL pedagogues' attention about the importance

of incorporating culture within FL classes to help learners in building the cultural knowledge and meanings encoded in the linguistic signs used by native speakers of the target language.

Hesan et al. (2019) asserted that the integration of communicative competence and intercultural competence in FL education lead to the emergence of a new concept “intercultural communicative competence (ICC)” (p. 62). Communicative competence refers to the ability to perform the target language linguistically, socio-linguistically, and pragmatically in appropriate way (Atay et al., 2009). It is worth noting, however; that culture is created, shaped, transmitted, and learned through communication. The reverse is also the case, communication practices are largely created, shaped, and transmitted by culture (Cheng, 2010). In other words, implementing the communicative approach in FL educational contexts naturally and automatically entails culture teaching. The integration of culture in FL teaching, therefore, provides learners with the necessary skills and knowledge needed for effective intercultural communication. Intercultural competence is generally defined as the ability to communicate effectively and appropriately in intercultural situations based on one’s intercultural knowledge, skills, and attitudes (Deardorff, 2006). That is, through integrating the various aspects of different cultures while negotiating the meanings of tasks (e.g. intercultural activities); learners can develop intercultural communicative competence (Nhem, 2019).

Indeed, developing communication ability in another language is one of the fundamental push factors that drive people to enroll in a language course (Akharraz & Tamer, 2021, p. 129). However, the knowledge of a person’s language does not guarantee mutual understanding, if one does not gain an understanding of that person’s culture (Kramsch, et al., 1996, p. 99). That is, speakers of a different language have different perceptions of reality; no two languages show a one-to-one correspondence between vocabulary items and grammatical structures. Eventually, cultural representations should be stressed in the FL curriculum to foster learners’ understanding of the various cultural aspects of the target language (Steele, 1989).

Additionally, incorporating culture in the teaching of foreign languages opens the doors for FL learners to avoid cultural misunderstandings in the globalized world, to promote respect, empathy, and to learn about the differences and similarities between cultures. More importantly, integrating culture in FL education enables learners to develop their awareness of their own culture with its positives and negatives through comparing and contrasting it with other different cultures. Accordingly, FL learners need to be exposed to other different cultures to appreciate their own culture and glorify their own identity (Akharraz & Tamer, 2021, pp. 131-132).

Lessard-Clouston (1996) argued that FL teaching has moved beyond the act of teaching the language itself to accentuate the cultural aspects, to which learners get exposure in the classroom. This means that one imperative for a change in today's teaching practice comes from the shift of the educational focus from a national perspective to a globalized one (Nhem, 2020). Moreover, Colbert (2010) claimed that culture is integral to the FL learning process. It is the organization and way of life within the community of learners and the FL native speakers. It directs the way they communicate, interact, and approach teaching and learning processes.

Penbek et al. (2009) tried to interpret whether students from different university departments develop a required level of intercultural competence. They found that departments giving education supported by international materials such as exchange programs and language courses would help graduates become equipped with sufficient intercultural competence to develop mutual respect with people from other cultures. Correspondingly, Nhem (2020) pointed out that the main goal in the FL teaching is to foster and solidify learners' intercultural awareness. Hence, many researchers agreed that culture is the core of language learning irrespective of the challenges and the predominance of grammar in teaching foreign languages (Benattabou, 2020).

Given the aforementioned, learning a foreign language along with its culture is important to foster learners' intercultural communicative competence, which is the goal of FL education in the twenty-first century globalized world. Therefore, FL teachers are expected to integrate the various cultural aspects in their classrooms to promote their learners' abilities to function effectively in the current multicultural world. Moreover, learners need to receive the appropriate education that makes them aware of their own cultural identity, to respect the cultural differences, and to develop sensitivity and flexibility in adjusting to various cultures.

1.5. Intercultural Competence in Communication

Byram and Fleming (1998) defined intercultural communicative competence as the knowledge of one different culture, or many cultures, and the capacity to discover and relate to new people from other contexts in a natural and appropriate way (p. 9). This implies that According to Byram (2000), intercultural communicative competence is the ability to ensure a shared understanding by people of different social identities, and to interact with people as complex human beings with multiple identities and their own individuality. Hiller and Wozniak (2009) linked intercultural competence to one's tolerance for ambiguity, behavioral flexibility, communicative awareness, knowledge discovery, respect for others and empathy; each of these dimensions has a cognitive, emotional/attitudinal and behavioral dimension.

Kim (2001) defined intercultural competence as the general internal ability of an individual to manage the main challenging features of intercultural communication like cultural differences, unfamiliarity, intergroup situation, and the accompanying experience of stress. This means that intercultural competence is generally defined as the ability to build effective communication with people from different cultural groups by showing appropriate behaviors in respect to cultural differences (Bennett, 2015). In other words, competent intercultural communicator is open to other cultures, accepts cultural differences, is able to communicate

and interact with people who belong to different cultures and develops tolerance to cultural ambiguity.

1. 6. Components of Intercultural Competence

According to Bennett (2008), most theorists agree that intercultural competence comprises a set of cognitive, affective and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts (p. 16). In view of this, intercultural competence is generally composed of four elements: knowledge, attitudes, skills and behaviors. Beyond these commonalities, a number of differences exist among the different models of IC (Perry, 2011, p. 471).

1.6.1. Byram's (1997) Model

Byram (1997) argued that intercultural competence involves five elements: knowledge, attitudes, skills of interpreting and relating, and skills of discovery and interaction, critical cultural awareness (pp. 50-53).

Table 1.1.

Byram's Components of Intercultural Competence (Adapted from Byram, 1997, pp 50-53)

Knowledge (savoir)	Being knowledgeable about social groups and their products and practices in one's own and in one's interlocutor's country, and of the general processes of societal and individual interaction
Attitudes (savoir être)	Means curiosity and openness, readiness to suspend disbelief about other cultures and belief about one's own.
Skills of interpreting and relating (savoir comprendre)	The ability to interpret a document or event from another culture, to explain it and relate it to documents from one's own.
Skills of discovery and interaction (savoir apprendre/faire)	The ability to acquire new knowledge of a culture and cultural practices and the ability to operate knowledge, attitudes and skills under the constraints of real communication and interaction.
Critical cultural awareness (savoir s'engager)	The ability to evaluate critically and on the basis of explicit criteria perspectives, practices and products in one's own and other cultures and countries.

As summarized above, Byram (1997) set out a conceptual model that described the competent intercultural communicator. The first component of IC according to Byram (1997) is knowledge, and he distinguished two types of knowledge. Knowledge of social groups and their practices in one's own or in one's interlocutor's society; and knowledge of the process of social and individual interaction (p. 51). The second component is attitudes. It refers to "curiosity and openness" as well as a "readiness to suspend disbelief about other cultures and belief about one's own" (p. 50). That is, the competent intercultural communicator is curious to discover other cultures; value cultural diversity; thinking comparatively and without prejudice about cultural differences; seeking out intercultural interactions, and tolerating cultural differences and perceiving them as a positive experience. The third component of IC refers to the skills of interpreting and relating. In other words, the ability to analyze any cultural product from other cultures, then explain it, and relate it to one's own culture. Fourth, the skills of discovery and interaction; the ability to build new knowledge of a culture and cultural practices and the ability to reflect on that knowledge while performing real intercultural communication. The final component is the critical cultural awareness, which is the ability to assess one's own and other cultures in a critical way.

Byram (1997) claimed that these interlinked competences may not only help the intercultural speaker to achieve effective exchange of information, but also to establish and maintain interpersonal relationships based on mutual respect and understanding (pp. 32–33). In short, the competent intercultural communicator acquires culture specific knowledge, and he/she able to see relationships between different cultures, and to interpret each in terms of the other. He/she has a critical or analytical understanding of his/her own and other cultures. In addition, competent intercultural communicators are conscious of their own perspectives, of the way in which their thinking is culturally determined, rather than believing that their understanding and perspectives are natural.

Matsuo (2012) heavily criticized Byram's (1997) model of IC arguing that apart from being theoretically weak, it is also limited in terms of how it can inform the most common activities of practical pedagogy. That is, the model may be useful for theorists, but it is incapable of giving guidance for teachers to implement it in the classroom.

1.6.2. Kim's (2001) Model

Kim (2001) pointed out that intercultural competence consists of three interdependent dimensions: the affective dimension (personality traits and attitudes), the cognitive dimension (how individuals acquire and categorize cultural knowledge), and the behavioral dimension (being an effective communicator).

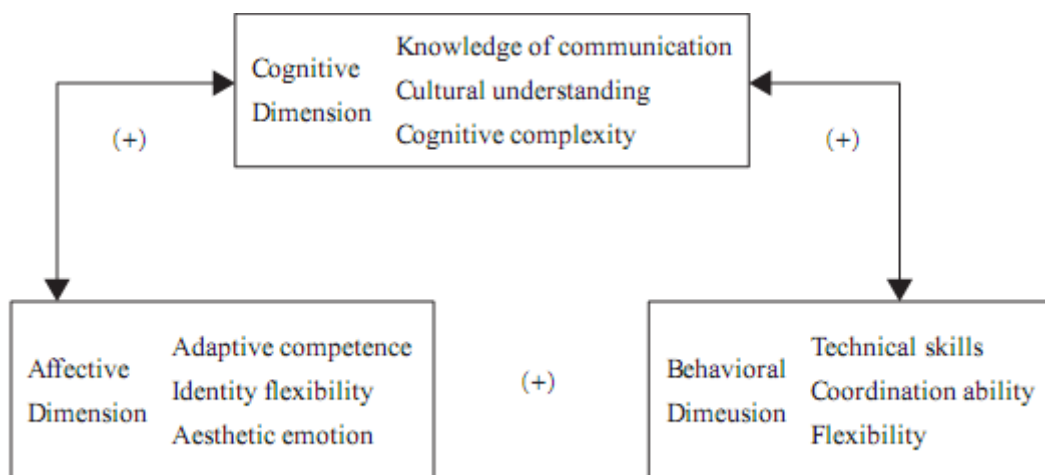


Figure 1.1.

Kim's Intercultural Communicative Competence Framework (as cited in Yunlong, 2014, p. 99).

As summarized above, Kim (2001) stated that ICC comprises of three interrelated dimensions. The affective dimension includes adaptive competence, identity flexibility, and aesthetic emotion. Adaptive competence refers to one's motivation to become functionally fit in the host environment. The anticipation-based nature of adaptation motivation is the key factor that differentiates the extent of cross-cultural adaptation of temporary resident from that of

permanent settlers. Identity flexibility is “a basic psychological and social orientation of strangers with respect to themselves, their original cultural group, and the host culture” (p. 111). That is, flexible identity orientation is the stranger’s willingness to accept the identity of the host culture. Aesthetic emotion according to Kim (2001) is the extent to which strangers are able to fulfill their aesthetic needs (music, sports...etc.) in the host environment (p.112).

The cognitive dimension is the knowledge dimension of ICC, which involves the knowledge of the target language and culture. The knowledge of culture incorporates the degree of familiarity with understanding of the target culture’s historical background, its tradition customs, beliefs, and norms. The behavioral dimension is the last component of ICC according to Kim (2001). It refers to the action of intercultural communication according to the already acquired affective and cognitive abilities. That is, to activate and show one’s cognitive and emotional competences and experiences in real intercultural communication.

Kim’s (2001) three components of intercultural communicative competence are interrelated. That is, the person’s affective dimension of ICC can affect his/her cognitive dimension. For instance, if he/she does not have positive attitudes towards the target culture, he/she will have no motivation or readiness to enrich his/her knowledge about that culture. At the same time, the person’s cognitive dimension of ICC can influence his/her behavioral dimension. For instance, if he/she has not enough knowledge about the different aspects and components of the host culture, he/she will be unable to communicate. Indeed, Kim’s (2001) three components of ICC intertwine with each other to form the one’s intercultural communicative competence that enables him/her to communicate across cultures more appropriately and effectively

1.6.3. Deardorff’s (2006) Model

Deardorff, (2006) suggested her pyramid model of intercultural competence, which is comprised of attitudes, knowledge, skills, internal outcomes, and external outcomes.

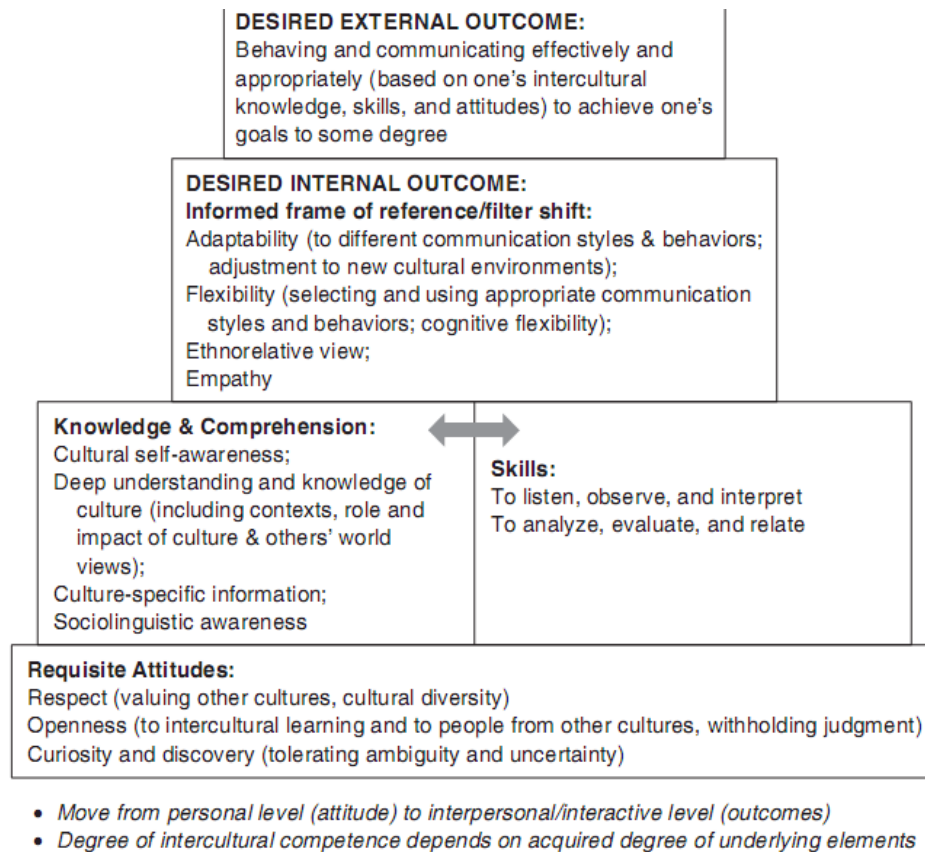


Figure 1.2.

Pyramid Model of Intercultural Competence (Deardorff, 2006).

As it is displayed, attitudes are foundational to the further development of knowledge and skills needed for intercultural competence. According to Deardorff (2006), an attitude in IC encompasses respect, openness, curiosity and discovery. Respect means seeking out other cultures' attributes, thinking comparatively and without prejudice about cultural differences. Openness implies avoiding criticism of other cultures, and being disposed to be proven wrong. Curiosity and discovery means seeking out intercultural interactions, viewing difference as a learning opportunity, and willingness to move beyond one's comfort zone.

Concerning knowledge necessary for intercultural competence, Deardorff (2006) distinguished four types of knowledge. Cultural self-awareness which implies articulating how

one's own culture has shaped one's identity and worldview, culture specific knowledge (analyzing and explaining basic information about other cultures (history, values, politics, economics, communication styles, values, beliefs and practices). Sociolinguistic awareness, which means acquiring basic local language skills articulating differences in verbal/ non-verbal communication and adjusting one's speech to accommodate nationals from other cultures. Grasp of global issues and trends, which implies explaining the meaning and implications of globalization and relating local issues to global forces.

The skills that emerged from Deardorff (2006) study addressed the acquisition and processing of knowledge: observation, listening, evaluating, analyzing, interpreting, and relating. These attitudes, knowledge, and skills ideally lead to an internal outcome that consists of flexibility, adaptability, an ethno-relative perspective and empathy. At the end, these components would be demonstrated through the behavior and communication of the individual, which become the visible outcomes of intercultural competence experienced by others.

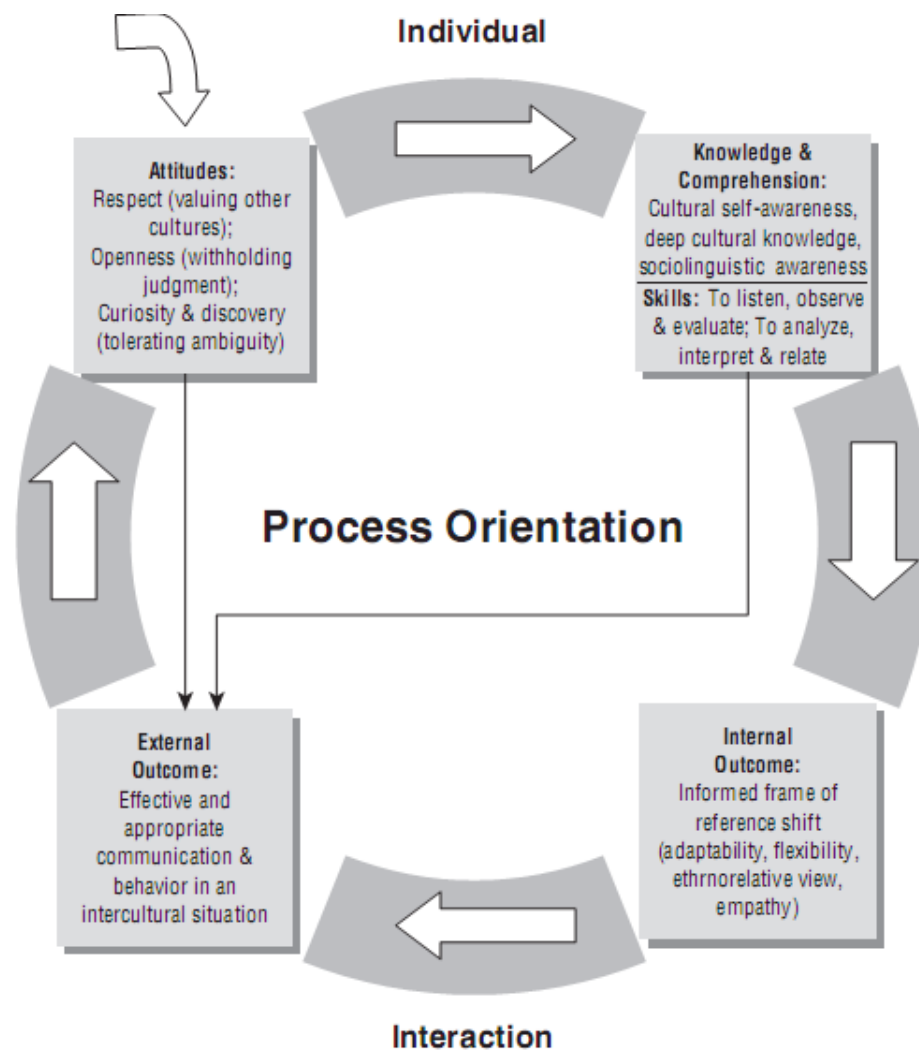


Figure 1. 3.

Process Model of Intercultural Competence (Deardorff 2006)

Therefore, Deardorff's (2006) pyramid model of intercultural competence moves from personal level (attitude) to interpersonal /interactive level (outcomes), and the degree of intercultural competence depends on acquired degree of underlying elements in the whole process of acquiring the intercultural competence (see figure). That is, the above knowledge, skills and attitudes lead to internal outcomes that refer to an individual who learns to be flexible, adaptable, empathetic, and adopts an ethno-relative perspective. All these qualities expressed in external outcomes, which refer to the observable behaviors and communication styles of the

individual. They are the visible evidence that the individual, who acquire them, is a competent intercultural communicator. Yet, it is important to note that the development of intercultural competence is a cyclic and lifelong process and that there is no point at which one becomes fully intercultural competent communicator.

Given the above, various models addressing to intercultural competence components emerged. Despite the fact that every model discussed above has received a considerable amount of criticism, these intercultural competence models outline essential components of IC. Moreover, it is noticed that the researchers (Byram, 1997; Kim, 2001; & Deardorff, 2006) agreed upon essential items necessary for intercultural competence, among which the intercultural knowledge. This implies that enriching FL learners' intercultural knowledge is the engine that moves them towards achieving intercultural communicative competence.

1.7. Intercultural Knowledge as a Key to Intercultural Development

Deardorff (2006) referred to intercultural knowledge as a subcomponent of intercultural communicative competence and stated that knowledge contributes to one's "ability to communicate effectively and appropriately in intercultural situations" (p. 247-248). This implies that intercultural understanding encompasses both cognitive and affective domains. The cognitive aspect of intercultural understanding refers to the knowledge about one's own as well as other cultures. It also includes knowledge about the similarities and differences between cultures. The affective component of intercultural understanding comprises positive attitudes towards other cultures, such as empathy, curiosity and respect (Hill, 2006). In other words, one's positive attitudes towards the various aspects of other cultures foster his/her intrinsic motivation to develop the needed intercultural knowledge to communicate effectively and appropriately in those cultures.

Intercultural Knowledge is a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts. Intercultural knowledgeable person is able to demonstrate sophisticated understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices (Bennet, 2008). That is, intercultural knowledge refers to one's cognitive capacity to understand the complexity of elements important to the members of another different culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices, then, to develop the appropriate skills and behaviors to reflect on that understanding in the shape of effective intercultural communication.

Praxmarer (2013) stated that the development of intercultural knowledge passes through five stages. First, the impressionistic knowledge refers to the shallow knowledge gathered from first intercultural encounter. Second, the informed knowledge, which is the knowledge built based on the general information gathered in intercultural interaction. Third, systemized knowledge, which is the result of coherently ordered and systemized information. Forth, critical, reflective and creative knowledge that leads to the development of the intercultural sensitivity and awareness. Finally, wisdom and sagacity are built through the incorporation and integration of the above in one's mental and behavioral habits as well as in self-reflection.

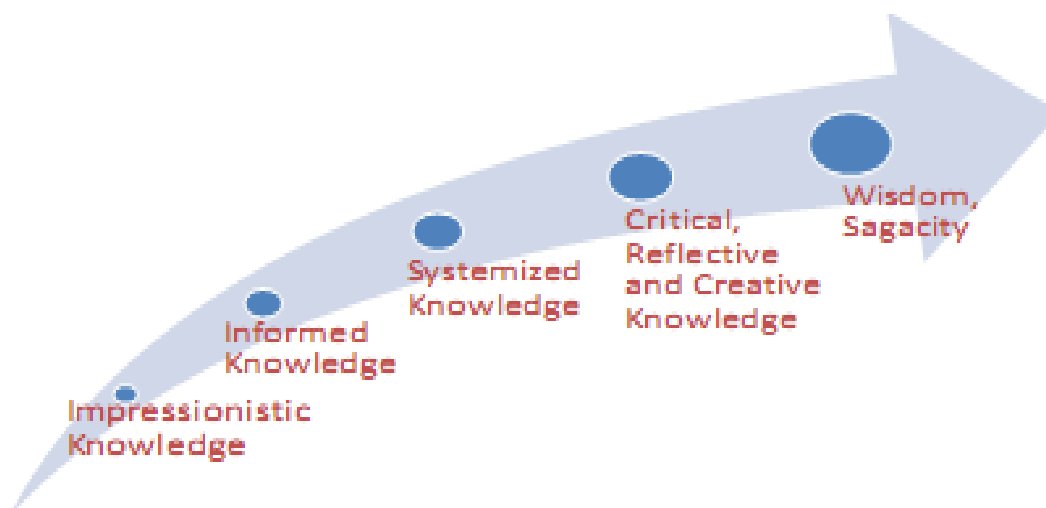


Figure 1.4.

The Development of Knowledge – from Impression to Wisdom (Praxmarer, 2013, p.10).

According to Garcia (2020), the acquisition of culture-specific knowledge prompts intercultural development by honing awareness of intercultural verbal and non-verbal communication and the processes inherent in adjustment to life in the host country, learning from experiences, and critical stances (p. 18). Moreover, Liddicoat (2001) stated that cultural knowledge becomes more important for FL teaching throughout the world. As a result, it has been rapidly incorporated into the curriculum documents, syllabuses, and textbooks (p. 47).

Byram (1997) argued that culture-specific knowledge (CSK) of practices, products, and social groups in one's own and the interlocutor's community, linked to general knowledge of human interaction, represent a component of the interlocutor's community. CSK also relies on communicative awareness of verbal and non-verbal conventions, and host communication competence, contingent on friendship networks with host nationals, co nationals, and other multi-nationals (Barrett et al., 2014).

Moreover, intercultural knowledge, which is the knowledge about other peoples' values, beliefs, discourses, practices, and products that may be used by them, and awareness of the

socially constructed nature of knowledge, is an enabler of intercultural communication (Garcia, 2020). Furthermore, intercultural knowledge stimulates deep cultural comprehension of one's own and the other's cultures, and entails recognizing and valuing cultural differences and similarities, understanding the internal diversity of human groups, the influence of cultural affiliations in individuals' perceptions of otherness and the world, and how culture affects one's worldview (Barrett et al., 2014). Indeed, intercultural knowledge refers to the knowledge of intercultural communication processes (discovering new information, or coping with misunderstandings), intercultural awareness (the understanding of one's own and other people's standpoints, including assumptions, preconceptions, stereotypes, or prejudices, and the relational knowledge between the target and mother culture (Chieffo & Griffiths, 2004).

As described, intercultural knowledge includes knowledge of social groups (Byram, 1997), values and politics (Czerwionka et al., 2015), and sociocultural data such as class and sex (Lussier, 2007). It is worthy, however, to state that intercultural knowledge alone is not enough for effective intercultural competence (Pusch 2004). Yet, it is basic element and condition to develop it. That is, someone who has intercultural knowledge package will automatically develop positive attitudes towards the various components and aspects of the target culture. Moreover, he/she will develop the needed skills to communicate across cultures, then, he/she will adjust his/her intercultural communication (behaviors) accordingly to avoid any type of miscommunication or offence.

1.8. The Importance of Fostering Learners' Intercultural Knowledge in FL Education

In intercultural settings, it is crucial that people negotiate meanings in conversations (Scarino, 2009). That is, there can be no intercultural understanding if participants cannot learn from and with one another and reflect on their own utterances. Toyoda (2016) conducted a research with Japanese learners of English as FL to raise their intercultural knowledge. The researcher engaged the learners with online and offline intercultural interactions. As a result, the researcher

found that intercultural knowledge and experiences that were expressed by learners, expanded from local language issues to global issues. Learners reported that they learnt a number of cultural facts, in addition to different phrases and expressions useful for intercultural negotiations through the assistance of their peers. Finally, the researcher reported that by the end of the year, the learners began to focus on global issues. The reading materials, research and interaction with peers were no longer solely for language learning; they also became sources of various opinions on global issues, which induced deep reflection for many of the study participants.

According to Sun (2013), the most difficult thing for FL learners to deal with in their study is not the linguistic forms or grammar, but the cultural difference. In the process of cognition of the world, people always store the schemata into their brain, schemata can be compared to an immense system of files in one's brain, where a person can classify and store his/her own knowledge and experience. After receiving some new information, the brain will set up a new schema to store it or put it in an established schema of the same class. Cultural schema refers to the knowledge structure based on cultural knowledge. The teaching of cultural knowledge and the establishment of cultural schema will be of great help to the learners' linguistic comprehension and expression. Once needed, the cultural schema stored in one's brain will be used by FL learners to get rid of the obstruction and solve the problem resulting from cultural differences. Cultural schemata are of vital importance for many aspects of the foreign language learning (pp. 371-372).

Simoes (2021) claimed that intercultural communication skills are crucial. As the world is becoming a smaller and smaller place, differences that occur on both our professional and personal paths are increasingly bigger and more noticeable. While working and living across nations and cultures, the comprehension and awareness of the intercultural competency is the survival issue (p. 97).

1.9. Strategies to Enhance Foreign Language Learners' Intercultural Knowledge

According to Matsumoto (2000), there is a considerable amount of uncertainty and anxiety attendant upon intercultural exchanges. Nonetheless, intercultural communicators can build bridges across cultures that can help to reduce intercultural conflict and produce effective communication. This could be realized through understanding that uncertainty and anxiety are natural, and through enhancing basic culture-specific knowledge (p. 359). In this context, FL teachers are expected to develop and implement effective strategies to enhance their learners' intercultural knowledge. The latter can help FL learners to make connections between their own culture and the target culture, which will decrease intercultural anxiety and foster their intercultural communicative competence.

1.9.1 Inquiry-based Instruction

Dostal (2015) pointed out that the inquiry-based instruction is one of the efficient activating methods of the problem-solving education. Inquiry based learning is a constructivist approach where the overall goal is to enable learners to build meaning. Instructors do not transfer the subject matter in a form of a whole-class presentation in an already-done way. Instead, they create the knowledge by the use of the problem solving and a system of asked questions. Moreover, Dostal (2015) described learners and teachers roles in the inquiry-based instruction as summarized in the table below.

Table 1. 2.

Learners and Teachers Roles in the Inquiry-based Instruction (Summarized from Dostal, 2015)

Learners' roles	Teachers' roles
<ul style="list-style-type: none"> - They ask the inquiry-related questions. - They look for the evidence. - They form the clarification based on the evidence. - They evaluate the clarification with a possibility of using alternatives in the clarification. - They communicate and check their clarification. 	<ul style="list-style-type: none"> -Facilitators.

Therefore, inquiry-based instruction is a teaching method that focuses on the learners' curiosity to enhance the development of critical thinking skills needed to problem solving. As learners encounter problems they do not understand, they formulate questions, explore problems, observe, and apply new information in seeking a better understanding of the world. Accordingly, teachers can implement inquiry-based instruction in FL classroom through encouraging learners to ask questions about different aspects of the target culture; as well as, their own culture to make self-investigation. Finally, the teachers are expected to give the learners their space to communicate their findings. This can help them in developing their problem-solving skills. Moreover, it encourages them to express their unique views and personal or cultural experiences, along with gaining a deeper understanding of intercultural issues and interpersonal concepts.

1.9.2. Cooperative learning

Cooperative learning is a pedagogical approach and an instructional methodology that help learners to foster their skills in-group interactions and in working with others. Successful cooperative learning results in positive effects on learners' achievement and retention of information (Blasco-Arcas, et al., 2013; McDonough & Foote, 2015). Phrased differently, cooperative learning allows FL learners to regularly learn and process the target culture content with their peers. Cooperative learning occurs in FL education when the teacher creates groups of three or four, and schedules meeting times (whether face to face or online meetings) with detailing agendas for the learners to build intercultural knowledge and encourage intercultural communication. In the cooperative model of learning, FL learners' roles focus on supporting each other while striving to meet the intercultural communicative goals of their learning.

Gundara and Sharma (2013) relate the cooperative learning with intercultural education as a particularly suitable working arrangement to educate the future citizens of democratic societies. This implies that cooperative learning is an effective strategy for helping FL learners to build the intercultural knowledge needed to raise their intercultural awareness, open-mindedness, and tolerance to be democratic international citizens in the current globalized world.

Baker and Taylor (2010) argued that cross-cultural collaborative learning promotes construction of knowledge through interaction, co-construction, engagement, and negotiation with peers and instructors in online classrooms. In this context, cross-cultural collaborative learning helps FL learners to build intercultural relationships with members of the target culture through interacting with them regularly. It helps them to value and accept people of different cultures through expressing interest and respect for the other cultures' history, customs, and beliefs.

Studying about the target culture with its members is highly supported to build knowledge needed to understand ambiguous situations, and to make sense of new intercultural experiences (Gu, et al., 2017; Yang et al., 2014). Similarly, Barkley, et al. (2014) stated that cooperative learning environment encourages FL learners to actively assimilate and process the new information, while cross modeling it with fellow classmates. Differently said, cooperative learning opens the doors for FL learners to overcome prejudice, discrimination and misunderstandings to understand and communicate successfully with representatives of other cultures. Moreover, it provides them with the emotional and interpersonal experiences that enrich their intercultural knowledge. The latter boosts learners' intercultural awareness, judgment, critical analysis, flexible perspective taking, creative problem solving, innovation, and goal-directed behavior.

1.9.3. Technology-based Instruction

Online education has become an integral part of the educational landscape in the world, since it serves as the primary source of enrollment growth in higher education. Moreover, the increased growth rate of online education attributes to the use of technology as a means of instructional delivery for enhancing learners' intercultural communicative competence through collaborative online education (Allen & Seaman, 2017). Many studies have shown that TBI can assist the acquisition of intercultural communication competence (Allwood & Schroeder, 2000; Hasler & Friedman, 2012). This indicates that implementing technology-based instruction in teaching foreign cultures can be also effective to enrich learners' intercultural understanding (Oakley et al., 2018), and to enhance FL learners' perceptions toward FL language learning through providing them with meaningful learning situations relevant to real-life communicative events (Jung et al., 2019). Moreover, Mitchell (2018) claimed that using technologies to teach culture can be advantageous to achieve a personal connection with the target culture among FL learners and subsequently develop their intercultural awareness.

Given the above, TBI can be a good teaching strategy to boost FL learners' intercultural knowledge. For example, a teacher of English as a FL can design a lesson about the privatization in Britain under Thatcher rule during the 1980's through the didactization (the process of rendering content into syllabi) of the famous movie "The iron lady" (biographical drama film based on the life and career of Margaret Thatcher). Such authentic film presented through video material in the FL classroom enriches learners' knowledge about the various aspects of the British culture, as it exposes them to authentic British social and political events. Moreover, films can promote awareness, curiosity, empathy and interest in other cultures and respect for diversity.

Furthermore, teachers can implement TBI in FL education to enhance learners' intercultural knowledge through using various video conferencing tools such as using Zoom video conferencing application to engage FL learners in intercultural encounters with native language speakers, and even native speakers of other languages, in online intercultural and cross-cultural interactions. The teachers can select many topics that may help learners to enrich culture-specific knowledge. Moreover, teachers can use technology for tracking their learner's progress more effectively to guide and facilitate their learning.

Conclusion

Culture is a critical component of FL education, as it influences every aspect of foreign language learning. Moreover, cultural implications are critical for succeeding in intercultural communications. Hence, developing FL learners' intercultural communication is incredibly essential to break down cultural barriers and foster intercultural communication skills. As intercultural communication involves the sharing of information across cultures, understanding different cultural behaviors begins with building basic culture-specific knowledge. FL learners must have adequate information, understanding, and sensitivity to the target culture to interpret

the intercultural messages effectively and appropriately. To this end, FL teachers are recommended to incorporate key intercultural items as well as activities into lesson plans to enrich learners' intercultural knowledge, which is crucial to increase tolerance and acceptance of diversity in various intercultural encounters. The present chapter stresses the significance of incorporating the target culture within a FL classroom, and introduces the need for training FL learners to be competent intercultural communicators. Then, it suggests that enriching learners' intercultural knowledge is the key to foster their intercultural communication. The subsequent chapter will discuss technology-based instruction and the various tools and forms of technology in education. Then, it will suggest that implementing technology-based instruction in the FL learning environment may be crucial to promote FL learners' intercultural knowledge.

Chapter Two: Technology-Based Instruction

Introduction

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2.2. Technological Tools in Education

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2.2.2. Computer-Assisted Learning (CAL)

2.2.3. Mobile-Assisted Learning (MAL)

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2.2.5. Virtual Classrooms

2. 3. Forms of technology-Based learning

2.3.1. Blended Learning and Flipped Classrooms

2. 3.2. Online learning

2.4. The Effectiveness of Using Technology in Teaching and Learning FL

2.5. The Implementation of Technology-Based Instruction in FL Education

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Conclusion

Introduction

Technology has introduced revolutionary changes in every aspect of human's life, including education. The Merriam-Webster Dictionary defines technology as the technical processes, methods, or knowledge used for accomplishing a task. Bearing in mind that the twenty-first-century education aims at enhancing meaningful lifelong learning for all learners, international educators and pedagogues cannot ignore the tremendous impact that modern technologies have on the new generations of learners. Relatively, technology becomes an integral part of the twenty-first century societies, and its infusion with education is inevitable. As a result, numerous scientific studies and researches emerged to make effective use of new technologies for enhancing the educational outcomes. Hence, the present chapter defines technology-based instruction, and introduces various tools and forms of technology in education. Moreover, it explores the effectiveness of technology use in foreign language education. Then, the chapter explains the implementation of technology in education and the factors that may hinder its application.

2.1. Definition of Technology-Based Instruction

The conceptions related to educational technology (ET) have been evolving as long as the field has, and they continue to evolve. According to the Association for Educational Communications and Technology (AECT), educational technology is an integrated system that includes procedures, ideas, devices, and organizations for analyzing problems and devising, implementing, evaluating, and managing solutions to those problems, involved in all aspects of human learning (AECT Task Force on Definition and Terminology, 1977). Differently said, technology-based instruction (TBI) deals with creating resources for learning as it provides instant accessibility to information to create meaningful learning experiences for students of all ages.

Few years after, AECT replaces the term Educational Technology by Instructional Technology (IT), and defined it as the study and the ethical practice of facilitating learning, and improving performance by creating, using, and managing appropriate technological processes and resources (Definition and Terminology Committee of the Association for Educational Communications and Technology, 2008, p. 1). This implies that, the research in educational technology developed from investigations attempting to prove that technology is a highly effective tool for instruction to enhance the learning teaching processes.

Following the same line of thought, Olofsson and Lindberg (2012) described technology-based instruction as the study and the practice of facilitating the learning process and improving the learning performance via creating, using, and managing appropriate technological processes and resources (p. 332). That is, TBI is the use of technology to facilitate learning in a given educational atmosphere. Similarly, Arnseth and Hatlevik (2012) asserted that technology-based instruction is the utilization of computer-based communication, which incorporates into daily classroom instructional processes to cope with the current digital era, because of the capability of Information Communication Technology (ICT) in providing dynamic and proactive teaching-learning environment.

Aitken, et al. (2012) defined TBI as the systems used for connecting communicators through electronic multimedia devices including computers, video, audio, and phones, for pedagogical development. They added that TBI offers instructors new opportunities of effective teaching and interactions with learners in and out of the classroom. Otherwise stated, harnessing the utility of communication technologies for instructional use is a top priority to educators in the twenty-first century. This is because technology is a vital tool to foster learning and education in the twenty-first century.

Altogether, technology-based instruction refers to the integration of the various technological aids in education to enhance and contextualize learners' learning experiences. Utilizing

different types of technology in the classroom improves learners' engagement in the learning process. The course content is delivered through different methods such as course management applications, multimedia resources, and videoconferencing tools to facilitate learning. Therefore, technology use in education links teachers to the learners and to professional content, resources, and systems in order to help them improve and personalize their learning.

2.2. Technological Tools in Education

Haliso (2011) claimed that there are various technological tools and resources used to communicate, and to create, disseminate, store, and manage information. Differently said, diverse set of digital educational tools have been created with the purpose of improving the academic processes, encouraging collaboration, and facilitating communication between teachers and learners. Such technological tools in education include but not limited to:

2.2.1. Internet

Actually, it is difficult to discuss any aspect of contemporary society without considering the Internet, especially, in education. Known as the world of knowledge, everything or any kind of content related to learners' study interests is available on the internet. Khosravi (2016) pointed out that the use of Internet provide new ways of communication that simplify social interaction among people and learning, as people can communicate and learn from one another through various social networking platforms. Otherwise stated, learners can work interactively with one another, unrestricted by physical or time constraints. They can use Internet to access libraries, encyclopedias, art galleries, and other information sources from anywhere in the world.

According to Kahn and Cerf (1999), Internet is seen as an architecture, it manifests in two different abstractions. One abstraction deals with communications connectivity, packet delivery and a variety of end-end communication services. The other abstraction deals with Internet as

an information system, independent of its underlying communications infrastructure, which allows creation, storage and access to a wide range of information resources, including digital objects and related services at various levels of abstraction (p. 3). That is, Internet is a wide network that connects computers all over the world. Through the Internet, people can share information, communicate from different parts of the world with an Internet connection, and store information that they could retrieve at any time.

Wong (2005) defined Internet as a global network of networks of computers. The “network of networks”, concept is also known as internetworking, and thus is even incorporated into the name Internet. It refers to the interconnection of many different networks, based on multiple technologies, like satellite links, into a single larger network (p. 15). Differently said, Internet is a global network of networks of machines with computing power not limited to only computers. Fife et al. (2001) argued that Internet is not only concerned with information exchange alone, but also it is a sophisticated multidisciplinary tool enabling individuals to create content, communicate with one another, and even escape reality (p. 74). Otherwise stated, Internet frees people from geographic fetters and brings them together in topic-based communities. People from different parts of the world use the Internet as a tool to interact with one another in a networked, globalized society connected by new technologies.

Bulman et al. (2016) stated that Internet had certainly revolutionized education positively in various ways such as providing tools for assessment of student’s works and new ways of sharing information. Internet offers new opportunities to have access to education and educational resources. With their computers connected to the Internet, students can have access to sources easily and save time by key research techniques. That is, Internet in education has been incredibly useful as it facilitates both information and communication. The Internet has increased the accessibility of education at all levels and has turned out to be a giant repository

of knowledge. For instance, the popular search engines like Google and Yahoo offer for the learner instant access to a vast kingdom of knowledge.

Nwezeh (2010) conducted a research with 750 university students by questionnaires about the impact of internet use on learning. The results reported that 78% of the participants always and usually search on the Internet when they do not understand the assignment or homework. This indicates that the relationship between Internet usage and students' learning play a central role of their interaction that they prefer accessing on the Internet for achieving their learning goals. Moreover, the research reported that more than 90% of the students prefer to use Internet as learning tool, as it helps them in writing their technical reports, assignments, seminar papers, learn something new, and find the information that they look for. This implies that Internet is important and useful for learners, as it promotes self-learning to offer a rich selection of learning experiences.

Therefore, Internet applications (electronic mail, online journals, the World Wide Web, and remote access to libraries and databases) are widely used to get the wealth of information and resources for language teaching and learning (Chun et al., 2016). For instance, learners can use the Internet to support their language learning for understanding the target culture. Watching the news, including sports coverage, or popular TV shows through the Internet can help foreign language learners to see the world through the eyes of the native language speakers, and give them an insight into how the target culture differs from their own. Moreover, teachers can make their lessons interesting by incorporating online-based projects in their study plans; and educational institutions can reach out to a wider audience by offering quality online courses. Internet also acts as a platform for retired teachers to reach out children in poor countries and educate them. Online-based distance education courses or online learning classes allow much more flexibility than traditional classroom courses.

2.2.2. Computer-Assisted Learning (CAL)

Beatty (2013) defined Computer-Assisted Learning (CAL) as the learning process in which the learner uses the computer to study (p. 7). Differently said, CAL means the learning procedures and environments facilitated through computers. According to (Schitteck et al, 2001, p. 93), the keyword for understanding CAL is interaction. That is, computers can facilitate interaction during the learning process throughout many levels. On one level the interaction of the learner (user) with the content and the learning. On another level, computers can host interaction of the learner (user) with the teacher, peer interaction or interaction between the members of the whole virtual learning communities.

According to Rasch (1997), the use of Computer-Assisted Learning develops students' level of information literacy and increases coordination and integration. At the classroom level, implementing CAL may enhance the teaching effectiveness by creating increased opportunities for collaboration, fostering engagement, and enhancing the chances of skill development (p. 3). Otherwise stated, computers provide infinite resources for learning and make it more flexible and easy to access. The use of computers in learning enables learners to gain knowledge and information not only from classroom assignments and libraries; but also from available online resources; such as video tutorials, free or paid e-books and several forums.

Kim (2006) conducted a research to investigate the effects of Computer-Assisted Learning on English as a second language (ESL) learners' lexical development while doing collaborative dialogues using MSN instant messenger in non-native student to non-native student. The study examined the learners' interaction by looking at MSN messenger scripts to find the negotiation routines. The mean pre-test and two post-test scores were compared to assess the acquisition of new lexical items. This study investigated whether the learners used an online dictionary and whether they selected the most appropriate words in the given context. The participants were 10 (6 male, 4 female) native Koreans who were enrolled in Iowa State University. The result

showed that CAL helped the students to acquire new lexical items, especially when they interacted with the words. Moreover, all of the students were able to negotiate the meaning of new lexical items while completing their tasks, especially on the first day activities. In addition, most of the students reported a positive attitude towards CAL, and that they found synchronous chat as an interesting way of learning.

The results of a survey conducted by Iskrenovic-Momcilovic (2018), among students of the Faculty of Education in Sombor (Serbia) about the use of computers in teaching; confirmed the positive opinions of teachers and students about the importance of using computers in teaching. According to the gained results, computers make it easier to prepare teaching materials, free from excessive exposure and providing more efficient teaching assistance (p. 77). This means that using computers frees teachers from activities of technical and organizational nature. It can lead to higher methodological diversity in teaching and to shortening time for various preparatory activities. Nevertheless, both students and teachers have to avoid the overuse of computers in the classroom. When students replace paper and pen with a computer for education, handwriting skills may suffer. Adult learners benefit from increased brain activity when writing new information by hand, particularly in subjects such as math and chemistry. Most computer word processing programs include a spelling and grammar check, and students might rely too heavily on the computer to correct spelling and grammatical errors.

To sum up, Computer-Assisted Learning is an interactive instructional technique; in which the computer is used to present the instructional material and monitor the learning process. It refers to the use of computers to facilitate and enhance instructions relying on a combination of text, graphics, sounds, and videos. CAL brings significant role among learners and teachers. Learners can access Global libraries such as online video tutorials, and free e-books where they can grasp concepts easily. With the internet, the whole world opened an infinite amount of useful and relevant information. Students can find many different ways to solve a certain

problem given to them. Through computer and internet, they can interact with people having same issues and can learn from each other. Moreover, teachers and learners can rely on computers to download and store large amounts of lecture notes, presentation and other educational materials. However, the limitless access to information provided to the students by computers can present challenges and disadvantages directly related to computer usage in institutions of higher education. Financial difficulties may make it difficult for some students to access important coursework, while other students may use computers to plagiarize or cheat.

2.2.3. Mobile-Assisted Learning (MAL)

Smartphones become a vital part of individual's life in the twenty-first century era. Currently, smartphones offer endless possibilities for higher engagement and enhancement of learners' understanding and extension of learning beyond the classroom. According to (Armatas & Saliba, 2009), mobile-assisted learning is the term that has been coined to describe learning using a mobile device and its attraction is that content can be accessed from any location at any point in time with a device that is small, lightweight and easy to carry (p. 219). That is, MAL refers to the learners' reliance on smartphones' devices and applications to foster and enhance the learning process, and to achieve their academic research objectives. According to Darko-Adjei (2019), the smartphone is a mobile phone with highly advanced features. A typical smartphone has a high-resolution touch screen display, Wi-Fi connectivity, Web browsing capabilities, and the ability to accept sophisticated applications.

In this era of digital education, the use of smartphones in the classroom is extremely popular as an indispensable learning assistant tool; especially, during the coronavirus crisis. In their research, (Dweikat & Hasan, 2021) pointed out that outstanding global investment is being made to employ more advanced technologies in the educational process under the ongoing pandemic of COVID-19. Most educational institutions are working hard to integrate MAL into their institutions to meet the growing needs and interests of the learners (p. 116). Moreover,

they reported that Household Survey on Information and Communications Technology held on the International Population Day on November 7, 2020 showed that 97% of the households in Palestine have one or more cellular mobile lines and 86% own one smart phone or more. The results also indicated that the percentage of individuals (10 years and above) who own a cellular mobile was 75%. In USA, a survey conducted in January 2019 showed that 96% of the Americans owned a cellphone of some kind and 81% owned a smartphone (Dweikat & Hasan, 2021, p.117).

In another research conducted by (Shakoor, et al. 2021), the researchers measured smartphone usage and academic performance by combining them both to keep track of users. Their sample was 150 students studying in Islamabad; Pakistan, enrolled in different departments. They all used smartphones in their daily life routines to learn academic content and lectures. By analyzing the results, they provided a quantitative estimate of positive and negative results and correlations. The research results showed the positive correlation and impact of smartphone usage on academic performance. This indicates that MAL helps in fostering the performance quality and solving the challenges of online learning as it adds more flexibility and readiness in the learning process.

Based on a Group Special Mobile Association (GSMA) (2015) report, half of the world's population has a mobile subscription with smartphone adoption already reaching critical mass in developed markets. Smartphones are now responsible for 60% of Internet connections around the world (Ng & Hassan, 2017, p. 58). Hence, relying on smartphones for learning became indispensable due to their endless advantages. Arguably, the use of smartphones performs highly important roles in the educational context. For instance, learners can access their lecture materials on their smartphones, quickly access information online to meet their information needs via learning management systems, access academic databases, and a website to mention but a few (Darko-Adjei, 2019, p. 4). In addition, MAL facilitates collaborative learning where

students are able to interact and communicate with other learners and instructors from all over the world (Aljaber, 2021, p. 3).

Wali and Omaid (2020) asserted that smartphone users benefit from its multifunctional ability and use it as an important part of their work, study, or leisure time. Its use for learning and educational purpose has gained increased attention over the time and efforts are underway to increase its use in classroom environment as a tool for facilitating teaching and learning for both teachers and learners (p. 239). Furthermore, Masiu and Chukwuere (2018) argued that the presence of smart phones and their applications by students revolutionized the teaching and learning process. Smartphones are not restricted to an area, and one is free to move from one place to another while using them. Thus, learners' reliance on smartphones as a learning tool can be very helpful in cases where access to a computer or laptop is restricted (p. 175). This means that learners can access multimedia enhancements for their lessons whenever they need. They can review demonstration videos several times, and they can access supplemental materials in the style that works best for their learning style, such as audio, visual, etc. Nonetheless, using smart phones to learn may create a lot of distraction. Most of the learners open the mobile to learn something and end up using social media websites, chatting, sharing pictures or playing video games. These types of distractions could waste one's time instead of performing a meaningful task.

Briefly, mobile-assisted learning is believed to be one of the most effective educational tools in the current digital era. This is because of its ability to facilitate the access to the various learning materials without the traditional time and locational limitations. Moreover, smartphones are very effective in collaborative learning among learners. There are so many learning applications in the app stores for learners at all levels. This means that a learner can get help from an app for the subject in which he/she lacks in some areas at any time. Yet, mobile learning has numerous technological and social drawbacks that prevent it from being a fully

accepted method of education. Therefore, teachers should take steps to prevent some of the problems that stem from using smart phones in classrooms. They need to establish clear policies that allow mobile phones only for specific learning purposes. They can also get their students engaged in the learning process through a mix of traditional and online activities to try to boost learning and attention levels.

2.2.4. Online Learning Platforms

Online learning is the new standard practice among educational institutes all over the world during the last decades. The value of online learning has become widely recognized with the development of information technology, along with the spread of COVID-19, which obliged all the educational institutions all over the world to close their doors. Consequently, education has changed dramatically with the distinctive rise of online learning, whereby teaching is performed on digital platforms. With the wide availability of Wi-Fi connections, learners can log in various online learning platforms from anywhere in the world and at the time that fits them. Karim et al. (2013) pointed out that online learning uses the Internet or other digital content for learning and educational activities. It takes full advantage of modern educational technology to provide a new mechanism for communication and learning environment rich in resources to achieve a new way of learning (p.68).

Accordingly, Bri et al. (2009) defined online learning platforms as the hardware and software environment designed to automate and manage the various academic formation activities (p. 33). That is, online learning platform is an online space that contains educational content and live instructions on different topics, and enables international learners to learn from anywhere and at any time.

Wainwright et al. (2007) asserted that online learning platforms are also known as LMS (Learning Management System), which is a software program installed in a server and it is used

to administer, distribute, and check activities for face-to-face formation in an online learning environment. Among the main functions of a LMS is that it can manage and register users, resources and formation activities, access check, control and monitoring learning process, doing evaluations, managing communication services like forums and teleconference amongst others. Generally, LMS does not include possibilities to create its own contents, but it is in charge of administrating contents created by different sources (p. 356). Pan et al. (2007) added that LCMS (Learning Content Management Systems) is used to create contents for courses. Most of LMSs work using web servers in order to be accessible through Internet (p. 4). Kuitunen et al. (2008) stated that the content has to be related in the platform. Metadata provides means to organize the content of online learning courses and to visualize the semantic connections between concepts. It is possible to extend and reuse metadata specifications by utilizing ontologies, ontology languages, and markup languages for online Learning. Bri et al. (2009) added that communication tools are a fundamental part in this academic environment. They allow interaction between different agents of learning-teaching process (p. 38). The interaction aforementioned is necessary to do work groups, exchanging experiences, providing help by a tutor, resolving doubts, etc.

According to Ouadoud et al. (2016), the actors of any online learning platform are: learners, teacher, tutors, coordinators and administrators. That is, learners are expected to attend pedagogical activities that take various forms, to realize situations for assessments, and to access collaborative working from shared documents. Teachers are responsible for the preparation of the courses, along with creating the teaching resources in order to share them. Tutors are responsible for taking charge of learners by an individual tracking system, animation and / or moderation of forums, Initializing the conversation within the chat, and Following-up the learners in the video-conferences. Administrators and coordinators are

responsible for customizing the platform with regard to establishing the groups, managing the courses, and customizing the platform.

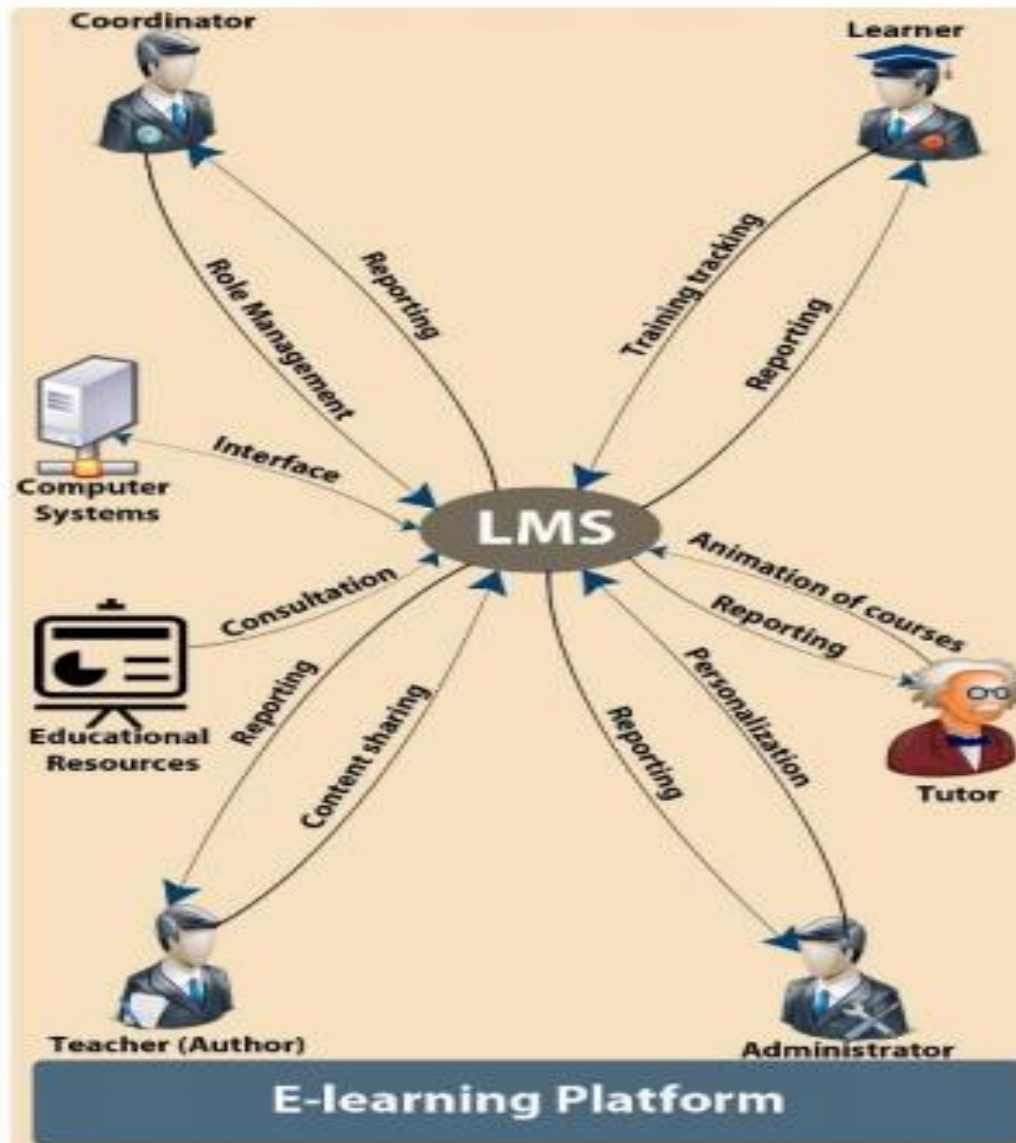


Figure 2.1.

General Architecture of an E-learning Platform LMS (As cited in Ouadoud et al. 2016, p. 582).

It is clear from previous explanation that online learning platforms rely primarily on simultaneous communication to deliver course information to learners. This type of communication usually occurs in an online chat room where the learners and their teachers gather at a specific time to communicate directly with one another. Here, instructors can lecture

to the learners and questions can be answered immediately. The immediate answers ensure that all class participants understand necessary information, thus making learners feel connected to the teacher and the course.

According to Kyriaki (2022), some of the best online learning platforms include Coursera, Skillshare, Udemy, Codecademy, Edx, Pluralsight, Future Learn, and Moodle. Those platforms are leading a fast-growing e-learning industry, especially after Covid-19. An unbreakable piece of evidence is the increasing number of people becoming interested in online learning for both learning and teaching purposes. The rising concern about the rapid spread of Coronavirus (COVID-19) resulted in the closure of all educational institutions in Algeria, as well as, the other countries in the world. In this regard, the Algerian ministry of the higher education and the scientific research relied on Moodle platform to continue the process of online learning and teaching in the country. Wu (2008) stated that that the acronym Moodle stands for Modular Object-Oriented Dynamic Learning Environment. It is a Virtual Learning Environment (VLE), which is a type of online teacher-student communication in an e-learning environment. Bri et al. (2009) defined Moodle as a course management system; a free package designed using known pedagogical principles to help the educators to create effective online learning communities. It is provided freely as Open Source software under the GPL (General Public License). This means that Moodle is copyrighted, but the users are allowed to copy, use and, modify it if they agree to: provide the source to others; not modify or remove the original license and copyrights, and apply this same license to any derivative work.

Ghouali and Cecilia (2021) conducted an experimental study about the effect the Moodle-based e-assessment on the writing performance of Algerian EFL students at the English Department at Tlemcen University (Algeria). The sample of the study was divided into an experimental group ($n = 21$) and a control group ($n = 21$). A pre-test and a post-test were used as research instruments before and after the administration of the treatment, respectively. The

results revealed that the Moodle-based e-assessment had a significant effect on the performance of the experimental group. They argued that the proposed type of assessment had some pedagogical, practical, and emotional attributes that explained students' improved scores. Moreover, the researchers believe that Moodle-based e-assessment acted as pedagogical teaching support to the traditional evaluation (pp. 236-242). Hence, MOODLE online learning platform is an information system that provides a safe learning environment, where students can take online courses along with an immediate personalized feedback. It provides a simplified user interface, allowing teachers and learners to focus more on learning than technology. Moreover, it gives learners access to a community of developers, users, and certified partners that share best practices on the use of that platform.

Nonetheless, training is highly important when it comes to the use of Moodle platform. In Algeria; however, there is a total absence of any official specialized institution devoted to the training of the teachers to master the needed technological skills for the effective use of the various online learning platforms, including MOODLE. Berbar (2020) studied EFL teachers' perceptions and experiences with the Moodle platform during covid-19 pandemic at the University of Tizi-ouzou, Algeria. The researcher designed an online questionnaire comprising closed and open questions using Google Forms, and sent to the teachers of the department of English via email. The results of the study indicated that the majority of the participants held negative perceptions of the Moodle platform. They advocated face-to-face education and were firmly against teaching through Moodle. The findings also disclosed some advantages and disadvantages of teaching through Moodle such as lack of training. Therefore, there is a need for attitude change and the development of teachers' technological literacy.

2.2.5. Virtual Classrooms

The term virtual classroom was introduced in 1986, when Hiltz perceived the use of a computerized conference system as a "virtual classroom". Hiltz (1986) defined the virtual

classroom as a teaching and learning environment constructed in software, which supports collaborative learning among students who participate from different places. While students may access only the record of their activities, the instructor can review the activities status of any student, require that activities need to be done in certain sequences, and designate activities as required or optional (p. 96). Yet, the main problems reported at that time were related to limited bandwidth and lack of “turn-taking” (Dwyer et al. 1995). As soon as video conference technology evolved and developed, a lot of online synchronous tools for learning have been emerged offering choices for virtual classrooms (Schullo et al. 2007). Otherwise stated, the use of virtual classrooms was initially driven by necessity, mainly in the context of simultaneous distance learning, where the teacher had to prepare a typical classroom for distance to offer students an experience similar to the ordinary classroom. In many cases this wasn't succeeded, due to network and equipment limitations that lead into sound and video problems; as well as, due to the lack of suitable tools. However, the new technological development gave students the opportunity to access quality teachers anywhere on the planet as they both have a reliable high quality internet connection.

Schlusmans et al. (2009) defined virtual classroom as an instrument for conducting live classroom-like sessions over the internet. In virtual classrooms, students and teachers can communicate throughout voices, videos, and chats. They also have facilities like application sharing, polling, breakout sessions and quizzes. It allows the teachers and the students to participate in real time lessons and discussions. Students can ask questions, and participate in breakout sessions. Almost everything that can be done in a real classroom can be done in a virtual classroom. Moreover, the whole classroom session can be recorded to be available for review afterwards (p. 2). Differently said, virtual classroom is an online learning environment that permits for the teachers and the students to communicate, interact, and collaborate. Instructors use virtual classrooms to teach exactly as they did in a typical classroom, since

virtual classrooms are online spaces that ensure human connection, a vital element of classroom teaching that enables teachers to interact with their students. For instance, teachers can use Google Classroom to deliver their lessons, while students can type their questions and interact with peers. Edi et al. (2021) defined Google Classroom as a powerful community based social tool for learning. It allows students to post questions and receive answers from their teachers and fellow students. Furthermore, teachers can post intriguing questions and lesson materials for review at home. It can also be integrated with other Google products such as Google Forms, which can be a great way to get feedback from students.

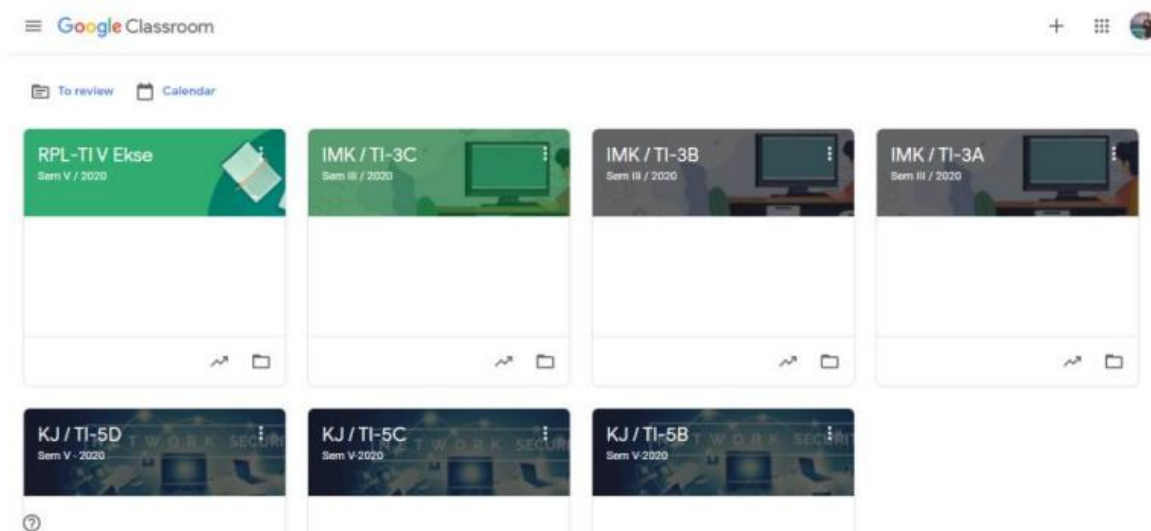


Figure 2.2.

Online-Based Lesson Using Google Classroom (as cited in Edi et al., 2021)

Zoom meeting is another example of online virtual classrooms. Zoom is a video conferencing platform that can be used through a computer desktop or mobile app, and allows users to connect online for video conference meetings, webinars and live chat (Wahab, 2021). Zoom allows users to create and join virtual meeting rooms where they can communicate with each other using video, and audio. Additional features can give participants the ability to share their screen, share files, and use text chat within the meeting group or privately with others in

the meeting. In order to join a Zoom meeting, a participant needs to have the Zoom app, and either the meeting link, or a Meeting ID and a password (Zoom, 2020). Hence, Zoom is an online learning platform and a video conferencing tool, which offers meetings and provides content sharing for its users. Zoom's features allow FL teachers to explore and assess the four skills through rich interactions among learners. Furthermore, Zoom motivates teachers to annotate their shared screen to make lessons more interactive. It enable learners to record lessons and watch them again to assess their skills, strengths, and weaknesses.

Cakiroglu (2014) evaluated students' perspectives about virtual classrooms according to seven principles of good practice. He asserted that effective teaching practices encourage seven principles, namely student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning. In this study, the researcher assessed distance learners' perceptions about the quality of course delivery in virtual classrooms at the Faculty of Education in Turkey. The researcher focuses on investigating the quality of distance learning setting in three dimensions (teaching, learning, and interaction) by a questionnaire based on seven principles of good practice.

After analyzing the questions that relate to interaction dimension, the researcher concluded that student-faculty contact considered as effective element in the virtual classroom, and he got highly satisfactory responses on this side. In the context of analyzing questions that relate to teaching practices, the researcher finds learners' overall assessments of time on task showed that the students are highly satisfied. Most of the learners indicate that the course is organized in such a manner as to allow them to complete assignments effectively, and sufficient time is provided for learning activities. The researcher stated that the feature of lessons recording considered as an important advantage of synchronous sessions and assessed by students as excellent. Nevertheless, the researcher received some negative opinions about the delay in timely feedback. According to the results of students' responses about questions of learning,

most of the students agreed that the instructor succeeded in coordinating the learning activities through the virtual classroom. The participants evaluated the item that the instructor used different kinds of instructional materials as highly satisfactory. This is convenient for learners to present their talents and rated as excellent. The researcher in his study presented some of the potential of virtual classrooms for teaching, learning, and interaction, and some suggestions for instructors who wish to use virtual classrooms in their teaching.

Therefore, virtual classrooms play an essential role in ensuring that education opportunities reach as many people as possible. Virtual learning allows learners from different parts of the world to access engaging online sessions regardless of time and location. Learners who are engaged in virtual classrooms often get to meet other international learners from all over the world and from different cultures and backgrounds. There is no need for expensive travel to discover new cultures, and to know about the various cultural components of other cultures and people, which can help them to enhance their intercultural communicative skills. Furthermore, virtual classrooms can provide learners with the opportunities to work on group projects and collaborate with their international classmates. Insights into other business cultures, attitudes, and problem-solving approaches can enrich their own approaches to problems and opportunities.

Moreover, most online learning classrooms provide the learners with an immediate feedback as opposed to traditional classrooms where teachers take the work home to evaluate it. In addition, learning through virtual classrooms enables the learners to foster their digital skills on the most sophisticated online learning technology. As they continue to learn and study in an online world, they will become more confident and highly productive using interactive online tools such as online tests, drop boxes for homework, collaboration tools, e-mail communications to faculty and fellow classmates, and video presentations.

Nevertheless, online learning through virtual classrooms is not the right choice for everyone. The lack of self-motivation among students continues to be one of the main reasons why the learners fail to succeed in online courses. In the setting of virtual classrooms, learners are expected to totally depend on themselves during their learning activities, without anyone constantly urging them on towards achieving their learning goals. In contrast, many factors constantly push learners towards realizing their learning goals in traditional classrooms. Face-to-face communication with professors, peer-to-peer activities, and strict schedules all work to raise their self-motivation to achieve success in their studies. In this perspective, coaching the learners to build strong self-motivation and disciplinary skills is the key to succeed in an online learning environment. In addition, face-to-face communication with the teachers should be replaced by online communication, and peer-to-peer activities should be promoted between online learners similarly as it would be in the ordinary physical classroom.

Briefly, education has changed dramatically, especially, with the development of numerous technological tools, whereby teaching is undertaken online and on various digital platforms. The use of different technological tools in the educational field opens the doors for the learners to connect their international fellows and educators globally. Such tools help them to work with people in different countries and to explore the other foreign lands and cultures. Yet, it must be recognized that the learning teaching process by means of online learning platforms in Algeria is still at its infancy and faces several challenges.

2. 3. Forms of technology-Based learning

The twenty-first century world is witnessing an information revolution in which communication and media technologies are crucial factors in the significant changes affecting a variety of sectors, including education. As previously mentioned, numerous technological tools are used in order to facilitate, enable, and promote learning. According to Koller et al.

(2006), technology-based learning can be implemented in a wide array of forms including blended learning, flipped classrooms, and online learning.

2.3.1. Blended Learning and Flipped Classrooms

Blended learning, also known as hybrid or integrated learning has recently become the dominant paradigm for TBL success among training designers and experts. Blended learning typically refers to a training approach that combines a mix of online and face-to-face training delivery for improved engagement and better retention. Integrating face-to-face with online tasks also has the potential of bringing the best of both worlds together in a single course. In its most basic forms, it combines a synchronous face-to-face lecture with some online follow-up activities, such as discussion forums or chats (Koller et al., 2006). Differently said, blended learning refers to any educational situation where traditional face-to-face learning is mixed with online technology-based learning. Dhawan (2020) declared that combining face-to-face lectures with technology gives rise to blended learning and flipped classrooms; this type of learning environment can increase the learning potential of the students (p. 7). This implies that blended learning ensures that the learner is engaged and driving his/her individual learning experience.

According to Davies et al. (2013), flipped classroom is a type of blended learning where learners are introduced to the course content at home and practice working through it in the classroom. Flipped classrooms invert the traditional learning experience. Lectures are shared outside of class time for individual review as homework, and classroom time is reserved for class discussion and interactive projects. This means that flipped classrooms reverse the traditional learning environment through using blended learning model. For example, learners may be asked to understand and process a set of material in their own time and at their own pace using various technological tools. This would take the place of more traditional homework

tasks, and the classroom learning is just for interactive discussion and exploration of the topic with the teacher. Thus, the type of activities undertaken in each context is the reverse of what is usual. The class is flipped to enable learners to be more active and engaging with each other in a more personalized and focused way.

Bates and Poole (2003) pointed out that the extent to which technology-based instruction replaces other learning and teaching approaches is ranging on a continuum from none to fully online distance learning. Different descriptive terms have been used to categorize the extent to which technology is used in education. For example, hybrid learning or blended learning may refer to classroom aids and laptops, or may refer to approaches in which physical classroom time is reduced but not eliminated, and is replaced with some online learning, or fully online distance learning environments.

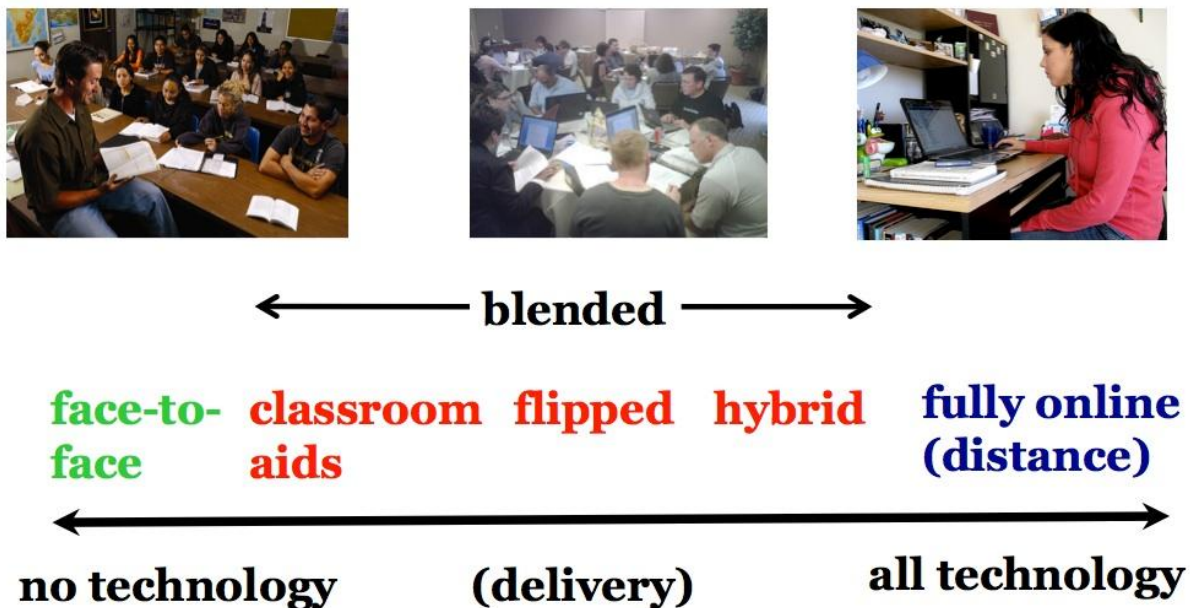


Figure 2.3.

The Continuum of Technology-based Teaching (Adapted from Bates and Poole, 2003).

As illustrated in figure above, the continuum above represented face-to-face technology-free learning in the left and fully online learning on the right. In the middle of the continuum, the

terms used describe the learning process that occurs inside traditional classrooms, while technology is used to deliver the course content. Blended, flipped, and hybrid learning all refer to a purposeful combination of two learning modes (face-to-face and online) to facilitate a meaningful learning environment.

Therefore, blended learning involves face-to-face class sessions that are accompanied by online materials and activities. Flipped learning also encompasses both face-to-face and online learning, but the way in which learners interact with the content is different from the traditional class. In the traditional classroom, learners learn fundamental concepts in the classroom, and engage with the materials that build upon that knowledge outside of the classroom. Nonetheless, this process is inverted in flipped learning. That is, learners use some technological tools like video lessons from internet sites to understand the course content and build their knowledge before they go to class. Consequently, flipped learning is a sort of blended learning, since materials are often provided online; while teachers are only organizers of the learning process.

2. 3.2. Online learning

Online learning, also called distance learning and e-learning, refers to the learning experiences in synchronous or asynchronous environments using different technological devices like smart phones and computers with internet access. In these environments, students are independent and free to learn and interact with instructors and other students from all over the world (Singh & Thurman, 2019). That is, online learning is a sort of an internet-based learning atmosphere where learners and teachers from different places in the world can interact and exchange knowledge using a given technological tool. Generally, institutions use a specific learning management system, or LMS, to facilitate the process of online learning, which can take the form of asynchronous or synchronous learning. In asynchronous learning, learners are not required to be online at the same time, for instance, they use discussion threads and e-mails

to complete their coursework. However, synchronous learning occurs when all the participants are interacting at the same time, like live lectures through a given video conferencing tool (e.g. Zoom meeting, Google meet, Skype...etc.).

According to Rossett (2002), online learning has many advantages, but it takes commitment and resources, and must be done right. That is, online learning materials must be designed properly through providing learners with the adequate support and feedback. Moreover, Ring and Mathieux (2002) pointed out that instructional designers of the online courses must take into consideration some fundamental components such as contextualization, authenticity, interactivity, and collaboration (As cited in Anderson, 2008, p. 16). Differently said, the interrelation of these components has a direct impact on the learning performance of the learners. This implies that students must have access to a meaningful lifelong learning; and to learn with interesting tasks that reflect their everyday lives. This would foster communication, socialization, and mutual knowledge exchange among learners.

Indeed, online learning offers the ability to share knowledge in different formats such as videos, slideshows, word documents and PDFs, and conducting webinars with professors from all over the world. Relatively, Tyron (2018) wrote that the use of online learning training require from teachers special computer skills, methodological knowledge, and extra time for preparation. Moreover, teachers must quickly update the course content to give learners the very latest information (p. 43). Dhawan (2020) asserted that different arguments are associated with online learning. Accessibility, affordability, flexibility, lifelong learning, and communication are some of the arguments related to online learning (p. 6). That is, online learning is easily accessible and can even reach to rural and remote areas. In addition, online lectures can be recorded, archived, and shared for future reference. This allows learners to access the learning material at the time of their comfort. Another advantage of online learning is affordability. Online learning eliminates the cost points of student transportation, student

meals, and most importantly creates a paperless learning environment, which is more affordable.

Flexibility is another interesting aspect of online learning. Online courses enable learners to achieve their professional and educational goals in a manner that fits their schedules. Online learning platforms allow lifelong learners to take online courses that can enhance their skill sets, and provide opportunities to connect them with like-minded individuals to exchange knowledge. Furthermore, online learning platforms allow lifelong learners to take online courses that can enhance their skill sets, and provide opportunities to connect them with like-minded individuals to exchange knowledge. Finally, online learning can bridge the gaps of geography and time. It helps learners to master some effective online communication skills. Online classes provide a sense of community that is important for the learning process, and help learners to feel connected to their instructors as well as their classmates.

Nevertheless, online learning has also some disadvantages. For many learners, one of the biggest challenges of online learning is the struggle with focusing on the screen for long periods, which could be a serious threat for learners' health. Another key challenge of online learning is the lack of internet connectivity in some smaller cities and villages. Teachers and learners may miss important courses without a consistent internet connection. Furthermore, online learning requires teachers to be technology savvy. Yet, so many teachers have a very basic understanding of technology use. Therefore, it is the responsibility of the educational institutions to invest in training teachers with the latest technology updates so that they can perfectly conduct their online classes. Finally, analyzing and understanding the advantages and disadvantages of online learning would help institutes in creating strategies for more efficiently delivering the lessons, and ensuring an uninterrupted learning journey for learners.

2.4. The Effectiveness of Using Technology in Teaching and Learning FL

Patel (2015) noted that technology-based instruction assists and enhances FL learning. For instance, teachers have incorporated various forms of technology to support their teaching, engage students in the learning process, provide authentic examples of the target culture, and connect their classrooms. That is, FL teachers' job is to teach learners a very new language, including the nuanced rules of grammar, and the cultural aspects of the target language. The use of technology provides FL teachers with influential authentic resources to reach learners with different strengths and needs. Shadiev and Yang (2020) acknowledged that technology provides an effective way for FL teachers to organize course content and interact with multiple students. The use of technology is encouraged and teachers can adjust their teaching activities as well as change their teaching strategies to make the most effective use of existing resources (p. 14). Furthermore, Shonfeld et al. (2021) pointed out that online encounters among international learners and teachers have been found to contribute more successfully to cross-cultural understanding than face-to-face meetings.

Consequently, technology-based instruction provides FL teachers with the opportunity to improve the quality of their teaching and help their students become better users of the target language. It also helps them to save time on lesson planning, reduce their overall workload, and improve the quality of their teaching. Additionally, the use of the multiple technological tools in education allows learners not only to learn grammatical tools in context, but also to join online projects that provide opportunities for collaborative learning in a multicultural environment. In such an environment, learners from different cultures and countries interact, learn together, and form relationships without the stereotypes influenced by external appearances.

According to Nagy (2021), teachers need to give students the possibility to use and show their language skills not only in the classroom, but also in their daily lives. While Internet contains valuable resources for learning, students may not be aware of them. Drawing students' attention to such databases and giving them tasks that involve the use of such resources can affect language learning positively. In addition, teachers can also encourage students to navigate their own learning and discover things for themselves, which can lead to incidental learning in an enjoyable and effortless way. Technology-based education can be used for language learning in a variety of ways. For instance, task-based learning activities that put students in real life-like situations can be highly effective for all ages and levels. Such activities are often carried out in small groups, so that learners work together on a given task, trying to create something, discuss some topics or find a solution to a problem (p. 2). That is, FL teachers can improve the quality of their teaching and help their students become better users of the target language through the use of the various technological tools. Technology allows FL learners to break away from the textbooks and discover real-life FL materials that spark their interest and boost their language learning. By using technological tools, FL learners can tailor their language learning experience according to their unique strengths and weaknesses and get the best possible results.

Bates and Poole (2003) argued that technology greatly enhances teaching and learning foreign languages. This is mainly because teaching and learning are social processes and require communication between teachers and learners. Therefore, technology facilitates the communication process among students and their teachers. That is, using technology as a communicative tool in the field of FL education fosters a sense of community along with interactive learning activities, which opens the doors for learners to participate in international virtual classes, sharing their culture and removing barriers of space and time. Following the same line, Domalewska (2014) stated that technologically-supported collaborative learning

fosters FL development as students learn in social interactions; commenting on each other's work prompts learners to share their experiences, reflect on their own and their classmates' work and analyze it (p. 28). Differently said, collaboration and group work are critical in encouraging learners to practice the target language actively. Collaborative learning through technological communication systems strengthens areas such as intercultural understanding, as it facilitates collaboration with people across the globe. This would broaden views, raise awareness, and motivate students to explore and explain new cultures, and different traditions.

Pop (2010) conducted a research about the impact of the new technologies in foreign language instruction. The research was based on a survey of an international exploratory workshop on optimizing the quality standard in higher education ESP (English for Specific Purposes) organized by Dimitrie Cantemir University of Targu Mures, Romania, as well as student evaluation through questionnaire of technology-based ESP learning at the university of Targu Mures versus learning through classical strategies and methods. The study results showed that the use of various technological tools in foreign language instruction, besides increasing foreign language exposure and use, enhances the levels of student satisfaction, motivation, confidence and disposition, which are crucial for communicative life-long foreign language learning.

Similarly, Ghanizadeh et al. (2015) reviewed articles on technology-based language learning published between 2004 and 2014, to explore the effectiveness of using technology in improving language learning. They found that technology was used in all aspects of foreign language learning. They argued that technology was useful in improving the quality of input, making communication more authentic, and providing timely and relevant feedback. The researchers suggested that technology can support the development of all language skills (e.g.,

listening, writing, reading, speaking, grammar, vocabulary, and the cultural aspects of the target language). It was also found that technology-based learning environments were pleasant and enthusiastic for FL learners.

To make a long story short, technology-based instruction is not only providing important tools to make teaching more effective, but it is also an expectation of the learners, and key skills for instructors including the ability to facilitate learning in cyber space by being able to utilize digital tools and web resources in preparing quality educational material. Effective FL teachers are those who are able to integrate teaching materials with various mobile devices and online platforms to enhance meaningful, authentic, and enthusiastic learning for their learners. Technology is able to transform a passive classroom into an active and interactive one with the different electronic communication devices, such as computers, laptops, smartphones, and other technologies, namely video and audio conferencing tools, webcasts and chat rooms. Moreover, TBI can effectively foster FL learners' intercultural competence that is crucial for effective communicative lifelong foreign language learning. This is because it opens the doors for them to interact in multinational virtual classes, which are generally composed of various international learners coming from different cultural backgrounds and curious about each other's lives.

2.5. The Implementation of Technology-Based Instruction in FL Education

It is widely noticed that the twenty-first century learners are digital natives and ready to learn through technology. Educational settings; therefore, can provide great opportunities for them to use digital experiences for raising their engagement and achievement. Accordingly, Banuramalakshmi and Priya (2017) argued that embracing technology in schools is a decision that introduces great change for both teaching and learning; especially, if the implementation strategies addresses some of the most common challenges (p. 180). This implies that the

educational institutions recognize the potential for technology to transform teaching and learning; however, bringing technology in the classroom in the productive way needs some efforts and skills. Teachers and developers need to effectively select, integrate, implement, and evaluate the use of technology in formal educational settings.

Tomei (2010) acknowledged that TBI requires teachers and learners to analyze available technology resources and select those that match their own learning strategies with specific lesson objectives (p. 92). This implies that teachers must pay attention to elements of the description of lesson activities in online lesson plans, such as learners' needs and objectives, internet usage, the summary of lesson plans, the opportunity to use interactive materials, and the course objectives. Correspondingly, Tomei (2010) revealed that effective implementation of TBI requires the incorporation of the following action statements and technology-based activities:

Table 2.1.

Action Statements and Technology-Based Activities (As cited in Tomei, 2010, p. 94)

Taxonomy Classification	Action Statements
Literacy	Understand computer terms in oral and written communication <ul style="list-style-type: none"> • Demonstrate keyboard and mouse (click and drag) operations

	<ul style="list-style-type: none"> • Use basic computer software applications. • Operate computer input and output devices • Apply computer terminology in oral and written communication • Consider the various uses of computers and technology in business, industry, and society • Use Web-based search engines • Download information via file transfer protocol • Control various input and output devices
Collaboration	<ul style="list-style-type: none"> • Share ideas using communications tools appropriate for writing and personal communication • Exchange information electronically among students • Communicate interpersonally using electronic mail
Decision-	Apply electronic tools for problem-solving

<p>Making</p>	<ul style="list-style-type: none"> • Design effective solutions to practical real-world problems • Develop new strategies/ideas with the help of brainstorming software • Prepare an electronic spreadsheet • Create calendars, address books, and class schedules • Formulate new ideas with the help of brainstorming software
<p>Technology for Learning</p>	<p>Appraise educational software and determine its effectiveness with respect to individual student learning styles</p> <ul style="list-style-type: none"> • Discriminate among multimedia resources appropriate for the various levels of student development (e.g., age, gender, culture, etc.) • Assess various Internet environments for their strengths as possible student learning tools • Employ electronic media to construct new research and investigate lesson content

	<ul style="list-style-type: none"> • Locate, infuse, and assess outcomes from teacher and student web-based materials • Locate, infuse, and assess outcomes from text-based materials using word processing technology • Locate, infuse, and assess outcomes from visual-based classroom presentations using presentation software
Technology for Teaching	<ul style="list-style-type: none"> • Design, construct, integrate, and assess outcomes from teacher-made Internet-based materials for learning subject content • Design, construct, integrate, and assess outcomes from teacher-made text-based materials for learning subject content • Design, construct, integrate, and assess outcomes from teacher-made visual-based classroom presentations for learning subject content

	<ul style="list-style-type: none"> • Consider the uses of technology to address the strengths and avoid the weaknesses inherent in multiple intelligences • Focus student learning using integrated instructional materials • Assimilate technology into a personal learning style • Facilitate lifelong learning by constructing a personal schemata for using technology • Enhance personal productivity with technology tools
Technology	<p>Defend copyright and fair use laws for using technology</p> <ul style="list-style-type: none"> • Debate the issues surrounding legal/ethical behavior when using technology • Consider the consequences of inappropriate uses of technology • Support copyright and fair use laws for using technology

As illustrated above, effective implementation of technology in FL education needs teachers and learners to have some basic knowledge about the use of technology. That is, teachers have to develop some basic skills for searching, and producing information, as well as the critical use of new technologies to share their ideas using various digital communicative tools. That would help learners to apply these digital tools for problem solving, and to have effective solutions to practical real-world problems. Furthermore, teachers have to assess the already existed digital materials and to appropriately combine them with other different technologies to create very new lesson materials. In addition, teachers are expected to introduce different teaching strategies and materials that best suit their individual learners' learning styles to enhance their personal productivity. Finally, teachers have to check the reliability of the chosen digital resources, and to take into consideration some ethical issues while implementing technology. That is, teachers need to evaluate websites and assess the content reliability in order to rely on approved websites while preparing and designing the course content. Furthermore, Understanding copyright and related laws will help teachers to ensure that they follow the rules in using and sharing content and the correct use of the technological tools.

According to Edi et al. (2021), the planning models helps teachers to develop simple web learning, which allows them to search, select, order, and quickly gather learning content relevant to the topic they want to teach. Correspondingly, they suggested the following online-based lesson plan model:

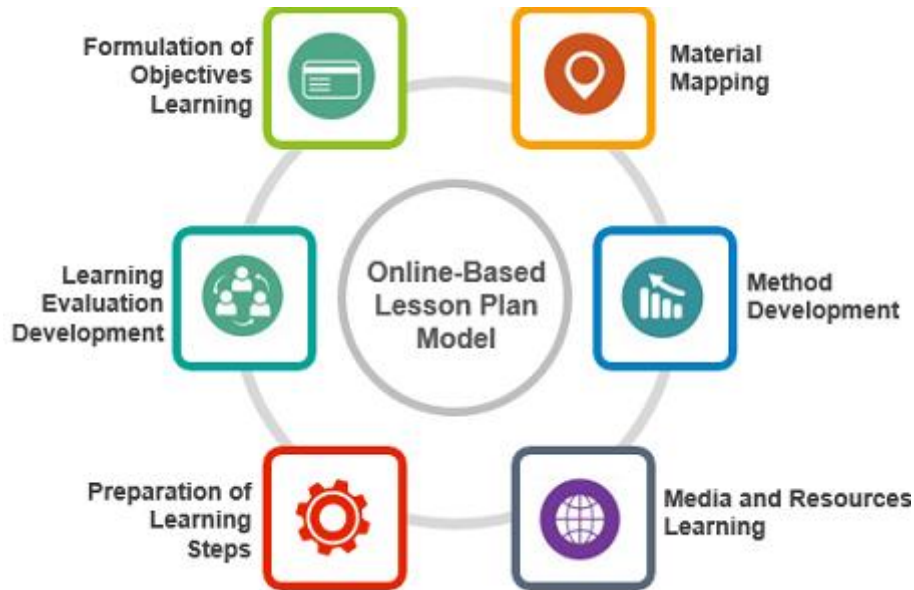


Figure 2.4.

Online-based Lesson Plan Model (Adapted from Edi et al., 2021, p. 532).

This cyclic technology-based lesson plan implies that teachers are expected to start their technology-based lesson plan by selecting reliable digital course materials and resources that foster learners' meaningful lifelong learning, critical thinking, creativity, and innovation. Then, they need to choose the best instructional strategies and methods to achieve this goal. Mapping learning materials must include elements of the discussion that encourage learners to independently browse the different digital databases and search engines. A well-designed technology-based lesson plan supports learners in achieving the learning objectives and the results of the teacher's feedback will measure to what extent learners have achieved these learning objectives. In designing technology-based lesson plans, teachers need to assess the development of the learning process. The later can be assessed both formally and informally. Assessing learners' development is a vital component in creating positive learning experiences and academic success. The development of the various technological devices have the potential to deliver better quality educational assessment that is useful for teachers and highly beneficial for the learners. Finally, lesson plan designers need to reflect on the gathered results from

learners' assessment to diagnose the possible problems and weaknesses, so that they can efficiently address them in the next lesson plan.

2.6. Factors Affecting the Implementation of Technology-Based Instruction

The development of TBI satisfactorily supplements education, as it provides teachers and learners with many facilities. Indeed, the use of technology in learning became highly common and crucial. Yet, the implementation of technology in education is not always done effectively and successfully. Harrell and Bynum (2018) argued that there are several circumstances that affect the proper implementation of technology in classrooms such as poor infrastructure, inadequate technology, and the lack of effective teachers' professional development.

Several factors contribute to poor infrastructure; include the lack of funds, insufficient provision of developmental resources, as well as poor repair and maintenance. For instance, the collected results from Pearson's (2015) research demonstrated that 75.9% of the participants claimed that budget restrictions is the biggest challenge preventing teachers from implementing educational technology, and that only 68% of students said that they have Wi-Fi access in the classroom. Moreover, Pearson (2015) asserted that 62% of the students want to use technology more in the classroom, but the reality is that the resources are just not available. Similarly, (Education Business, 2019) argued that the lack of investment in hardware, software and Wi-Fi is the greatest barrier to support technology integration in the classroom. Another study conducted by Snyder et al. (2016) found that the educational institutions do not have the resources to provide adequate technology for every student, because of the limited funds and budgets. That is, the lack of infrastructure in the educational institutions significantly affects the use of technology to foster the learning process. The shortage of a well-developed infrastructure, such as the lack of reliable devices, and high-speed Internet connection can

present major barriers to the adoption of TBI. To solve this, governments need to provide and support vast investments channeled toward infrastructure development in education.

According to Hendricks et al. (2001), TBI has developed at such a rapid pace that some feel it has nearly outrun the teacher. This may be particularly true of second-and foreign-language educators, since they generally have not been considered innovators in the use of technology. That is, one of the most challenging factors in implementing TBI is the lack of teachers' training to master the needed skills for incorporating new digital tools in their classrooms. In a teacher survey conducted by (Education Business, 2019), the results showed that inconsistent teacher training identified as a serious barrier for implementing TBI, with 1 in 4 (23.3%) teachers reporting that they have never received initial or ongoing training in using technology to support literacy. Confidence was also an issue, with teachers almost twice as likely to be very confident using technology at home compared to in the classroom (47.4% vs 27.4%). However, teachers showed their readiness to increase knowledge and learning about technology use, with almost a third (30.6%) of teachers having sought self-directed learning in this area and a fifth (22.8%) wanting to pursue a formal qualification. This implies that many teachers have not received enough training about how they can best utilize technology in their classrooms. This issue needs to be treated, since the implementation of TBI needs competent and technology savvy teachers, who are able to effectively use the digital devices in teaching.

2.7. Technology-based Instruction and Intercultural Knowledge

According to Mellati and Khademi (2019), the most significant domain that received special attention in educational research is the implementation of technology. Modern technologies have created new modes of learning and teaching, which are provided to facilitate learning (p. 50). At the same time, intercultural understanding is increasingly prioritized in FL education (Garrett-Rucks, 2018). As a matter of fact, people of diverse nationalities are frequently being

asked to communicate and work together in an increasingly mobile and global society. Consequently, the field of FL education plays a particularly important role in the development of such abilities, particularly when intercultural goals are overtly supported by institutions, such as by being explicitly incorporated into curriculum, classroom practice, and teacher training programs (Williams, 2010). This means that using technology to teach culture is not an opportunity, but a necessity.

In this respect, Avgousti (2018) collected a research about the role of technology to enhance learners' ICC and found that online learning platforms provide extraordinary opportunities for learners to become familiar with their own culture at the first glance and know other cultures. They can evaluate their understanding about cultural points that were somehow impossible for them in conventional classrooms. Online tools offered them the chance to meet and talk to foreigners and develop their intercultural knowledge and sensitivity, which are considered as the most important components of ICC. Thus, technology-based instruction provides opportunities for learners to gain an insider's perspective toward target cultures' traditions, customs, beliefs, and ways of behaving, expand their own worldviews, build intercultural sensitivity toward alternate perspectives and cultural differences, and strengthen, as well as expand their identity as a global citizen (Garrett-Rucks, 2018).

At present days, FL learners need to learn through technology instead of traditional methods of language education to develop their ICC, because technology is more convenient, more joyful, and allows more authenticity (Zhang, 2022). Furthermore, (Zheng et al., 2018) claimed that educators who combine academic technology with FL instruction have a deep effect on their education efficiency and learner success. Hence, it could be concluded that there is extensive research on the use of technology for fostering FL learners' ICC, but the research on implementing technology-based instruction for developing learners' intercultural knowledge is

limited. Accordingly, the present research tries to fill the gap through investigating the impact of technology-based instruction on developing learners' intercultural knowledge in FL classrooms.

Conclusion

In the new era of learning, technology plays a fundamental role in the educational process. As a result, numerous digital educational tools have been created with the purpose of giving autonomy to the twenty-first century learners, encouraging collaboration, and facilitating communication among teachers and learners. By using the different technological tools, FL learners can tailor their language learning experience according to their unique strengths and weaknesses to get the best possible results. Indeed, the current chapter has discussed the different tools and forms of TBI, along with its implementation in FL education. The two theoretical chapters of the research are interrelated in the sense that technology-based instruction is hypothesized to be effective instructional strategy that may foster learners' intercultural knowledge. The following chapters will investigate the research hypotheses, and questions.

Chapter Three: Research Design and Methodology

Introduction

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Conclusion

Introduction

Intercultural communication involves the sharing of information across different cultures and social groups, including individuals with different religious, social, ethnic, and educational backgrounds. Therefore, the mastery of intercultural communication skills is highly important to break down the cultural barriers and building awareness of cultural norms, as well as enhancing self-awareness and communication skills. Hence, developing learners' ICC through enriching their intercultural knowledge relying on technology-based instruction could be a powerful tool for achieving a well intercultural understanding, appreciation, and awareness. It could help people to develop the competency that they need for participating in meaningful intercultural communication. Correspondingly, the present chapter describes the design and the methodology of the research, the research questions and aim, the procedures that were implemented, the tools used in collecting data, and the sample of the study.

3.1. Research Design and Methodology

This study aims at investigating the impact of technology-based instruction on enhancing FL learners' intercultural knowledge at the Department of English language, in the University of 8 Mai 1945-Guelma (Algeria). For this end, the present research was conducted following the quantitative and the qualitative approaches. Within the quantitative approach, the quasi-experimental method was used along with the students' and the teachers' questionnaires at the beginning of the academic year. Within the qualitative approach, a follow-up interview was conducted with the students of the experimental group by the end of the quasi-experiment to explore their opinions about the effectiveness of TBI on enhancing FL learners' intercultural knowledge. Moreover, the study addresses the following research questions: What are the perceptions do students and teachers in the department of English, University of 8 Mai 1945, Guelma (Algeria) have on the importance of fostering FL learners' intercultural knowledge as basic component of intercultural communicative competence? Can technology-

based instruction develop intercultural knowledge of third-year License students in the department of English, University of 8 Mai 1945, Guelma (Algeria)?

Two hypotheses are made in this research:

H₁. Technology-based instruction is effective to develop FL learners' intercultural knowledge.

H₀. Technology-based instruction have no effect on the development of intercultural knowledge.

3.2. The Quasi-Experimental Study

3.2.1. Population of the Quasi-Experiment

The population for the experiment includes third-year students of English at the University of 8 Mai 1945, Guelma. Two groups were chosen randomly from four groups, among which one group was randomly chosen to be experimental and the other is the control group. For a group to be called experimental, it should receive a pre-test, an experiment, and a post-test, while the control group did not receive any interference or treatment. The whole population of third-year students includes one hundred and twenty (120) students, while the two groups include sixty (60) students. The experimental group includes thirty (30) students, and the control group includes (30) students too.

3.2.2. Pilot Study: Research Validity and Reliability

Validity and Reliability are concepts used to evaluate the quality of research. They indicate how well a method, technique, or a test measures something. Validity is about the accuracy of a measure, and reliability is about the consistency of a measure. It is important to consider reliability and validity when creating any research design, planning research methods, and writing up the research results (Middleton, 2019). That is, validity is about how good a test is for a particular situation; reliability is about how trustworthy a score on that test will be.

According to Gall et al. (2007), pilot testing achieves research validity and reliability. To this end, fifteen (15) students were randomly selected from the research sample, and they were taught through technology-based instruction to enrich their intercultural knowledge background. They received a pre-test and a post-test, and they were engaged in intercultural interactions with international students from different cultures, using English language as a lingua franca. The results were recorded, analyzed, and used to modify and adjust the researcher's intervention, and the items of the tests in the main research accordingly.

3.2.2.1. The Validity of the Test

According to Brown (2004), test validity refers to the degree to which the test actually measures what it claims to measure (p. 22). In his book, *Language Assessment. Principles and Classroom Practices*, Brown (2004) explained four types of validity: Content validity, criterion validity, construct validity, and face validity. Content validity refers to whether the test is fully representative of what it aims to measure (p. 22). Criterion validity aims at ensuring that the results accurately measure the concrete outcome they are designed to measure (p. 24). Construct validity refers to ensuring that the test measures the concept that it is intended to measure (p. 25). Finally, face validity refers to ensuring that the content of the test appear to be suitable to its aims (p. 26).

The researcher attempts to promote content validity of the test through making sure that all the questions are designed to check the informants' intercultural knowledge background. The test was divided into four parts; the first part raised questions related the American culture, the second was devoted to the British culture, the third part was concerned with the Mexican culture, and the fourth part was about the Uzbekistani culture to measure the participants' intercultural knowledge background. Criterion validity is achieved, since the test results directly measure the informants' intercultural knowledge they are designed to

measure (whether they know about the various intercultural aspects included in the questions, which means providing correct answers, or they do not know, which means giving wrong answers). Construct validity of the test has been ensured in the test, since it measures the participants' intercultural knowledge background, which is the research theme that it is intended to be measured. Finally, face validity of the test has been achieved, since its content seems to be on the surface. That is, the test explicitly targeted the assessment of the respondents' intercultural knowledge through asking direct and explicit intercultural questions related to various cultural aspects of four different cultures.

3.2.2.2. Reliability of the Test

According to Brown (2004), "a reliable test is consistent and dependable. If you give the same test to the same student or matched students on two different occasions, the test should yield similar results" (p. 20). To promote the reliability of the test, the researcher randomly selected fifteen (15) students from the sample to conduct a pilot study before the main research quasi-experiment. In the pilot study, the students were given the same pre-test and post-test used in the main research quasi-experiment, and under the same conditions. The students' scores in all the tests (in the pilot study and in the main research quasi-experiment) were recorded and compared. The comparison showed that the students yielded similar scores when the tests were repeated, which means that the test reliability has been achieved.

3.2.3. Conducting the Quasi-Experiment

Three phases were followed while carrying out the experiment by both the control and the experimental groups; the pre-test, the treatment period, and the post-test.

3.2.3.1. The Pre-Test

The pre-test was administered on Wednesday, October 27th, 2021 and took sixty minutes to be completed. The students were asked to work on the test individually and to take their time in answering each question. The pre-test is in the form of an intercultural quiz, and includes four parts (Appendix C). The first part is concerned with the American culture. The second part is devoted to the British culture. The third part is concerned with the Mexican culture, and the fourth part is about the Uzbekistani culture to measure the students' intercultural knowledge. The students were informed about their involvement in the experiment. Moreover, they were informed that the test is not a part of any evaluation or assessment to make them more comfortable so that they would not interfere with the results to ensure validity of the study. The control group and the experimental group took the pre-test at the beginning of the academic year before starting the treatment period.

3.2.3.2. The Treatment Period

The treatment phase took twelve (12) sessions; six (6) in-class sessions, two hours for each session per week, and six (6) online sessions (special timing due to Corona Virus Pandemic, when the university reduced the duration of the TD sessions, introduced blended learning, and closed its doors for many times). The experimental group was exposed to intercultural knowledge through online discussions with international students from the United States, Britain, Mexico, and Uzbekistan via Zoom Video Conferencing app, and Idialogue Collaborative Learning Platform. Britain and the United States were chosen in purpose to enable the students to communicate with native speakers of English (target language for them as students of English as FL). Mexico and Uzbekistan have been chosen to achieve variant intercultural experiences. The researcher used numerous technological tools (the university platform, Idialogue platform, Facebook, messenger, Zoom video conferencing app, and Google Classroom) to communicate with the subjects as well as other international students and

teachers around the globe to arrange intercultural interaction with their students. To conduct the current experiment, the researcher joined Facebook group (<https://www.facebook.com/groups/517779078412682>) named “Innovative English Teachers’ Club”. This group page helped the researcher to make friendship relationships with many international teachers around the globe, and to join their intercultural exchange programs.

As a result, the students of the experimental group were asked to join Facebook page (<https://www.facebook.com/groups/254142579943281>) named “Virtual Cultural Exchange Program Agency”. The aim of this Facebook page is to open the doors for the international students around the globe to get engaged in intercultural discussions via Zoom Video Conferencing app under the supervision of their teachers. Moreover, they were asked to join Idialogue, Collaborative Learning Platform (<https://www.idialogue.com/>). Idialogue enables the students to complement their studies through collaborative learning with students of various cultural backgrounds. There are a wide range of learning activities for students to help them remain engaged throughout the entire program. The program encompasses topics like human rights, cultural identity, and intercultural exchange.

Table 3.1.

Pedagogical Design of the Intervention

Title of the Course	Oral Expression
Date of Introduction	October, 27 th , 2021
Intervention Duration Period	<p>The experiment took twelve (12) sessions. Six (6) in-class sessions, two hours for each session per week and six (6) online sessions (special timing due to Corona Virus Pandemic, when the university reduced the duration of the TD sessions, introduced blended learning, and closed its doors many times)</p> <p>In online classes, the researcher relied on the university platform, Idialogue platform, Facebook, messenger, Zoom video conferencing app, and Google Classroom.</p>
Setting	Department of English, University of 08 Mai 1945, Guelma, Algeria.
Objective of the course	To empower and enable students to enrich their intercultural knowledge to be effective intercultural communicators using technology-based instruction.
Participants	Third Year students of English at the University of 8 Mai 1945, Guelma.

Table 3.2.

Schedule of Experimental Group

Description of the Tasks		Objectives
S1 (TD)	Introducing the course (1 hour)	-To provide the students with the course syllabus, and to prepare them for the upcoming sessions.
	Pre-test (1 hour)	-To asses students' current intercultural knowledge at the beginning of the academic year.
S2 (Online)	Online session about globalization via the university platform.	-To make students aware that they need to be effective intercultural communicators in the twenty-first globalized world. -To enable the students to use technology to access online classes through helping them to open new accounts on new technological devices that will be used during the course.

<p>S3</p> <p>(TD)</p>	<p>1. The American Culture (1 hour)</p> <p>-Class discussion about the American culture in terms of its: History, political system, educational system, literature, traditions, holidays, music, sports, occasions, food, lifestyle, and fashion.</p> <p>- The teacher asked questions about each aspect of the American culture, and opened free rooms of discussions among the students, informing them that they have all to participate in the discussion to have good TD marks.</p>	<p>- To brainstorm intercultural connections.</p> <p>- To enrich the students' intercultural knowledge.</p>
	<p>2. The American Culture VS The Algerian Culture (1 hour)</p> <p>- The students were asked to compare each aspect of the American culture to their native Algerian culture.</p>	<p>-To make the students able to compare their native culture with that of the target language.</p>
<p>S4</p> <p>(Online)</p>	<p>-The researcher informed the students via Google Classroom app</p>	<p>- To make the students able to use technology to achieve their learning goals.</p>

	<p>that they are invited to participate in intercultural discussion with students from the United States.</p> <ul style="list-style-type: none"> - The researcher asked the students to prepare power point presentations about the different aspects of the Algerian culture to share and discuss them during the intercultural meeting. - Similarly, the American teacher asked her students to prepare power point presentations about the American culture to share and discuss them during the intercultural meeting. - The researcher shared the link of Zoom meeting and informed the students that they must be online. - The researcher met the American teacher on Facebook group “Innovative English Teachers’ Club” and contacted her via messenger to organize the 	<ul style="list-style-type: none"> -To enhance the students’ intercultural knowledge using technology-based instruction. - To make the students able to understand different points of views to decrease stereotypic perceptions. - To make the students able to learn the customs and traditions of the speech community, and to become competent in communication with speakers of the target language. - To make the students able to develop kind of intercultural empathy that enables them to experience the feelings of others, and to reflect on those feelings and compare them to their own. - To enable the students to define their native Algerian culture for people from different parts of the world.
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	<p>intercultural interaction among the American and the Algerian students.</p> <p>- The intercultural discussion took two hours and a half. At first, each teacher introduced her students to the other part, and then the Algerian students started their presentations about the Algerian culture via sharing their screens and commenting on each slide. Because of time limitations, only three presentations have been displayed. Then, the students discussed the Algerian culture. After that, three American students displayed their presentations about their culture in the same way as the Algerian students did. Then after, the American and the Algerian students started an intercultural talk about the American culture in comparison to the Algerian one discussing the similarities and the differences between the two cultures.</p>	
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<p>S5</p> <p>(TD)</p>	<p>1. The British Culture (1 hour)</p> <p>-The teacher asked the students about their impressions concerning the American Culture. Then, the researcher asked the students to compare the American and the British culture in terms of history, political system, educational system, literature, traditions, holidays, music, occasions, food, lifestyle, and fashion</p>	<p>-To brainstorm intercultural connections.</p> <p>- To enrich the students' intercultural knowledge.</p>
	<p>2. The British VS The Algerian Culture (1 hour)</p> <p>- The researcher asked questions about each aspect of the British culture in comparison to the Algerian one, and opened free rooms of discussions among the students.</p>	<p>-To make the students able to compare their native culture with that of the target language</p>
<p>S6</p> <p>(Online)</p>	<p>-The researcher informed the students via Idialogue platform that they are invited to participate in intercultural discussion with British students via Zoom meeting.</p>	<p>-To make the students able to use technology to achieve their learning goals.</p> <p>-To enhance the students' intercultural knowledge using technology-based instruction.</p>

<ul style="list-style-type: none"> - The researcher asked three students, who did not displayed their works with the Americans, to prepare power point presentations about the different aspects of the Algerian culture to share and discuss them during the intercultural interaction. - Similarly, the British teacher asked his students to prepare power point presentations about the British culture to share and discuss them during the intercultural meeting. - The researcher shared the link of Zoom meeting and informed the students that they must be online. - The researcher met the British teacher on Idialogue platform, and contacted him via messenger to organize an intercultural meeting among the Algerian and the British students. - The intercultural discussion took two hours. At first, each teacher 	<ul style="list-style-type: none"> - To make the students able to understand different points of views to decrease stereotypic perceptions. - To make the students able to learn the customs and traditions of the speech community, and to become competent in communication with speakers of the target language. - To make the students able to develop kind of intercultural empathy that enables them to experience the feelings of others, and to reflect on those feelings and compare them to their own. - To enable the students to define their native Algerian culture for people from different parts of the world.
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	<p>introduced her/his students to the other part, and then the Algerian students started their presentations about the Algerian culture via sharing their screens and commenting on each slide. Then, the students discussed the Algerian culture. After that, three British students displayed their presentations about their culture in the same way as the Algerian students did. Then after, the students started an intercultural interaction. They compared the British culture to the Algerian one stressing the similarities and the differences between the two cultures.</p>	
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<p>S7</p> <p>(TD)</p>	<p>1. The Mexican Culture (1 hour)</p> <p>The teacher asked the students questions about the American and the British cultures as a kind of brainstorming. Then, the researcher asked the students to compare the American and the British culture to the Mexican and the Algerian cultures in terms of history, political system, educational system, literature, traditions, holidays, sports, music, occasions, food, lifestyle, and fashion.</p> <p>- The researcher asked questions about each aspect of the Mexican culture in comparison to the American, British, and the Algerian cultures. Then the researcher started an intercultural discussion with the students focusing on the Mexican culture.</p>	<p>-To make intercultural connections.</p> <p>- To enrich the students' intercultural knowledge.</p>
	<p>2. The Mexican Culture VS The Algerian Culture (1 hour)</p>	<p>-To make the students able to compare their native culture with other new different culture.</p>

	-The researcher requested the students to compare each aspect of the Mexican culture to their native culture.	
S8 (Online)	<p>- The researcher assigned the students via Google Classroom to participate in intercultural discussion with Mexican students of English as FL.</p> <p>- The researcher asked three students, who did not displayed their works in the previous intercultural discussions to prepare power point presentations about the different aspects of the Algerian culture to share and discuss them during the intercultural online meeting.</p> <p>-At the same time, the Mexican teacher asked her students to prepare power point presentations about the Mexican culture to share and discuss them during the intercultural meeting.</p>	<p>-To enrich the students' intercultural knowledge.</p> <p>- To connect students' lived experiences and backgrounds to another new culture.</p> <p>- To make diversity as a part of their conversations through urging them to appreciate special qualities in others.</p>

<p>- The researcher shared the link of Zoom meeting and informed the students that they must be online.</p> <p>- The researcher met the Mexican teacher on Facebook group “Innovative English Teachers’ Club”, and contacted her via messenger to organize an intercultural meeting among the Algerian and the Mexican students.</p> <p>- The intercultural discussion took three hours. At first, each teacher introduced her students to the other part, and then the Algerian students started their presentations about the Algerian culture through sharing their screens and commenting on each slide. After that, the students discussed the Algerian culture. Subsequently, some Mexican students displayed their presentations about their culture in the same way as the Algerian students did. Then after, the students</p>	
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	<p>started an intercultural interaction.</p> <p>They compared the Mexican culture to the Algerian one stressing the similarities and the differences between the two cultures.</p>	
<p>S9</p> <p>(TD)</p>	<p>1.Uzbekistani Culture (1 hour)</p> <p>The researcher used data show in order to display some pictures that show architecture, food, clothes, traditions, and some religious practices from different cultures (American, British, Mexican, Algerian, and Uzbekistani). Then, the researcher requested the students to comment on each picture and to match it with its original country and culture.</p> <p>-Finally, the researcher asked the students about Uzbekistani culture in terms of history, political system, educational system, literature, traditions, holidays, music, Sports, occasions, food, lifestyle, and fashion.</p>	<ul style="list-style-type: none"> - To brainstorm intercultural connections. - To enrich the students' intercultural knowledge.

	<p>-Unfortunately, the researcher discovered that the students know nothing about this country. As a result, the researcher asked them to use the technological devices to search for and discover Uzbekistan.</p>	
	<p>2. The Uzbekistani Culture VS The Algerian Culture (1 hour)</p> <p>- As the students had no background knowledge about the Uzbekistani culture, the researcher gave them fifteen minutes to look for the</p>	<p>-To make the students able to compare their native culture with other new different culture.</p>

	<p>country and its culture in Internet using their smartphones and tablets.</p> <p>-Then after, the researcher opened a class discussion about Uzbekistani culture, and asked the students to compare and contrast it with the Algerian culture.</p>	
<p>S10 (Online)</p>	<p>The researcher contacted the students through Google Classroom to inform them that they are invited to participate in intercultural online meeting via Zoom with Uzbekistani students of English as FL.</p> <p>- The researcher asked three students, who did not displayed their works before to prepare power point presentations about the different aspects of the Algerian culture in order to share and discuss them during the intercultural interaction.</p> <p>- Similarly, the teacher of the Uzbekistani students asked them to prepare power point presentations about the Uzbekistani culture to</p>	<ul style="list-style-type: none"> - To enrich the students' intercultural knowledge. - To connect students' lived experiences and backgrounds to another new culture. - To make diversity as a part of their conversations through urging them to appreciate special qualities in others. - To make the students able to develop kind of intercultural empathy that enables them to experience the feelings of others, and to reflect on those feelings and compare them to their own. - To enable the students to define their native Algerian culture for people from different parts of the world.

	<p>share and discuss them during the intercultural meeting.</p> <ul style="list-style-type: none">- The researcher shared the link of Zoom meeting and informed the students that they must be online.- The researcher met the teacher of Uzbekistani students on Virtual Cultural Exchange Program Agency (Facebook page), and contacted her via messenger to organize an intercultural meeting among the students.- The intercultural discussion took two hours. At the beginning, each teacher introduced her students to the other part, and then the Algerian students started their presentations about the Algerian culture via sharing their screens and commenting on each slide. Then, the students discussed the Algerian culture. After that, some Uzbekistani students displayed their presentations about their culture in	
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	<p>the same way as the Algerian students did. Then after, the students started an intercultural interaction. They compared the Algerian culture to the Uzbekistani one focusing on the similarities and the differences between the two cultures.</p>	
S11 (TD)	-Discussing the whole cultures in terms of similarities and differences.	<ul style="list-style-type: none"> - To brainstorm intercultural connections. - To enrich the students' intercultural knowledge.
S12 (Online)	- The researcher arranged online intercultural meeting for the Algerian, American, British, Mexican, and Uzbekistani students all together in an intercultural interaction via Zoom.	<ul style="list-style-type: none"> -To develop students' intercultural competence. -To encourage cross-cultural communication. -To Make intercultural comparisons for enriching the students' intercultural knowledge. -To foster intercultural empathy for a more peaceful world. -To enable the students to be empathetic individuals who are tolerant of differences in others.

		- To decrease stereotypic perceptions.
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3.2.3.3. The Post-Test

The post-test was similar to the pre-test in terms of the structure and the nature of the tasks given. It was run after the experiment to prove the effectiveness of the experiment in the experimental group. It assessed the students' intercultural knowledge after the treatment. The test was given to the group on May 4th (the last week of the semester) in the form of a written assignment.

3.3. The Students' Questionnaire

3.3.1. Population of the Questionnaire

The population of the students' questionnaire is third-year students of English at the University of 8 Mai 1945, Guelma. The whole population of third-year students includes one hundred and twenty (120) students, and the sample includes sixty (60) students.

3.3.2. Description of the Students' Questionnaire

The type of the questionnaire is structured; all the questions have options to achieve the objectivity of the results. The questionnaire includes twenty-six (26) questions (see Appendix). It is divided into three sections. Section one includes two (2) questions (Q1 and Q2). It is entitled *General Information*; and aims at gathering general data about the participants including their gender, and their overall English proficiency. Section two encompasses thirteen (13) questions (from Q3 to Q15). It is entitled *Intercultural Knowledge*; and aims at uncovering the participants' opinions about the significance of integrating the target culture and other cultures

within the foreign language curriculum. It investigates their attitudes towards the importance of being international students and effective intercultural communicators. Finally, the section probes the participants' perceptions about the role of intercultural knowledge as basic component of intercultural communicative competence for effective and appropriate intercultural interaction.

Section three entitled *Technology-based Instruction*, and includes eleven questions (11) (from Q16 to Q26). It scans the students' views about their abilities in using the technological devices for learning, and the importance of using technology to assist language learning. Moreover, the section aims at collecting data about the frequency of the teachers' use of technology inside the classroom. Finally, the section aims at discovering the participants' perceptions about developing foreign language learners' intercultural knowledge using the various technological aids.

3.3.3. Administration of the Students' Questionnaire

The questionnaire was administered in the exploratory stage of the experiment. Third-year students completed it at the beginning of the first semester of the academic year (2021-2022) to collect data about their attitudes towards the impact of technology-based instruction to enhance FL learners' intercultural knowledge before the researcher's intervention.

3.4. The Teachers 'Questionnaire

3.4.1. Population of the Questionnaire

The population of the teachers' questionnaire composed of the teachers of English at the University of 8 Mai 1945, Guelma. The whole population of the teachers at the department of English includes fifty teachers (50), and the sample includes forty-four (44) teachers.

3.4.2. Description of the Teachers' Questionnaire

The type of the questionnaire is structured; all the questions have options to achieve the objectivity of the results. The questionnaire includes twenty-three (23) questions (see Appendix). It is divided into three sections. Section one includes four (4) questions (from Q1 to Q4). It is entitled *General Information*; and aims at gathering general data about the participants including their gender, age, qualification, and their years of experience as teachers of English. Section two encompasses eight (8) questions (from Q5 to Q12). It is entitled *Intercultural Knowledge*; and aims at exploring the informants' opinions about the significance of integrating the target culture and other cultures within the foreign language curriculum. It investigates their perceptions about their students' proficiency in intercultural communication. In addition, the section probes the teachers' views about the role of intercultural knowledge as basic component of intercultural communicative competence for effective and appropriate intercultural interaction.

The last section entitled *Technology-based Instruction*. It includes eleven questions (11) (from Q13 to Q23). It scans the teachers' views about their abilities in using the technological devices for learning, and the importance of using technology to assist language learning. Moreover, the section aims at collecting data about the frequency of the teachers' use of technology for FL teaching. Additionally, the section tries to uncover the participants' frequency of using technology in teaching. Finally, the third section aims at discovering the informants' perceptions about developing foreign language learners' intercultural knowledge using the various technological aids.

3.4.3. Administration of the teachers' Questionnaire

The questionnaire was administered at the beginning of the academic year (2021-2022) to collect data about the teachers' attitudes towards the impact of technology-based instruction to enhance FL learners' intercultural knowledge.

3.5. Description of Follow-up Interview

3.5.1. Population of the Follow-up Interview

The population of the Follow-up interview composed of thirty (30) students of the experimental group, third-year students of English at the University of 8 Mai 1945, Guelma.

3.5.2. Description of the Follow-up Interview

According to Cohen et al. (2000, p. 268), the aim of the interview is to reach unexpected results and to validate other tools. In this research, the follow-up interview could confirm or disconfirm the quasi-experiment results. The Follow-up interview was used by the end of the quasi-experiment as a complementary tool to get valid results about the experimental group students' views about the effectiveness of TBI to enhance FL learners' intercultural knowledge according to their personal experiences after the researcher intervention.

The follow-up interview composed of four (4) explicit open-ended questions. This type was chosen, as it allows for unexpected answers and encourages interviewees' fruitful comments. The first question (Q1) was designed to probe the students' opinions about the experience of online intercultural communication. The second question (Q2) was about the informants' views concerning the use of multiple technological tools to discover the aspects of different cultures. Then, the participants were asked to evaluate their intercultural knowledge background after being taught via technology-based instruction to discover various cultural aspects of different cultures (Q3). Finally, the last question (Q4) was about the experimental

group students believes concerning the effectiveness of TBI to enrich and develop their intercultural knowledge.

Conclusion

The current chapter provided the rationale of the research. It described the nature and the aim of the research methodology including the data collection tools. The research methods are both quantitative and qualitative to confirm or disconfirm the research hypotheses, answer the research questions, and achieve the research aim. On the one hand, the quasi-experimental method was conducted to test the research hypotheses. On the other hand, the questionnaire was administered to the students and the teachers of English at the University of 8 Mai 1945, Guelma, to explore their perceptions about the impact of technology-based instruction on enhancing FL learners' intercultural knowledge. The follow-up interview, on the other hand was designed to get in depth data that could be used to check the results of the experimental group post-test. The following chapter will analyze and interpret the collected results of the research.

Chapter 4: Data Analysis and Interpretation

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Conclusion

Introduction

The present chapter analyses and interprets the data collected from the different research tools. It displays the scores of the pre-test and the post-test before and after the treatment phase. Moreover, it analyses and interprets the students' and the teachers' questionnaires. The collected results answer the research questions and test the research hypotheses through corroboration of the results inferred from the triangulation of different research tools. To check the reliability of the experiment and to test the research hypotheses, the means of the groups, the standard deviations, the independent t-test, and the significant p-value have been counted by the *statistical Package for the Social Sciences* software program (SPSS).

4.1. Findings from the Quasi-Experimental Study

4.1.1. Scoring

Both the pre-test and the post-test have the same structure, questions, and scoring criteria. This aims at measuring the students' development of intercultural knowledge before and after the treatment by comparing and calculating the differences between the pre-test and the post-test for the experimental group. If the collected results indicate a substantial improvement, the independent samples t-test is to be conducted to compare the results of the post-test for both the experimental and the control groups by the end of the treatment. The test was out of 20 points that represent forty (40) questions. The test was divided into five sections. Each section was about one culture (the American, the British, the Mexican, the Uzbekistani, and the Algerian). Half a point (0.5) was given for every right answer and zero (0) for every incorrect answer to ensure the test reliability. The *statistical Package for the Social Sciences* software program (SPSS) has been used to count the statistical data of the experiment.

4.1.2. Data Analysis

4.1.2.1. Results of the Pre-Test

4.1.2.1.1. Experimental Group Results in the Pre-test

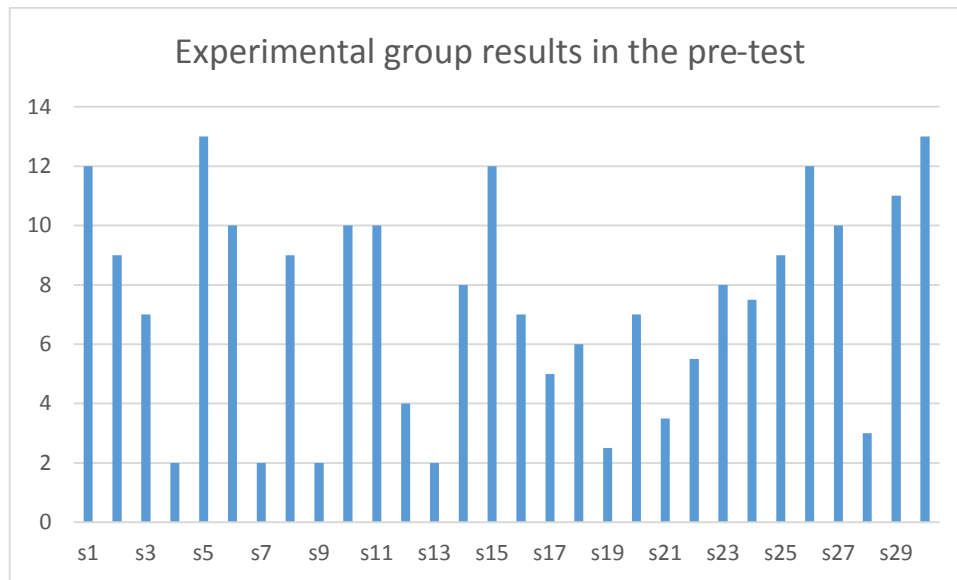


Figure 4.1.

Experimental Group Results in the Pre-test

As it is described, the lowest score of the experimental group is (min=2) while the highest one is (max=13). The most frequent scores is (2), which was scored three (3) times.

Table 4.1.

SPSS Statistics of the Experimental Group Results in the Pre-test and Post-Test

		Pre-test
N	Valid	30
	Missing	0
Mean		7,40
Mean standard error		,655
Median		7,75
Standard deviation		3,587
Minimum		2,00
Maximum		13,00
Sum		222

According to SPSS results shown in the table above, the mean of the experimental group in the pre-test is 7.40 ($Mx = \Sigma X / (N1) = Mx = 222/30 = 7,40$). Therefore, ($Mx = 7.40$, $SD = 3,587$)
Mx: Mean of the experimental group, ΣX : The sum of the gain results of the experimental group, N1: The number of students, SD: Standard deviation. The standard deviation (SD) of the mean measures the extent to which the scores are close to the mean. Differently said, low standard deviation that is close to zero is better as it is an indicator that the scores are close to the mean. As the mean is 7.40, the SD that equals 3.587 is close to the mean with 3.813 as a difference.

4.1.2.1.2. Control Group Results in the Pre-test

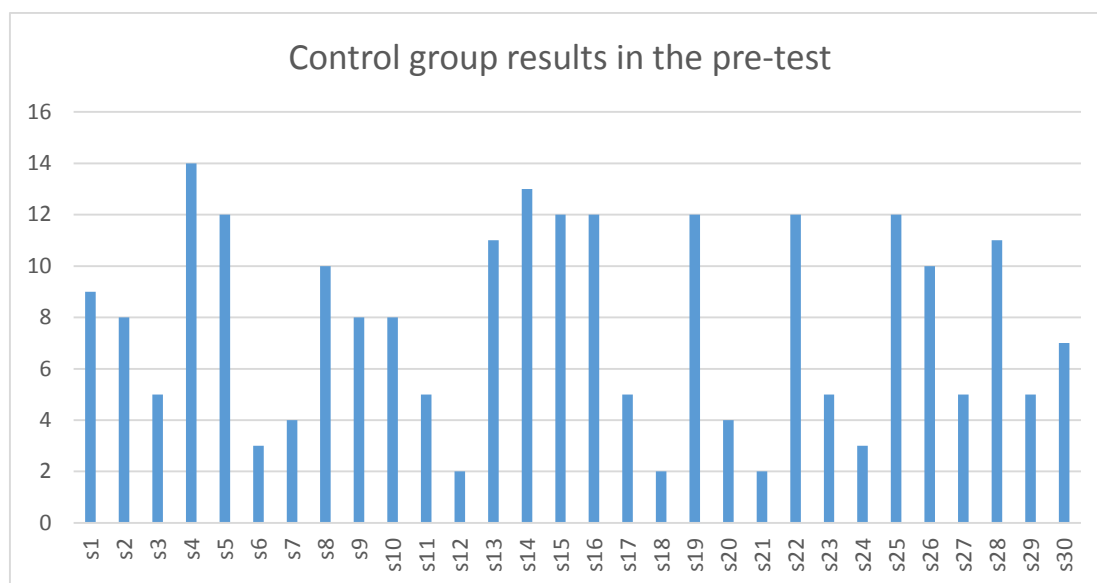


Figure 4.2.

Control Group Results in the Pre-test

As it is displayed, the lowest score of the experimental group is (min=2) while the highest one is (max=14). The most frequent scores is (2), which was scored four (4) times.

Table. 4.2.

SPSS Statistics of the Control Group Results in the Pre-test

		Pre-test
N	Valid	30
	Missing	0
Mean		7,70
Mean standard error		,700
Median		8,00
Standard deviation		3,834
Minimum		2,00
Maximum		14,00
Sum		231

According to SPSS results presented in the table above, the mean of the control group in the pre-test is 7.70 ($M_y = \Sigma Y / (N_2) = M_y = 231/30 = 7.70$). Hence, ($M_y = 7.70, SD = 3,834$). M_y : Mean of the control group, ΣY : The sum of the gain results of the control group, N_2 : The number of students in the control group, SD : Standard deviation. Because the mean is 7.70, this means that SD which equals 3.834 is close to the mean with 3.866 as a difference.

4.1.2.1.3. Experimental and Control Group Results in the Pre-test

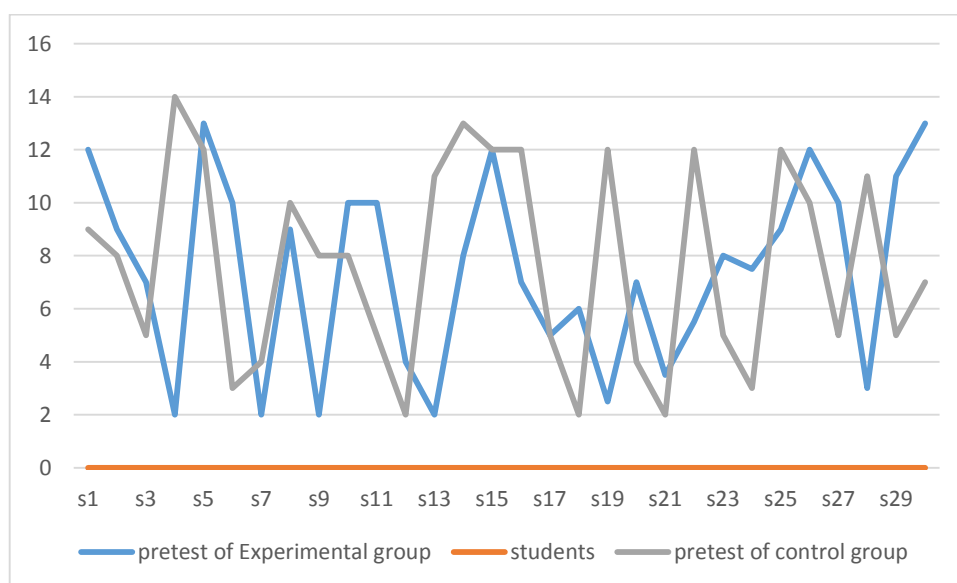


Figure. 4.3.

Experimental and Control Group Results in the Pre-test

It is deduced from the difference in scores between the means of the experimental and the control group in the pre-test that the two groups scored almost the same scores with the very slight difference. From the calculations and the curb above, it is observed that the control group outperformed the experimental group in the pre-test ($M_x \leq M_y, 7.40 \leq 7.70$). Yet, the obtained scores from the control and the experimental groups' pre-tests indicate that both groups were at the lowest level.

4.1.2.2. Results of the Post-Test

4.1.2.2.1. Control Group Results in the Post-Test

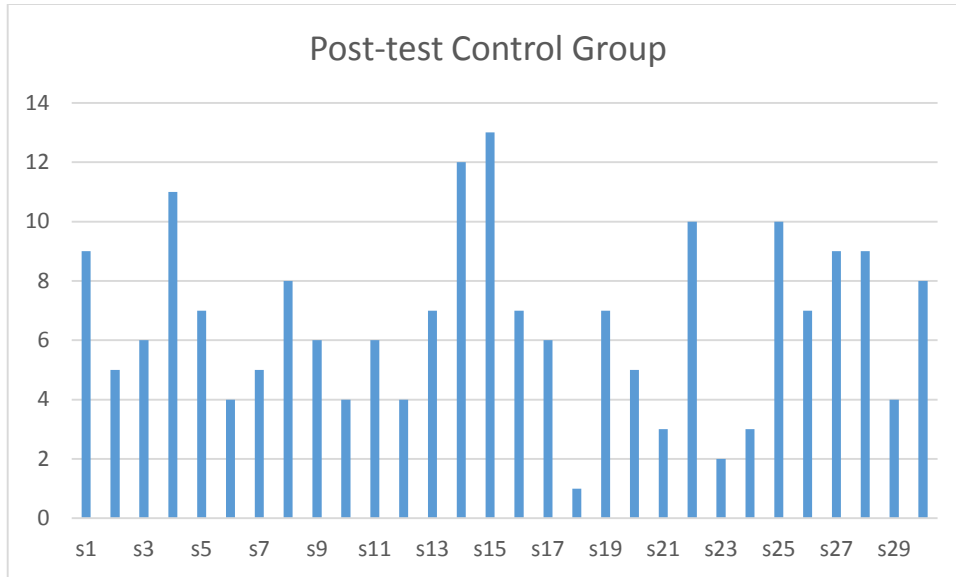


Figure 4.4.

Control Group Results in the Post-test.

The control group scored as a minimum (1) which is a (-1) than the minimum scored in the pre-test, and as a maximum (13), which is a (-1) than the maximum scored in the pre-test.

The most scored mark is (7) with a total number of five (5) students.

Table 4.3.

SPSS Statistics of the Control Group Results in the Post-test

		Post-test
N	Valid	30
	Missing	0
Mean		6,6000
Mean standard error		,535
Median		6,5000
Standard Deviation		2,93140
Minimum		1,00
Maximum		13,00
Sum		198,00

According to SPSS results displayed in the table above, the mean of the control group in the post-test is 6, 6000 ($M_y = \Sigma X / (N1) = M_y = 198/30 = 6, 6000$). Thus, ($M_y = 6.6000$, $SD = 2, 93140$). M_y : Mean of the control group, ΣY : The sum of the gain results of the control group, $N1$: The number of students, SD : Standard deviation. The standard deviation (SD) of the mean measures variation/dispersion, which means the extent to which the scores are close to the mean. Hence, a low standard deviation that is close to zero is better, because it is an indicator that the scores are close to the mean. Since the mean is 6. 6000, the SD that equals 2, 93140 is close to the mean.

4.1.2.2.1.1. Control Group Results in the Pre-test and Post-test

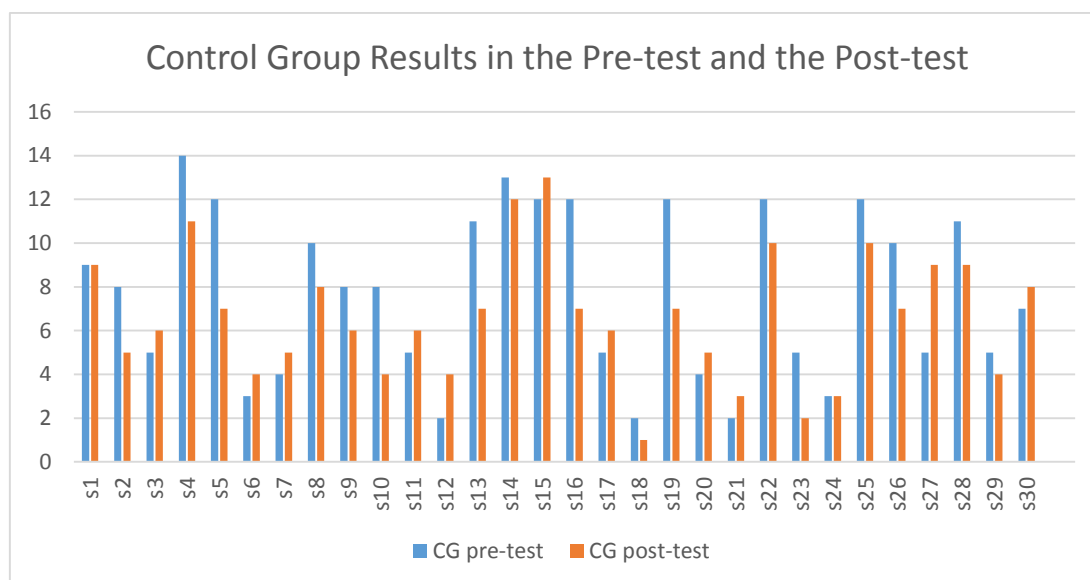


Figure 4.5.

Control Group Results in the Pre-test and Post-test.

According to the control group results, the calculated pre-test mean ($My\ pre = 7.70$) is slightly higher than the calculated mean of the post-test ($My\ post = 6.6000$). The difference between the means of both tests must be calculated in order to check the development in the level of the control group from the pre-test to the post-test. Through the subtraction of the pre-test mean from the post-test one ($My\ pre - My\ post = -1.1$). Therefore, the calculated results from the pre-test and the post-test of the control group indicate that the students' level has been worsened.

4.1.2.2.2. Experimental Group Results in the Post-Test

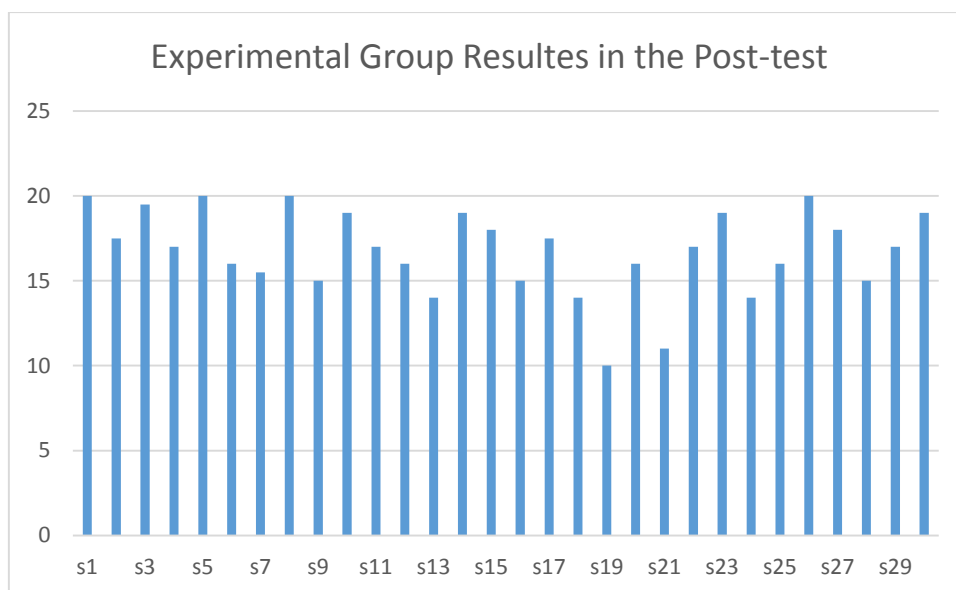


Figure 4.6.

Experimental Group Results in the Post-test.

The experimental group scored as a minimum (10) which is a (+8) than the minimum scored in the pre-test, and as a maximum (20), which is a (+7) than the maximum scored in the pre-test. The most scored mark is (17) with a total number of four (4) students.

Table 4.4.

SPSS Descriptive Statistics of the Experimental Group Results in the Post-test

		Post-test
N	Valid	30
	Missing	0
Mean		16,73
Mean standard error		,466
Median		17,00
Standard Deviation		2,552
Minimum		10,00
Maximum		20,00
Sum		502

According to SPSS results displayed in the table above, the mean of the experimental group in the post-test is 16, 73 ($Mx = \Sigma X / (N1) = Mx = 502/30 = 16, 73$). Therefore, ($Mx = 16.73, SD = 2, 552$). Mx: Mean of the experimental group, ΣX : The sum of the gain results of the experimental group, N1: The number of students, SD: Standard deviation. The standard deviation (SD) of the mean measures variation/dispersion, which means the extent to which the scores are close to the mean. Thus, a low standard deviation that is close to zero is better, since it is an indicator that the scores are close to the mean. Therefore, the SD that equals 2, 552 is close to the mean.

4.1.2.2.2.1. Experimental Group Results in Pre-test and Post-test

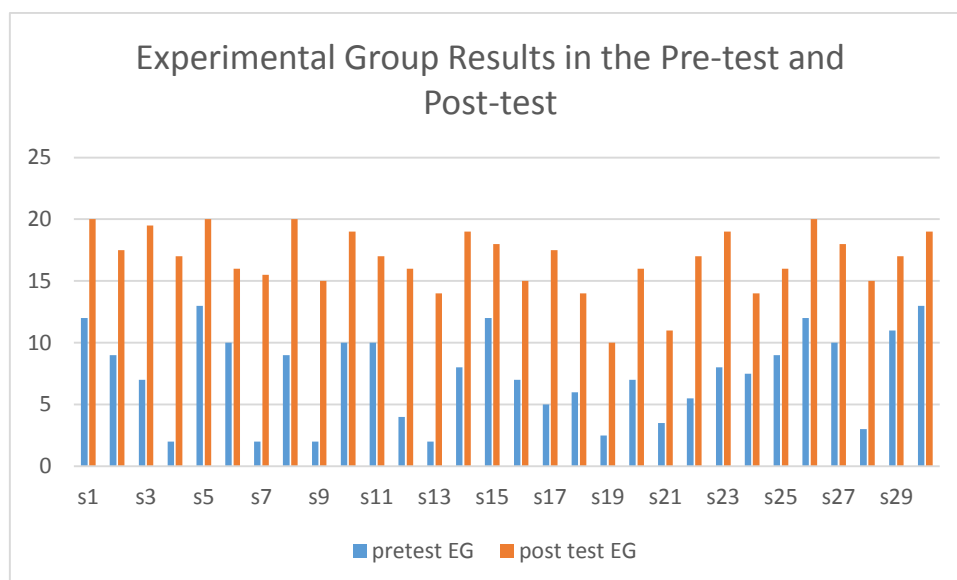


Figure 4.7.

Experimental Group Results in the Pre-test and Post-test.

According to the experimental group results, the calculated pre-test mean ($Mx\ pre = 7.40$) is lower than the calculated mean of the post-test ($Mx\ post = 16.73$). The difference between the means of both tests must be calculated in order to check the development in the level of the control group from the pre-test to the post-test. Through the subtraction of the pre-test mean from the post-test one ($Mx\ pre - Mx\ post = 9.33$). Therefore, the calculated results from the pre-test and the post-test of the experimental group indicate that the students' level has been totally improved.

4.1.2.2.3. Experimental and Control group SPSS Results in the Post-test

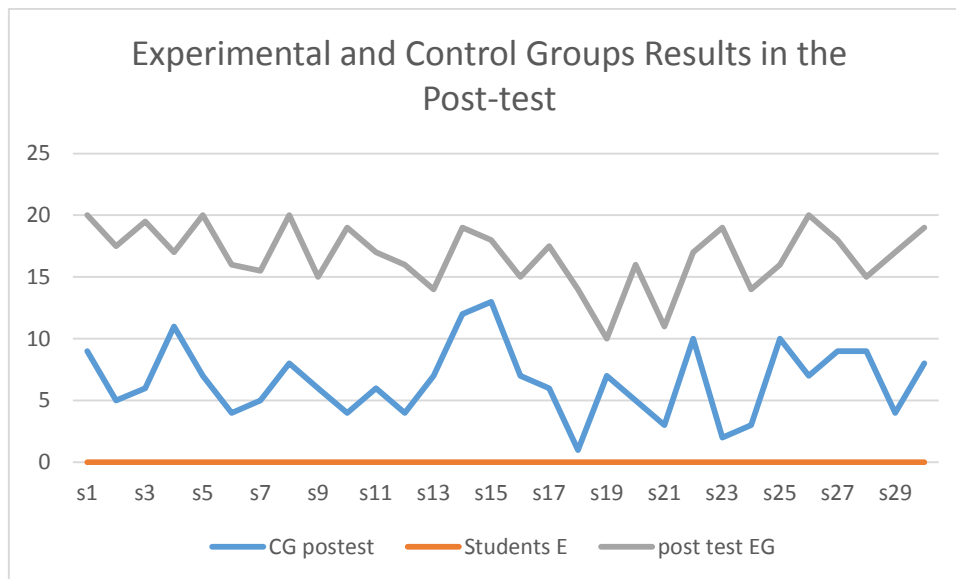


Figure 4. 8.

Experimental and Control group Results in the Post-test.

The figure above shows that the experimental group outperformed the control group in the post-test. We can see from the curb how the experimental scores are higher compared to the scores of the control group ($M_x \geq M_y$, $16.73 \geq 6.6000$).

4.1.2.3. Results of the Experimental and Control Group in the Pre-test and Post-test

Table 4. 5.

Results of the Experimental and Control Group in the Pre-test and Post-test

CG		N	Mean	Std. Deviation	Std. Error Mean
pretest	CG	30	7,70	3,834	0,700
	EG	30	7,40	3,587	0,655
posttest	CG	30	6,60	2,931	0,535
	EG	30	6,73	2,552	0,466

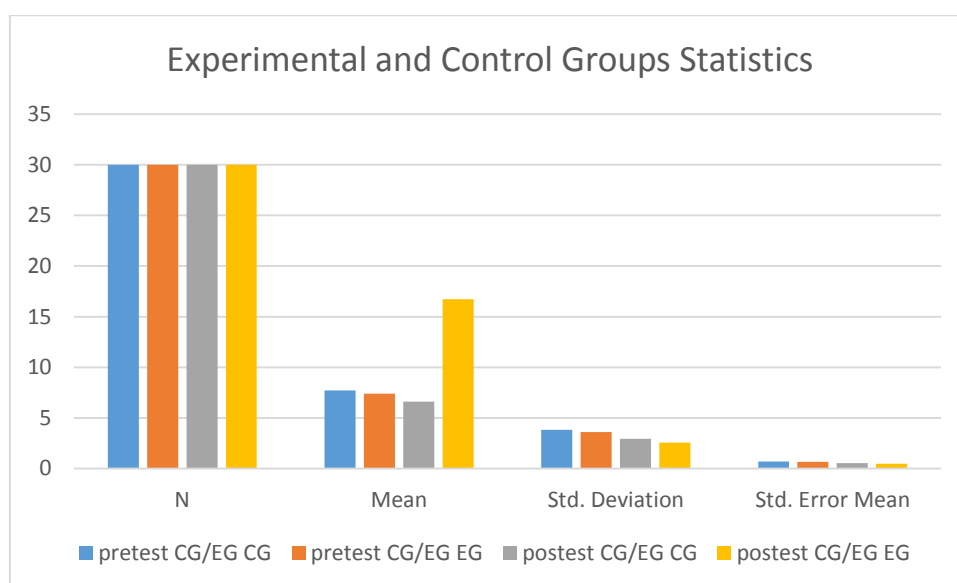


Figure 4. 9

Experimental and control Groups Statistics

The summarized results in the table and figure above indicate that the comparison of the experimental and the control group results in the pre-test and the post-test represents great

improvement in the level of the experimental group students; while the level of the control group students has been worsened. Bearing in mind that the standard deviation which is close to zero indicates that data points are close to the mean, SD of the control is bigger than that of the experimental group in the post-test ($2,931 \geq 2,552$); which means that 2,552 is closer to zero than 2,931. To test the research hypothesis, the significant p-value and the independent t-value and of the experimental and control group in the pre-test and the post-test must be calculated and compared.

4.1.3. SPSS Statistical Test of the Hypotheses

				t-test for Equality of Means					95% Confidence Interval of the Difference	
				t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
pretest CG/EG	Equal variances assumed	0,682	0,412	0,313	58	0,755	0,300	0,959	-1,619	2,219
	Equal variances not assumed			0,313	57,745	0,755	0,300	0,959	-1,619	2,219
posttest CG/EG	Equal variances assumed	0,617	0,435	-14,280	58	0,000	-10,133	0,710	-11,554	-8,713
	Equal variances not assumed			-14,280	56,920	0,000	-10,133	0,710	-11,554	-8,712

Figure 4. 10.

SPSS Results of the Significant P-Value and Independent T-Test of the Control and Experimental Group in the Pre-test and Post-test

The figure above represents SPSS statistics for the significant p-value and t-test value of the control and experimental group in the pre-test and post-test. In most of social sciences, the result is significant when the p-value is by chance ≤ 0.05 . In other words, if the probability of the result is by chance less than (5%); which means that there is (95%) certainty that the results are confident. The table above shows that the **significant p value** of the control and the experimental

group in the pre-test equals 0,755. Therefore, by conventional criteria, the difference is not statistically significant, because $0,755 \geq 0.05$. Thus, it is deduced that the traditional teaching method (lecturing) did not have any remarkable effect on students' intercultural knowledge development. On the other hand, the significant p value of the control and the experimental group in the post-test equals 0,000. Accordingly, by conventional criteria, the difference is highly significant and very unlikely to have occurred by chance alone, since $0.000 \leq 0.05$.

Looking at the SPSS results displayed in the table above, the t-value of control and the experimental group in the pre-test equals 0,313. Thus, by conventional criteria, $0,313 \geq 0.05$, which means that relying on the old teaching methods did not support the students' development of the intercultural knowledge. Conversely, the t-value of control and the experimental group in the post-test equals -14,280. Thus, by conventional criteria, $-14,280 < 0.05$, which indicates that the researcher's intervention in the treatment period by adopting technology-based instruction was crucial and highly significant in fostering FL learners' intercultural knowledge.

According to the SPSS results of the significant p-value and independent t-test value, it could be said that technology-based instruction has significant effect on students' intercultural knowledge development. Consequently, the improvement in the results of the experimental group in the post-test is due to the manipulation of the independent variable during the treatment period. In this respect, the alternative hypothesis (H1) is accepted and the null (H0) is rejected. Differently said, the research proves that technology-based instruction is highly effective and crucial in developing FL learners' intercultural knowledge, which the answer for the second research question.

4.1.4. Summary and Discussion of the Results from the Quasi-experimental Study

The findings obtained from the quasi-experiment indicate some important points. The nature of the pre-test helped in assessing the overall level of intercultural knowledge and testing the homogeneity of the students. Both control and experimental groups roughly possess the same 'low' level in intercultural knowledge in the pre-test. However, the results of the post-test, which were preceded by the researcher intervention with the experimental group relying on technology-based instruction, were very different. According to post-test results, the experimental group students' overall level of intercultural knowledge has decently increased. The experimental group outperformed the control group in the post-test ($M_x \geq M_y$, $16.73 \geq 6.6000$). Furthermore, SD of the experimental group is lower than that of the control group in the post-test ($2,552 \leq 2,931$); which means that 2,552 is closer to zero than 2,931. Moreover, it is noticed that the development in the experimental group encompasses most of the learners. That is, the experimental group scored as a minimum (10) which is a (+8) than the minimum scored in the pre-test, and as a maximum (20), which is (+7) than the maximum scored in the pre-test. The most scored mark is (17) with a total number of four (4) students. As a result, it could be concluded that the results of the experimental group in the post-test was increased due to the manipulation of the independent variable during the treatment period. This denotes that the alternative hypothesis of the research (H1) is accepted and the null (H0) is rejected. That is, the quasi-experiment proves that technology-based instruction is highly effective and crucial in developing FL learners' intercultural knowledge, which is the answer for the second research question.

4.2. The Students' Questionnaire

4.2.1. Analysis of Results from the Students' Questionnaire

The quantitative data from the students' questionnaire provided substantial data about the informants' perceptions about the impact of technology-based instruction to develop FL learners' intercultural knowledge. The running section includes tables of the frequency and the percentages of the students' responses to the questionnaire; as well as, the analysis and interpretation of the data for each table.

Section One: General Information

Question 1. Would you specify your gender?

a. Male

b. Female

Table 4. 6.

Students' Gender

Options	Frequency	Percentage
a. Male	12	20%
b. Female	48	80%
Total	60	100%

The displayed results in the table showed that male participants were only twelve (12) from the whole sample (60) with percentage of (20%); while the number of female participants was forty-eight (48) with percentage of (80%). This indicates that most of the obtained answers in the students' questionnaire are from a feminist point of view, because most of the groups contain more girls than boys.

Question 2. How is your English proficiency?

Table 4.7.

Students' perceptions about their English Proficiency

- a. Good b. Average c. Bad

Options	Frequency	Percentage
a. Good	18	30%
b. Average	40	66.66%
c. Bad	2	3.33%
Total	60	100%

The findings in table indicated that the majority of the students (40), with percentage of (66.66%) perceived their English proficiency level as average. Nearly a third of them (18), with percentage of (30%) considered their level as good; while only (3.33%) of the participants admitted that their level is bad. This means that the level of the majority of the students is good or average.

Section Two: Intercultural Knowledge

Question 3. What do you think about the integration of the target culture and other cultures within the foreign language curriculum?

- a. Very important b. Important c. Not important

Table 4. 8.

Students' views about the integration of the target culture and other cultures within the foreign language curriculum

Options	Frequency	Percentage
a. Very important	42	70%
b. Important	18	30%
c. Not important	0	0%
Total	60	100%

The gained data in table revealed that (30%) of the informants proclaimed that the integration of the target culture and other cultures within the foreign language curriculum is important. This reflects the participants' awareness of the crucial role of the target culture in achieving their learning goals as FL learners in the twenty-first century. The majority of the participants (70%); however, further emphasized the extreme importance of integrating the target culture within the FL curriculum.

Question 4. How important for you to be an international student and an effective intercultural communicator?

- a. Very important b. Important c. Not important

Table 4. 9.

The Importance of Mastering the Skills of Intercultural Communication

Options	Frequency	Percentage
a. Very important	52	86.66%
b. Important	8	13.33%
c. Not important	0	0%
Total	60	100%

As it is observed in the table, approximately all the informants (86.66%) believed that being international students and effective intercultural communicators is very important and highly significant, especially, in the current globalized world. On the other hand, (13.33%) of the participants considered the mastery of intercultural communication skills as just important. This implies that most of the students are conscious that globalization is an established part of the modern world. Therefore, they believed that being international citizens and effective intercultural communicators is vital and of high importance.

Question 5. According to you, what is the most important benefit of intercultural communicative competence?

- a. To enrich your intercultural knowledge.
- b. To decrease stereotypic perceptions
- c. To raise the awareness of your own cultural identity and background.
- d. To foster intercultural empathy for a more peaceful world.
- e. All of the above
- f. None of the above

Table 4. 10.

The most Important Benefit of Intercultural Communication Competence

Options	Frequency	Percentage
a. Decreasing the stereotypic perceptions	2	3.33%
b. Enriching your intercultural knowledge	12	20 %
c. Raising the awareness of your own cultural identity and background.	11	18.33%
d. Fostering intercultural empathy for a more peaceful world.	10	16.66%
e. All of the above	25	41.66%
f. None of the above	00	0%
Total	60	100%

According to the described findings in the table above, the majority of the informants (41.66%) believed that intercultural communication is highly beneficial for them. This is because it enriches their intercultural knowledge, decreases stereotypic perceptions, raises the awareness of their own cultural identity and background, and fosters intercultural empathy for a more peaceful world. However, (20%) of the participants perceived that the most crucial benefit of intercultural communication for them is to enrich their intercultural knowledge. This implies that the students consider that having rich intercultural background knowledge is fundamental to run effective and appropriate intercultural communication.

Question 6. Which of the following components of intercultural communicative competence you believe is the key for successful intercultural communication?

- a. Intercultural skills b. Intercultural awareness
 c. Intercultural knowledge d. Intercultural attitudes

Table 4. 11.

Students' Perceptions about the Most Important Components of Intercultural Communicative Competence

Options	Frequency	Percentage
a. Intercultural skills	7	11.66%
b. Intercultural knowledge	28	46.66%
c. Intercultural awareness	10	16.66%
d. Intercultural attitudes	15	25%
Total	60	100%

As it is displayed in the table, intercultural knowledge believed to be the most important component of intercultural communicative competence according to the majority of the informants (28) with percentage of (46.66%). This implies that the students are aware that even if they have the intercultural skills, attitudes, and awareness; they cannot be effective intercultural communicators. This is because without having basic intercultural background knowledge, there would be no content to discuss.

Question 7. How could you evaluate your intercultural knowledge?

- a. Very good b. Good c. Bad d. Very bad

Table 4. 12.

Students' Evaluation of their Intercultural Knowledge

Options	Frequency	Percentage
a. Very good	00	0%
b. Good	5	8.33%
c. Bad	51	65%
d. Very bad	4	6.66%
Total	60	100%

The table showed that (85%) of the respondents described their intercultural knowledge level as being bad, while (8.33%) of them declared it as good, and (6.66%) of them declared it to be bad. This means that the teachers do not focus on developing the students' intercultural knowledge at the university. Instead, the students who aim at developing their intercultural communication try to make personal efforts to develop their intercultural knowledge, since it is the key of ICC.

Question 8. How often do your teachers make lessons that promote your intercultural knowledge?

- a. Always b. Sometimes
c. Rarely d. Never

Table 4. 13.

Students' perceptions about the Frequency of Teachers' activities to Promote their Intercultural Knowledge

Options	Frequency	Percentage
a. Always	00	0%
b. Sometimes	2	3.33%
c. Rarely	19	31.66%
d. Never	39	65%
Total	60	100%

According to the results from table, the majority of the students (65%) declared that their teachers have never made activities that aim at promoting their intercultural knowledge; while (31.66%) opted for the option 'rarely'. This indicates that the followed curriculum by the teachers does not emphasize the development of the students' intercultural competence and its components. Moreover, the collected answers of question 7 justified the reason behind the bad intercultural knowledge level of the majority of the students in the obtained answers from question 6.

Question 9. How often do your teachers integrate the various aspects of other cultures with the aim of developing your intercultural knowledge?

- a. Always b. Sometimes
 c. Rarely d. Never

Table 4. 14.

Students' perceptions about the Frequency of Teachers' Trials to develop their intercultural knowledge

Options	Frequency	Percentage
a. Always	00	0%
b. Sometimes	3	5%
c. Rarely	21	35%
d. Never	36	60%
Total	60	100%

The gathered results displayed in the table above are compatible with the gained results from the previous two questions. That is, most of the informants (60%) asserted that their teacher have never tried to develop their intercultural knowledge.

Question 10. To what extent do you agree or disagree that learners' with good intercultural knowledge are successful intercultural communicators?

- a. Strongly agree
- b. Agree
- b. disagree
- d. Strongly disagree

Table 4. 15.

The Impact of Rich Intercultural Knowledge Background on Making Effective Intercultural Communication

Options	Frequency	Percentage
a. Strongly agree	21	35%
b. Agree	36	60%
c. Disagree	3	5%
d. Strongly disagree	00	0%
Total	60	100%

Looking at the displayed results in table, most of the participants (60%) agreed that rich intercultural knowledge background is the key for effective intercultural communication. Nonetheless, (35%) of the students opted for ‘strongly agree’ option. This implies that the students are extremely aware that intercultural knowledge is vital and decisive for appropriate and successful intercultural interactions.

Question 11. According to you, why does intercultural knowledge important for effective intercultural communication?

- a. Because it provides you with a better understanding of your own culture as well as other different cultures around the globe
- b. Because it helps you to adapt to new environments and prevent culture shock, wherever you travel.

- c. Because intercultural knowledge is the axis and the key of effective intercultural communication.
- d. All of the above
- e. None of the above

Table 4. 16.

Students' Views about the Reasons that Make Intercultural Knowledge as the Key for Effective Intercultural Communication

Options	Frequency	Percentage
a. Because it provides you with a better understanding of your own culture as well as other different cultures around the globe	3	5%
b. Because it helps you to adapt to new environments and prevent culture shock, wherever you travel.	6	10%
c. Because intercultural knowledge is the axis and the key of effective intercultural communication.	8	13.33%
d. All of the above	43	71.66%
e. None of the above	00	0%
Total	60	100%

The gained results in table showed that the majority of the informants (71.66%) agreed that intercultural knowledge is the key for effective intercultural communication, because it provides you with a better understanding of your own culture as well as other different cultures

around the globe. Moreover, it helps them to adapt to new environments and prevent culture shock, wherever they travel. Besides, they believe that intercultural knowledge is the axis and the key of any effective intercultural communication. This reveals that the students are conscious about the importance of intercultural knowledge. Therefore, the students considered themselves ready and motivated to enrich their intercultural knowledge background; however, they only lack guidance from their teachers.

Question 12. How often do you make a kind of intercultural communication with people from different cultures?

- a. Always b. Sometimes
c. Rarely d. Never

Table 4. 17.

The Frequency of the Participants' Practices of Intercultural Communication

Options	Frequency	Percentage
a. Always	00	0%
b. Sometimes	6	10%
c. Rarely	16	26.66%
d. Never	38	63.33%
Total	60	100%

Concerning the frequency of the students' practices of intercultural communication, the absolute majority of the informants (63.33%) asserted that they have never been a part of any intercultural communication. This indicates that despite the fact that most of the students are

aware of the significance of intercultural communication; their environment is not supportive for them to live the experience of intercultural communication.

Question 13. Do you like to learn about different cultures and to join various international associations, organizations and clubs?

- a. Yes b. No

Table 4. 18.

Students' Willingness to Join International Associations, Organizations and Clubs

Options	Frequency	Percentage
a. Yes	54	90%
b. No	6	10%
Total	60	100%

From the data presented in the table above, it is clear that almost all the participants (90%) were motivated to join various international associations, organizations and club for enjoying various intercultural communication experiences. This indicates that the students are always motivated to participate in different intercultural interaction, and confirms all the previous answers.

Question 14. Do you believe that you have a conscious understanding of the culturally appropriate behaviors when participating in a given intercultural communication?

- a. Yes b. No

Table 4. 19.

Students' Believes about their Conscious Understanding of the Culturally Appropriate Behaviors in Real Intercultural Encounters

Options	Frequency	Percentage
a. Yes	03	5%
b. No	57	95%
Total	60	100%

Data in table revealed that nearly all the informants (95%) believed that they do not have a conscious understanding of the culturally appropriate behaviors in real intercultural encounters. The results are compatible with the previous related and similar answers, which reflects the students' poor level in intercultural knowledge and intercultural communication.

Question 15. According to you, what is the best setting to develop your intercultural knowledge?

- a. At the university
- b. During travels and/or conversations with people from different cultures
- c. From social media and informative Web pages
- d. All of the above
- e. None of the above

Table 4. 20.

The Students' Opinions about the Best Setting to Develop their Intercultural Knowledge

Options	Frequency	Percentage
a. At the University	00	0%
b. During travels and/or conversations with people from different cultures	2	3.33%
c. From social media and informative Web pages	40	66.66%
d. All of the above	18	30%
e. None of the above	00	0%
Total	60	100%

The displayed results in table revealed that most of the subjects (66.66%) agreed that social media and informative Web pages are the best sources for them to develop their intercultural knowledge. The results were expected, since the students are living in the age of technology and information explosion. This means that technology can be highly effective and crucial in developing the students' intercultural knowledge.

Section Three: Technology-based Instruction

Question 16. How could you describe your ability in using technological devices for learning?

- a. Very good
- b. Good
- b. Bad
- d. Very bad

Table 4. 21.

Students' Proficiency in Using Technological Devices for Learning

Options	Frequency	Percentage
a. Very good	13	21.66%
b. Good	38	63.33%
c. Bad	9	15%
d. Very bad	0	0%
Total	60	100%

The described results in table showed that most of the informants (63.33%) believed that they possess good abilities in technology use. Moreover, the results revealed that no student (0%) stated that his/her ability in using technological devices for learning is very bad. This implies that all the students possess a certain level of tech-literacy.

Question 17. What do you think about the importance of using technology to assist foreign language learning?

a. Very Important

b. Important

c. Not important

According to the results displayed in table about the utilization of technological tools in learning, all the subjects (100%) declared that they rely on technology in learning. This indicates that all the students recognize the significance and the advantages of technology in learning.

Question 19. If yes, what is the most used technological device?

- a. Smartphones b. Tablets c. Personal Computers d. All of them

Table 4. 24.

The Most Used Technological Device by the Students

Options	Frequency	Percentage
a. Smartphones	00	0%
b. Tablets	00	0%
c. Personal Computers	00	0%
d. All of them	60	100%
Total	60	100%

Concerning the most used technological devices by the students, all the respondents (100%) agreed that they use smartphones, tablets, and computers to carry their studies. This indicates that all the participants own more than one technological device, and that they are familiar with the use of numerous technological devices to achieve their learning goals.

Question 20. Have you ever used an online learning platform before the Covid-19 pandemic period?

Table 4. 26.

The Technological Forms used by the Students to Learn during and after the Pandemic Period

Options	Frequency	Percentage
a. Educational websites	00	0%
b. University platform	00	0%
c. Social media	00	0%
d. Zoom conferencing	00	0%
e. All of the above	60	100%
f. None of the above	00	0%
Total	60	100%

The summarized results from the table above revealed that all the participants (100%) selected ‘All of the above’ option. That is, all the participants declared that they use various technological forms (educational websites, university platform, social media, and Zoom conferencing) to learn during and after the Covid-19 pandemic period. This indicates that they recognize the paramount importance of educational technologies on the learning performance; especially, after Covid-19 pandemic.

Question 22. Do your teachers use technology?

a. Yes

b. No

Table 4. 27.

Students' Opinions about their Teachers Use of Technology

Options	Frequency	Percentage
a. Yes	60	100%
b. No	00	0%
Total	60	100%

As indicated in the table above, all the respondents (100%) admitted that their teachers use technology in teaching. This denotes that the students have already experienced the use of technology in learning which; in turn, indicates that they possess basic technology skills.

Question 23. If yes, what is the form of technology most used?

- a. University Platform
- b. Google Meet
- c. Google classroom
- d. Zoom Conferencing
- e. Social Media
- f. All of the above

Table 4. 28.

The Students' Views about the most Used Form of Technology by their Teachers

Options	Frequency	Percentage
a. Google Meet	00	0%
b. University Platform	48	80%
c. Google Classroom	00	0%
d. Zoom Conferencing	00	0%
e. Social media	12	20%
f. All of the above	00	0%
Total	60	100%

According to the described results in the table, the majority of the respondents (80%) declared that the university platform is the most used technological from by their teachers. Moreover, a significant percentage of the informants (20%) revealed that some teachers use social media to achieve their educational goals. This insinuates that teachers are aware of the importance of technology-based instruction; and it reflects teachers' readiness to teach with technology if the department is equipped with the necessary tools.

Question 24. Are you facing challenges or difficulties while using the different technological tools to learn a FL?

- a. Yes b. No

Table 4. 29.

Difficulties faced by the Students in Using the Different Technological Tools

Options	Frequency	Percentage
a. Yes	38	63.33%
b. No	22	36.66%
Total	60	100%

The displayed data in table revealed that most of the students (63.33%) admitted that they face some difficulties while using technology to learn. This denotes that most of the students lack the suitable guidance and practical training on the various strategies needed for successful technology usage.

Question 25. What are the most faced difficulties?

- a. Poor net connection
- b. Lack of technological materials
- c. Absence of teachers' guidance
- d. All of the above

Table 4. 30.

Specifying the Difficulties faced by the Students while Using the Different Technological Tools to Learn

Options	Frequency	Percentage
a. Poor net connection	13	21.66%
b. Lack of technological materials	00	0%
c. Absence of teachers' guidance	9	15%
d. All of the above	38	63.33%
Total	60	100%

The described results in the table asserted that the majority of the respondents (63.33%) opted for 'All of the above' option. This means that the difficulties that hinder the students' use of technology are poor net connection, lack of technological materials, and absence of teachers' guidance. This suggests that decision makers in the country need to find logistic and practical solutions to overcome all the obstacles that may hinder the successful implementation of technology in education.

Question 26. To what extent do you agree or disagree that technology-based instruction is effective to develop FL learners' intercultural knowledge?

- a. Strongly agree
- b. Agree
- c. disagree
- d. Strongly disagree

Table 4. 31.

Students' Opinion about Developing Foreign Language Learners' Intercultural Knowledge through Technology-based Instruction

Options	Frequency	Percentage
a. Strongly agree	48	80%
b. Agree	12	20%
c. Disagree	00	0%
d. Strongly disagree	00	0%
Total	60	100%

As it is displayed, most of the respondents (80%) strongly agreed that technology-based instruction could enrich and improve the students' intercultural knowledge, while the other (20%) opted for 'Agree' option. This implies that all the participants believe that technology is crucial and vital in developing FL learners' intercultural knowledge.

4.2.2. Summary and Discussion of the Results from the Students' Questionnaire

The results gathered in section one; which was devoted to gather background information about the students, demonstrate that data in the students' questionnaire is from a female perspective, because the majority (80%) of the respondents were females. When asked about their English proficiency level, (66.66%) most of the respondents perceived their level as average, (30%) considered their level as good; while only (3.33%) of the participants admitted that their level is bad. This means that the level of the majority of the students is good or average.

Section two was devoted to culture and intercultural knowledge. Concerning the integration of the target culture and other cultures within the foreign language curriculum, the majority of the students (70%) stressed the extreme significance of culture teaching within FL curriculum; and (30%) of them proclaimed that it is important. This reflects their recognition that foreign languages learners are foreign cultures learners too. Moreover, approximately all the informants (86.66%) believed that being international students and effective intercultural communicators is highly significant. When they were asked about the most important benefit of intercultural communication, the majority of the informants (41.66%) declared that intercultural communication is highly beneficial for them, since it enriches their intercultural knowledge, decreases stereotypic perceptions, raises the awareness of their own cultural identity and background, and fosters intercultural empathy for a more peaceful world. This insinuates the students' ambition to be international learners and influencers in the twenty-first century globalized world.

Concerning the most important component of ICC according to the students, a considerable percentage of the respondents (46.66%) selected intercultural knowledge as a key component. This denotes their awareness that without being knowledgeable about the key cultural aspects of a given culture, they would never be successful intercultural communicators. Concerning their perceptions about their intercultural knowledge level, most of the respondents (85%) described their intercultural knowledge level as being bad, while (8.33%) of them declared it as good, and (6.66%) of them described it as bad. This implies that the surrounding environment does not support the students to improve their intercultural knowledge, and that they face many obstacles that hinder them from fostering their intercultural knowledge level. When they were asked about their perceptions concerning the frequency of the teachers' emphasis on developing their intercultural knowledge, most of the respondents (65%) declared that their teachers have never made activities that aim at promoting their intercultural knowledge. Finally, most of the

participants (60%) agreed that good intercultural knowledge background is the key for effective intercultural communication.

Finally, section three was devoted to technology-based instruction, along with the relationship between TBI and intercultural knowledge. The obtained results from the first question in the section revealed that most of the students (63.33%) believed that they possess good abilities in technology use. The results pointed out that no student (0%) stated that his/her ability in using technological devices for learning is very bad. This proves that most of the students in the twenty-first century era are technophiles and need to be taught through technology, since all the respondents (100%) pointed out that technology is highly significant and crucial for them to assist their learning. Following the same line, all the respondents (100%) declared that they relied on multiple technological tools, such as smartphones, tablets, and computers to achieve their learning goals.

However, when they were asked if they used an online learning platform to learn before Covid-19 pandemic, all of them (100%) opted for 'No' option. Nevertheless, they all (100%) agreed that their teachers started to totally depend on the university online learning platform (MOODLE) during and after Covid-19 pandemic. This indicates that Covid-19 pandemic obliged the government to find instant solution to carry out the educational activities. Concerning the difficulties and the challenges that the students face while using the different technological tools to learn, most of the informants (63.33%) declared that the difficulties that hinder the students' use of technology are poor net connection, lack of technological materials, and absence of teachers' guidance. Therefore, it is the government responsibility to make deep reforms in education through adopting and implementing new technologies. That is, they need to supply the educational institutions with sufficient equipment and high net connectivity. Moreover, they must provide teachers with efficient and practical professional development programs on implementing new technologies.

The last question was designed to uncover the students' perceptions about the impact of technology-based instruction to develop FL learners' intercultural knowledge. As a result, most of the respondents (80%) strongly agreed that TBI could enrich and improve the students' intercultural knowledge, while the other (20%) opted for 'Agree' option. This implies that all the participants believe that technology is crucial and vital in developing FL learners' intercultural knowledge.

4.3. The Teachers' Questionnaire

The quantitative data from the teachers' questionnaire provided substantial data about the participants' perceptions about the impact of technology-based instruction to develop FL learners' intercultural knowledge.

4.3.1. Analysis of Results from the teachers' Questionnaire

Question 1. Would you please specify your age?

- a. From 25-35 years old
- b. From 35-45 years old
- c. More than 45 years old

Table 4. 32.

Teachers' Age

Options	Frequency	Percentage
a. From 25-35 years old	2	4.55%
b. From 35-45 years old	32	72.72%
c. More than 45 years old	10	22.72%
Total	44	100%

Regarding teachers' ages, it is clear from the displayed results in table that the age of the majority (72.72%) ranged from 35-45 years old. This denotes that the investigated sample is young.

Question 2. Would you please specify your gender?

- a. Male b. Female

Table 4. 33.

Teachers' Gender

Options	Frequency	Percentage
a. Male	5	11.36%
b. Female	39	88.64%
Total	44	100%

As displayed in the table above, male participants were only five (5) from the whole sample (44) with percentage of (11.36%); while the number of female participants was thirty-nine (39) with percentage of (88.64%). This indicates that most of the obtained answers in the teachers' questionnaire are from a feminist point of view, since most of the teachers at the department of English in the university of 8 Mai 1945, Guelma, are females.

Question 3. What is your academic qualification?

- a. Master b. Magister c. Phd

Table 4. 34.

Teachers' Academic Qualification

Options	Frequency	Percentage
a. Master	2	4.55%
b. Magister	36	81.81%
c. PHD	6	13.64%
Total	44	100%

As it is described in the table above, the majority of the teachers who responded to the questionnaire (81.81%) had Magister degree; while (13.64%) of them were PHD holders; and only (4.55%) were Master holders. This implies that the majority of the respondents represent the old traditional school.

Question 4. For how many years have you been a teacher at the university?

- a. Less than 10 years
- b. 10 Years
- c. More than 10 years

Table 4. 35.

Teachers' Years of Experience

Options	Frequency	Percentage
a. Less than 10 years	2	4.55%
b. 10 years	8	18.18%
c. More than 10 years	34	77.27%
Total	44	100%

The findings discussed above showed that the majority of the respondents (77.27%) passed more than ten years in the teaching profession. This denotes that most of the participants have a reasonable experience in teaching, which can provide reliable results.

Section Tow: Culture and Intercultural knowledge

Question 5. What do you think about the integration of the target culture and other cultures within the foreign language curriculum?

- a. Very important b. Important c. Not important

Table 4. 36.

Teachers' Opinions about the Integration of the Target Culture and other Cultures within FL Curriculum

Options	Frequency	Percentage
a. Very important	39	88.64%
b. Important	5	11.36%
c. Not important	00	0%
Total	44	100%

As it is displayed in the table above, the majority of the respondents (88.64%), believed that integrating culture within FL curriculum is very important; while (11.36%) of them selected 'important' option. This reflects teachers' awareness about the crucial role of culture in language teaching and learning, since it motives students and facilitates communication.

Question 6. How could you describe your EFL students' intercultural communicative competence?

- a. Very good b. Good c. Very bad
d. Bad e. I do not know

Table 4. 37.

Teachers' Perceptions about EFL Students' Intercultural Communicative Competence

Options	Frequency	Percentage
a. Very good	00	0%
b. Good	00	4.55%
c. Very bad	00	0%
d. Bad	5	11.36%
e. I do not know	39	88.64%
Total	44	100%

Concerning teachers' perceptions about EFL students' intercultural communicative competence, the majority of the informants (88.64%) revealed that they do not know about their students' levels in intercultural communication; while (11.36%) of them declared that their students' ICC is bad. This indicates that the majority of the teachers are not interested in evaluating their EFL students' ICC. Moreover, it implies that despite the teachers' recognition that teaching of culture must be intertwined with the teaching of language, they do not apply it practically with their students.

Question 7. Which of the following components of intercultural communicative competence do you believe is the key for successful intercultural communication?

- a. Intercultural skills b. Intercultural awareness

c. Intercultural knowledge

d. Intercultural attitudes

Table 4. 38.

Teachers' Perceptions about the most Important Component of ICC

Options	Frequency	Percentage
a. Intercultural skills	00	0%
b. Intercultural awareness	00	0%
c. Intercultural knowledge	44	100%
d. Intercultural attitudes	00	0%
Total	44	100%

The presented results in table revealed that all the teachers who have responded to the questionnaire (100%) perceived intercultural knowledge as the key component needed for effective and appropriate intercultural communication. This implies that all the teachers believe that acquiring a knowledge about different cultures is the key to develop skills and awareness; as well as, forming attitudes towards those cultures.

Question 8. How could you evaluate your students' intercultural knowledge?

a. Very good

b. Good

c. Average

d. Bad

e. Very bad

f. I do not know

Table 4. 39.

Teachers' Opinions about their Students' Intercultural Knowledge

Options	Frequency	Percentage
e. Very good	00	0%
f. Good	00	0%
g. Very bad	00	0%
h. Bad	5	11.36%
i. I do not know	39	88.64%
Total	44	100%

Looking at teachers' perceptions about their students' levels of intercultural knowledge, the majority of the informants (88.64%) declared that they do not know about their students' levels in intercultural knowledge; while (11.36%) of them asserted that their students' intercultural knowledge is bad. This denotes that the majority of the teachers are not interested neither in evaluating their students' intercultural knowledge, nor in developing it.

Question 9. According to you, why does intercultural knowledge important for effective intercultural communication?

- a. Because it provides learners with a better understanding of their own culture as well as other different cultures around the globe
- b. Because it helps learners to adapt to new environments and prevent culture shock wherever they travel.
- c. Because intercultural knowledge is the axis and the key of effective intercultural communication.

- d. All of the above
- e. None of the above

Table 4. 40.

The Reasons behind the Importance of Intercultural Knowledge for Effective Intercultural Communication

Options	Frequency	Percentage
a. Because it provides learners with a better understanding of their own culture as well as other different cultures around the globe	5	11.36%
b. Because it helps learners to adapt to new environments and prevent culture shock wherever they travel.	00	0%
c. Because intercultural knowledge is the axis and the key of effective intercultural communication.	00	0%
d. All of the above	39	88.64%
e. None of the above	00	0%
Total	44	100%

Concerning teachers' opinions about the most important reasons that make intercultural knowledge crucial in any effective intercultural communication, most of the participants' (88.64%) selected 'All of the above' option. That is, respondents agreed that intercultural knowledge is the key for effective intercultural communication, because it provides the students with a better understanding of your own culture as well as other different cultures around the globe. Moreover, it helps them to adapt to new environments and prevent culture shock, wherever they travel. Finally, because intercultural knowledge is the axis and the key of any

effective intercultural communication in general. This reflects the teachers' awareness about the significance of intercultural knowledge in the acquirement of ICC.

Question 10. How often do you make lessons that promote learners' intercultural knowledge?

- a. Always b. Sometimes
c. Rarely d. Never

Table 4. 41.

The Frequency of Making Lessons that Promote Learners' Intercultural Knowledge

Options	Frequency	Percentage
a. Always	00	0%
b. Sometimes	6	13.64%
c. Rarely	00	4.55%
d. Never	38	86.36%
Total	44	100%

Concerning the teachers' opinions about the frequency of making lessons that promote learners' intercultural knowledge, nearly all the respondents (86.36%) revealed that they have never designed lessons or courses to develop the level of the learners' intercultural knowledge; while only (13.64%) of them declared that they sometimes did. This indicates that even though most of the teachers recognize the importance of intercultural knowledge to achieve successful intercultural communication, they do not practically take the appropriate actions to promote their students' intercultural knowledge.

Question 11. Do you think that learners' with good intercultural knowledge are successful intercultural communicators?

- a. Yes b. No

Table 4. 42.

The Role of Intercultural Knowledge in Intercultural Communication

Options	Frequency	Percentage
a. Yes	44	100%
b. No	00	0%
Total	44	100%

The displayed results in the table above revealed that all the respondents (100%) agreed that learners' with good intercultural knowledge are successful intercultural communicators. This implies that rich intercultural knowledge background automatically and implicitly controls learners' intercultural communication. It enables them to behave in an appropriate way during different intercultural interactions, and to interpret others' actions in correct ways during such interactions.

Question 12. How often have you organized for your students a kind of intercultural communication with people from different cultures?

- a. Always b. Sometimes c. Never

Table 4. 43.

The Frequency of Teachers' Organization of Intercultural Interactions

Options	Frequency	Percentage
a. Always	00	0%
b. Sometimes	00	0%
c. Rarely	1	2.27%
d. Never	43	97.73%
Total	44	100%

Concerning the frequency of teachers' organization of intercultural interactions, nearly all the respondents (97.73%) declared that they have never organized any intercultural interactions for their students. The results confirm all the previous answers, and indicate that most of EFL teachers are not interested in developing their learners' ICC despite their awareness about its importance.

Section Three: Technology-based instruction

Question 13. How could you describe your ability in using technological devices for language teaching?

- a. Very good b. Good c. Very Bad d. Very bad

Table 4. 44.

Teachers' Abilities in Using Technology for Teaching

Options	Frequency	Percentage
a. Very good	13	29.55%
b. Good	28	63.63%
c. Very bad	00	0%
d. Bad	3	6.82%
Total	44	100%

As it is displayed in the table above, (29.55%) of the respondents declared that they are very good in using various technological devices and forms in teaching; while the majority of them (63.63%) opted for 'Good' option. This indicates that most of the teachers are skilful and proficient in using different technological tools to achieve their teaching goals.

Question 14. What do you think about the importance of using technology to assist language learning?

- a. Very important b. Important c. Not important

Table 4. 45.

The Importance of Using technology to Assist Language Learning

Options	Frequency	Percentage
a. Very important	40	90.91%
b. Important	4	9.09%
c. Not important	00	0%
Total	44	100%

Looking at teachers' opinions about the importance of using technology to assist language learning, nearly all (90.91%) considered that technology use in teaching is very important; while (9.09%) of them opted for 'Important' option. This denotes that all the teachers recognize the significance of technology in the twenty-first century era. This is because technology equips the teachers with multiple tools to help their students in developing better understanding of the course content.

Question 15. How often do you use technology in foreign language learning?

- a. Always b. Sometimes
c. Rarely d. Never

Table 4. 46.

The Frequency of Teachers' Use of Technology in Foreign Language Learning

Options	Frequency	Percentage
a. Always	30	68.18%
b. Sometimes	14	31.82%
c. Rarely	00	0%
d. Never	00	0%
Total	44	100%

The described results in the table showed that the majority of the respondents (68.18%) declared that they always use technology to meet their teaching goals; while the others (31.82%) opted for 'Sometimes' option. This denotes that all the teachers encourage technology-based instruction as an effective strategy to motivate their learners to be active participators in the whole educational process, since the twenty-first century learners are technophiles by nature and from their childhood.

Question 16. Which technological device do you use more to teach a foreign language?

- a. Computer b. Smartphones c. Tablets d. All of them

Table 4. 47.

The Most Used Technological Device

Options	Frequency	Percentage
a. Smartphones	00	0%
b. Tablets	00	0%
c. Personal Computers	00	0%
d. All of them	44	100%
Total	44	100%

Concerning the most used technological devices by the teachers, all the respondents (100%) agreed that they use smartphones, tablets, and computers. This insinuates that all the informants are familiar with the use of numerous technological devices, and aware of their significance to achieve their teaching goals.

Question 17. How much are you interested in online teaching/learning?

- a. Much b. Little d. Not at all

Table 4. 48.

Teachers' Interests in Online Teaching/Learning

Options	Frequency	Percentage
a. Much	39	88.63%
b. Little	5	11.36%
c. Not at all	00	0%
Total	44	100%

The displayed results in table revealed that most of the respondents (88.63%) were highly interested in online teaching/learning. This indicates that most of the teachers are aware that becoming online teachers allows them to improve their teaching skills, and to virtually meet and teach wide range of international learners from the different parts of the world.

Question 18. Have you ever used an online learning platform before the pandemic period?

- a. Yes b. No

Table 4. 49.

Teachers' Reliance on Online Learning Platforms before the Pandemic Period

Options	Frequency	Percentage
a. Yes	00	0%
b. No	44	100%
Total	44	100%

According to the obtained results from table above, all the participants (100%) declared that they have never used any online learning platform to meet the teaching goals before Covid-19 pandemic period. This implies that most of the teachers lacked the needed training that can support them to depend on one or more online learning platform (s) for making an effective implementation of TBI.

Question 19. Which of the following do you use to teach during and after the pandemic period?

- a. Google meet
 b. University Platform
 c. Google Classroom
 d. Zoom conferencing

- e. Social media
- f. All of the above

Table 4. 50.

The Teachers' most Used Technological forms in Teaching during and after Covid-19 Pandemic

Options	Frequency	Percentage
a. Google meet	00	0%
b. University platform	36	81.82%
c. Google Classroom	00	0%
d. Zoom Conferencing	00	0%
e. Social media	8	18.18 %
f. All of the above	00	0%
g. None of the above	00	0%
Total	44	100%

According to the results in the table, the majority of the respondents (81.82%) asserted that they used the university platform to teach during and after Covid-19 Pandemic; while (18.18%) of them revealed that they used social media to achieve their teaching goals. This indicates that teachers are aware of the vital role of technology-based instruction in achieving better educational goals.

Question 20. Are you satisfied with the design of MOODLE learning platform?

- a. Very satisfied
- b. Satisfied
- c. Unsatisfied
- d. Very unsatisfied

Table 4. 51.

Teachers' Views about MOODLE Learning Platform

Options	Frequency	Percentage
a. Very satisfied	4	9.09%
b. Satisfied	12	27.27%
c. Unsatisfied	21	47.72%
d. Very Unsatisfied	7	15.91%
Total	44	100%

The summarized results from the table above revealed that the majority of the respondents (47.72%) were unsatisfied with the design of MOODLE learning platform; while (27.27%) of them asserted that they were satisfied. This insinuates that most of the teachers faced some difficulties when they tried to have access to this electronic learning portal.

Question 21. Are you facing challenges or difficulties in using the different technological tools to teach a FL?

- a. Yes b. No

Table 4. 52.

Difficulties Faced by the Teachers in Using Technology

Options	Frequency	Percentage
a. Yes	39	88.64%
b. No	5	11.36%
Total	44	100%

The described results in table showed that most of the teachers (88.64%) declared that they faced some difficulties while using technology in to teach. This means that the general educational atmosphere may hinder teachers' implementation of technology-based instruction for advanced education.

Question 22. If yes, what are these difficulties?

- a. Poor net connection
- b. Lack of technological materials
- c. Absence of teachers' training programs
- d. All of the above

Table 4. 53.

Specifying the Difficulties Faced by the Teachers in Using Technology

Options	Frequency	Percentage
a. Poor net connection	0	0%
b. Lack of technological materials	00	0%
c. Absence of teachers' training and development programs	00	0%
d. All of the above	44	77.27%
Total	44	100%

According to the displayed results in the table, all the respondents (100%) opted for 'All of the above' option. This implies that the difficulties faced by the teachers when they use technology were poor net connection, lack of technological materials, and absence of teachers' training and development programs. This implies that all the teachers need to get engaged in

efficient professional development programs to help them in becoming professionals in the use of digital technology to achieve high quality education.

Question 23. To what extent do you agree or disagree that technology-based instruction is effective to develop FL learners' intercultural knowledge?

- b. Strongly agree b. Agree c. disagree d. Strongly disagree

Table 4. 54.

Teachers' Opinion about Developing Foreign Language Learners' Intercultural Knowledge through Technology-based Instruction

Options	Frequency	Percentage
c. Strongly agree	38	86.36%
d. Agree	6	13.64%
e. Disagree	00	0%
f. Strongly disagree	00	0%
Total	44	100%

As it is presented in the table above, most of the teachers (86.36%) strongly agreed that technology-based instruction could be effective in enriching and improving FL learners' intercultural knowledge, while the others (13.64%) selected 'Agree' option. This denotes that all the respondents perceive technology-based instruction as crucial and vital strategy to foster FL learners' intercultural knowledge.

4.3.2. Summary and Discussion of the Results from the Teachers' Questionnaire

Section one in the teachers' questionnaire was designed to obtain general background information about the respondents' age, gender, academic qualification, and years of

experience. The results revealed that the age of the majority (72.72%) ranged from 35-45 years old, and most of them (88.64%) were females. Concerning their academic qualification, nearly all the participants (81.81%) had Magister degree; while (13.64%) of them were PHD holders; and only (4.55%) were Master holders. The last question in the section aims at gathering factual data about the teaching experience of the informants. The results revealed that the majority of the respondents (77.27%) passed more than ten years in the teaching profession. This indicates that the obtained data from the teachers' questionnaire is from experienced teachers' point of view.

Section two was about culture and intercultural knowledge. The gained results from the first question indicated that most of the respondents (88.64%) believed that integrating culture within FL curriculum is very important; while (11.36%) of them opted for 'important' option. This implies that teachers are aware of the interrelationship between language and culture and that teaching a foreign language entails teaching it with its culture. When they were asked to describe their FL students' level in intercultural communicative competence, the majority of the teachers (88.64%) pointed out that they do not know about their students' levels in intercultural communication; while (11.36%) of them declared that their students' ICC is bad. This means that most of the department teachers are not interested at all in evaluating their learners' levels in ICC, which is inappropriate and not acceptable, because foreign language teachers are expected to be foreign cultures teachers too.

Concerning the teachers' perceptions about the most important component of ICC, all the respondents (100%) perceived intercultural knowledge as the key and the most significant component. Teachers' answers for this question were similar to those of the students', which means that intercultural knowledge is widely believed to be the axis of any successful, appropriate, and effective intercultural communication. When analyzing teachers' perceptions about the reasons behind the importance of intercultural knowledge for effective intercultural

communication, most of the respondents' (88.64%) opted for 'All of the above' option. That is, the participants agreed that intercultural knowledge is the key for effective intercultural communication, since it provides the students with a better understanding of your own culture as well as other different cultures around the globe. In addition, it helps them to adapt to new environments and prevent culture shock, wherever they travel. Finally, because intercultural knowledge is the axis and the key of any effective intercultural communication in general.

The collected results about the teachers' frequency of making lessons that promote learners' intercultural knowledge indicated that nearly all the respondents (86.36%) admitted that they have never designed lessons or courses for enhancing the level of the learners' intercultural knowledge. However, only (13.64%) of them declared that they sometimes did. Concerning the frequency of teachers' organization of intercultural interactions, nearly all the respondents (97.73%) declared that they have never organized any intercultural interactions for their students despite the fact that all the respondents (100%) agreed that learners' with good intercultural knowledge are successful intercultural communicators. All these statistics indicate that even though teachers are aware about the significance of ICC and IK, they did nothing practical to improve their students' levels of intercultural knowledge and intercultural communication.

Finally, section three was devoted to technology-based instruction, in addition to the relationship between TBI and intercultural knowledge. According to the collected data from the first question in the section, (29.55%) of the respondents declared that they are very good in using various technological devices and forms in teaching; while the majority of them (63.63%) opted for 'Good' option. This implies that most of the department teachers are tech savvy, and that they are proficient in using technology to improve their instruction methods and increase their productivity and efficiency as tutors.

Concerning teachers' opinions about the importance of using technology to assist language learning, nearly all (90.91%) affirmed that technology use in teaching is very important; while (9.09%) of them opted for 'Important' option. This means that the respondents are aware that the reliance on technology-based instruction is essential for teachers because it equips them with multiple advanced tools that can foster learners' motivation to get engaged in a wonderful learning experience. When they were asked about the frequency of technology use in their profession, the majority of the respondents (68.18%) declared that they always use technology to meet their teaching goals; while the others (31.82%) opted for 'Sometimes' option. Concerning the most used technological devices by the teachers, all the respondents (100%) agreed that they use smartphones, tablets, and computers.

Despite the fact that most of the teachers (88.63%) were highly interested in online education, all of the respondents (100%) declared that they have never used an online learning platform in teaching before Covid-19 pandemic period. This implies that they were relying on other forms of technology like social media, but not an online learning platform. However, the majority of the informants (81.82%) asserted that they use the university platform to teach during and after Covid-19 pandemic; while (18.18%) of them affirmed that they use social media to achieve their teaching goals. Concerning teachers' views about MOODLE learning platform, the majority of the respondents (47.72%) pointed out that are unsatisfied with the design of MOODLE learning platform; while (27.27%) of them revealed that they are satisfied. This indicates that most of the teachers faced some challenges in using MOODLE due to the absence of effective training programs for efficient use and manipulation of this electronic portal.

Then, the teachers were asked about the most common difficulties that they face when using multiple technological tools to teach a FL. The results revealed that all the respondents (100%) opted for 'All of the above' option. This entails that the difficulties faced by the teachers when

they use technology were poor net connection, lack of technological materials, and absence of teachers' training and development programs. This suggests that the highest authorities in the country must link the schools and the universities with digital technology through large-scale programs, and to provide the teachers with the right professional development programs to help them in becoming more proficient in the use of digital technology.

The last question was designed to investigate the teachers' perceptions about the impact of technology-based instruction on enhancing FL learners' intercultural knowledge. As a result, most of the teachers (86.36%) strongly agreed that TBI can be effective in enriching and improving FL learners' intercultural knowledge, while the others (13.64%) selected 'Agree' option. This implies that all the respondents perceive technology-based instruction as a fruitful strategy to enrich and enhance FL learners' intercultural knowledge.

In light of the students' and the teachers' answers, nearly all the participants perceived technology-based instructions as an efficient strategy to foster FL learners' intercultural knowledge as basic component of intercultural communicative competence, which is the answer for the first research question. Therefore, the results of the questionnaires support and emphasize the results of the quasi-experiment. Moreover, the obtained data from the students' and the teachers' questionnaires confirms (H1) that TBI is effective to develop FL learners' intercultural knowledge, and rejects (H0) that TBI have no effect on the development of intercultural knowledge.

4.4. Summary and Discussion of the Results from the Follow-up Interview

According to Weir and Robert (1994), the use of two tools or more for gathering data is known as triangulation, which helps the researcher in corroborating the results in order to reach validity (p. 137). Therefore, the follow-up interview is an additional tool that aimed at probing the experimental group students' views about the impact of TBI on enriching and developing

their intercultural knowledge background. The results of the post-test for both the control and the experimental groups showed that the experimental group outperformed the control group in their scores. For further in-depth investigation, a follow-up interview was designed for the experimental group students to explore their feelings, opinions, and experiences regarding the researcher intervention through applying technology-based instruction to develop the students' intercultural knowledge background. Because all the interviewees expressed and shared approximately the same opinions in their responses to the follow-up interview, the section provides a short summary for their responses.

The follow-up interview was held with all the students (30) of the experimental group. The first question was about the students' opinions about the experience of online intercultural communication. In their responses, all the participants agreed that being part of online intercultural interactions with international students from different parts of the world was just amazing, astonishing, and remarkably good experience for them as FL learners. In their responses for the second question, which was about the participants' views concerning the use of multiple technological tools to discover the aspects of different cultures, all the students believed that technology is the mirror that reflects the world different cultures, and connects people across the globe to share their cultures.

When asked to evaluate their intercultural knowledge background after being taught via technology-based instruction to discover various cultural aspects of different cultures, all the participants believed that their intercultural knowledge background has been unquestionably enhanced. They affirmed that TBI was highly effective and crucial for them for enriching their intercultural knowledge background. Finally, the interviewees were directly and explicitly asked to rely on their personal experiences with TBI for expressing their beliefs concerning the effectiveness of TBI to enrich and develop their intercultural knowledge. The results indicated that all the interviewees without exceptions ensure and certify that technology-based

instruction was crucial and vital for them as FL learners to enrich and develop their intercultural knowledge background.

Hence, the obtained results from the follow-up interview with the experimental group students were compatible with their post-test results. The interviewees' answers revealed that they enjoyed the experience of having online intercultural interactions with international students from different parts of the world. Moreover, the responses indicated that the twenty-first century learners always prefer to learn via technology. Most importantly, all the interviewees declared that TBI was highly effective for them as FL learners to enrich and develop their intercultural knowledge background.

Conclusion

The aim of this research was to test the hypotheses and answer the research questions. The first hypothesis suggested that TBI is effective to develop FL learners' intercultural knowledge (H1); whereas, the second one stipulated that TBI have no effect on the development of intercultural knowledge (H0). To test the research hypothesis, a quasi-experimental study has been conducted. Both control and experimental groups had bad marks in the pre-test. However, the post-test results of the experimental group, which receives the researcher's intervention with technology-based instruction, were very different. According to post-test results, the experimental group students' level of intercultural knowledge has noticeably increased. That is, the experimental group outperformed the control group in the post-test ($M_x \geq M_y$, $16.73 \geq 6.6000$). Moreover, the SPSS results of the significant p-value and independent t-test value proved that TBI has significant effect on students' intercultural knowledge development. This indicates that the improvement in the results of the experimental group in the post-test was due to the researcher's intervention with the experimental group. Hence, the alternative hypothesis (H1) is accepted and the null (H0) is rejected. In other words, the research proves that technology-based instruction is crucial in developing FL learners' intercultural knowledge,

which is the answer of the second research question. For further investigation, the researcher designed a follow-up interview with experimental group students to probe their views concerning the impact of TBI to enrich and develop their intercultural knowledge by the end of the quasi-experiment. The overall results of the follow-up interview indicate that all the participants confirmed that TBI was effective for them to enrich their intercultural knowledge background. The same results was found during the interpretation of the students' and the teachers 'questionnaires. That is, approximately all the respondents perceive technology-based instructions as an efficient strategy to enhance FL learners' intercultural knowledge as basic component of intercultural communicative competence, which is the answer for the first research question.

Chapter Five: Pedagogical Recommendations and Limits of the Study

Introduction

5.1. Teach with Technology

5.2. Internationalize Education

5.3. Promote Intercultural Communication among FL Students

5.4. Suggested Lesson Plan Sample to Foster FL students' Intercultural Knowledge through
Technology-based Instruction

5.5. Limitations of the Study

5.6. Suggestions for Further Studies

Conclusion

Introduction

According to the research results, it is evident that technology-based instruction is effective in developing FL learners' intercultural knowledge. In this regard, the current chapter offers some pedagogical recommendations and implications for the teachers to boost their students' intercultural knowledge through the implementation of technology-based instruction. Moreover, the limitations of the study are displayed to describe the constraints faced by the researcher during the whole research process.

5.1. Teach with Technology

The twenty-first century world demands entirely different teaching approaches that support technology integration in education. Teaching with technology includes the use of digital forms like Google Classroom, online learning platforms, social media, and Zoom meeting...etc, to create authentic, personalized, and engaging learning experiences for the students. Differently said, the reliance on technological devices in teaching helps in making materials in the class more accessible, it serves as a central hub where the students can have access to all the learning materials used during the instruction. In addition, teachers can use technology to promote personalized and differentiated learning experiences. In other words, technology helps teachers to personalize instructions and to deliver relevant materials appropriate for each individual learner according to their individual learning needs. Besides providing materials at different skill levels, technology allows teachers to teach with different modalities; whether visual, auditory, or audio-visual. Finally, technology can be crucial in getting learners engaged in the learning process. That is, technology-based instruction is proved to be more motivational for learners than boring lecturing. Instead of being the only owners and gatekeepers of information, efficient teachers in the twenty-first century are expected to just guide their students via multiple technological devices to promote autonomous lifelong learning for them.

5.2. Internationalize Education

According to Taskoh (2014), internationalization of education refers to the integration of the international dimensions and aspects within the curriculum content, materials, and teaching methods for getting better learning outcomes. To promote a good understanding of internationalized education, the universities are expected to provide teachers and students with a sense of global citizenship and the skills needed to thrive in this role, such as a global mindset, which includes intercultural, transversal skills and international perspectives (Chan, 2018). In other words, developing educational curricular which include global perspectives is crucial to the development of an international university. This is because internationalized programs have the potential to provide all the students with quality education without the need to travel and study abroad.

International educational programs offer the ability to analyze complex questions about quality education from an international lens. Moreover, internationalization directly contributes the core mission of the university in two fundamental ways. First, the universities are expected to provide the international society with creative and successful workers and producers in the international market arena. The twenty-first century students need to across international borders to have successful careers, regarding the widespread of multinational companies around the globe. The universities' second fundamental mission is to create critical independent thinkers. The easiest way to achieve this is through exposing students to others' ways of doing things that challenges them to explore and probe new areas and seek knowledge, clarification, and new solutions.

5.3. Promote Intercultural Communication among FL Students

Developing FL learners' intercultural competences is crucial and necessary for helping them to be successful intercultural communicators and influencers in the current multicultural, global society. Hence, FL teachers are invited to get their learners engaged in intercultural interactions international students from different cultures. These kind of intercultural interactions is believed to be highly effective in fostering FL learners' intercultural knowledge, attitudes, skills, and awareness for developing kind of intercultural empathy and decrease stereotypic perceptions. This does not necessarily require traveling to study abroad; intercultural experiences can be online via multiple technological devices such as Google Meet, Zoom meeting, online learning platforms, social media...etc.

5.4. Suggested Lesson Plan Sample to Foster FL students' Intercultural Knowledge through Technology-based Instruction

The twenty-first century FL teachers are expected to prepare their learners for being active international citizens and influencers in the multicultural global society. That is, FL teachers have to make more emphasis on developing their students' intercultural communicative competence through focusing on all its components. As TBI has proved to be highly effective in fostering FL learners' intercultural knowledge; which is the key component of ICC, a suggested lesson plan model to boost FL students' intercultural knowledge through TBI is summarized as follows:

Table 5.1.

Lesson Plan Sample Lesson Plan Sample to Foster FL students' Intercultural Knowledge through TBI

Course	Oral Expression	
Lesson Title	The British Culture	
College	University of 8 Mai, 1945 Guelma (Algeria)	
Department	English	
Level	Third year	
Objectives	<p>By the end of the course, the students will be able to:</p> <ul style="list-style-type: none"> - To enrich the students' intercultural knowledge background. - To enable the students to compare their native culture with that of the target language. - To make the students able to develop kind of intercultural empathy with the target culture. - To foster the students' intercultural communicative competence. 	
Duration	90 min (traditional class) 90 min (online class)	
	Lesson Description	
Lesson Content	Time	Aims
Warm-up: -The teacher can use data show connected to his/her personal computer	15 min	By the end of the lesson, the students will be able to:

<p>to display some pictures about the various cultural components of the British culture, like the Millennium Wheel, Big Ben, Palace of Westminster, Fish and Chips, Queen Elizabeth, Margaret Thatcher, William Shakespeare..etc.</p> <p>- Then, the teacher asks the students to comment on each picture.</p> <p>- Finally, the teacher asks the students to guess which culture is going to be discussed in the current lesson.</p>		<p>-To evaluate the students' intercultural knowledge background before the lesson.</p>
<p>Discussing main aspects of the British culture:</p> <p>- The teacher asks the students about the British history, political system, educational system, literature, traditions, holidays, music, occasions, food, lifestyle, and fashion.</p> <p>- The teacher can use the data shown connected to his/her personal computer to present some pictures or videos about every discussed cultural aspect.</p>	45 min	<p>- To enrich the students' intercultural knowledge about the various aspects of the British culture.</p> <p>- To enable the students to learn the customs and traditions of the speech community, and to become competent in communication with speakers of the target language.</p>
<p>Comparison between the Algerian and British cultures</p> <p>- The teacher asks the students to compare each aspect of the British culture to the Algerian one, discussing the similarities and differences between the two cultures.</p>	30 min	<p>- To enable the students to develop a kind of intercultural empathy.</p> <p>-To decrease stereotypic perceptions.</p>

<p>Organizing an online intercultural discussion with students from Britain using Zoom meeting.</p> <ul style="list-style-type: none"> - The teacher can use technology to collaborate with a British teacher. - The teacher can transform this collaboration into actions through getting his/her learners engaged in online intercultural discussions with the British teacher's students. - The British and the Algerian teachers plan for and make Zoom meeting for their students to discuss intercultural issues under the guidance of their teachers. 	90 min	<ul style="list-style-type: none"> - To enable the students to define their native Algerian culture for people from other different culture. -To decrease stereotypic perceptions. -To enrich the students' intercultural knowledge via technology-based instruction.
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5.5. Limitations of the Study

The main obstacle that has been faced by the researcher during the research process was the research sample size. According to Krejcie and Morgan's (1970) sampling table, the sample size of the research is supposed to be ninety-two (92) students from the whole third year students population (120 students). Nevertheless, the researcher was allowed to teach only two groups (60 students). This hindered the researcher from applying the Solomon four-group design in the quasi-experiment for more internal validity.

Figure 5.1.

The Size of Random Sample (Adapted from Krejcie & Morgan, 1970, as cited in Cohan et al., 2000, p. 94)

N	S	N	S	N	S	N	S	N	S	N	S	N	S
10	10	75	63	180	123	320	175	700	248	1700	313	6000	361
15	14	80	66	190	127	340	181	750	254	1800	317	7000	364
20	19	85	70	200	132	360	186	800	260	1900	320	8000	367
25	24	90	73	210	136	380	191	850	265	2000	322	9000	368
30	28	95	76	220	140	400	196	900	269	2200	327	10000	370
35	32	100	80	230	144	420	201	950	274	2400	331	15000	375
40	36	110	86	240	148	440	205	1000	278	2600	335	20000	377
45	40	120	92	250	152	460	210	1100	285	2800	338	30000	379
50	44	130	97	260	155	480	214	1200	291	3000	341	40000	380
55	48	140	103	270	159	500	217	1300	297	3500	346	50000	381
60	52	150	108	280	162	550	226	1400	302	4000	351	75000	381
65	56	160	113	290	165	600	234	1500	306	4500	354	100000	384
70	59	170	118	300	169	650	242	1600	310	5000	357		

5.6. Suggestions for Further Studies

Regarding the research results and limitations, the researcher suggests on the other researchers in the field to get the experimental group students engaged in follow-up assessment and evaluation for figuring out and exploring any possible long-term effects of technology-based instruction on their intercultural knowledge levels. Furthermore, the researcher suggests an investigation on the effectiveness of technology-based instruction on enhancing the other three components of intercultural communicative competence; intercultural awareness, attitudes, and skills.

Conclusion

In the light of the research findings, it has been proved that technology-based instruction is highly significant in enhancing and enriching FL learners' intercultural knowledge. Nevertheless, it has been claimed that the educational system imposes a variety of logistic constraints that can hinder the effective implementation of TBI. Correspondingly, decision makers in the country are invited to find practical solutions in order to improve the whole educational system according to the international standards of high quality education.

General Conclusion

Research on integrating culture within foreign language teaching has revealed that both language and culture are inextricably related. More importantly, reforms in foreign language learning standards during the twenty-first century has brought intercultural communicative competence to the center of foreign language education. However, it was observed that despite being FL learners, most of third year License students in the department of English, University of 8 Mai 1945, Guelma (Algeria), have very poor intercultural knowledge background. In this regard, the aim of the research was to examine the impact of technology-based instruction on enhancing learners' development of intercultural knowledge in foreign language classrooms. Within this scope, the research hypothesized that TBI may lead to enrich and develop FL learners' intercultural knowledge.

To achieve the research aim and to test the research hypotheses, the research was conducted following the mixed-method approach through mixing the quantitative and the qualitative approaches. Within the quantitative approach, the quasi-experimental method was followed along with the students' and the teachers' questionnaires. Within the qualitative approach, a follow-up interview was conducted with the students of the experimental group by the end of the quasi-experiment to explore their opinions about the effectiveness of TBI on enhancing FL learners' intercultural knowledge according to their experiences.

The students' level of intercultural knowledge was measured by a pre-test before the treatment and by a post-test after it. The students of the experimental group were exposed to various aspects of the American, British, Mexican, and Uzbekistani cultures via multiple technological devices, comparing these cultures to the Algerian culture. Moreover, the students of the experimental group participated in online intercultural interactions with international students via Zoom meeting app. On the other hand, the students of the control group were taught the same intercultural knowledge through the traditional lecturing. The final post-test results

showed that experimental group outperformed the control group due to research intervention. The effectiveness of the quasi-experiment was proved by SPSS calculations of the two groups' means, the standard deviations, significant p-value, and the independent t-test. Hence, the improvement in the results of the experimental group in the post-test was due to the manipulation of the independent variable during the treatment period. Therefore, the alternative hypothesis (H1) is accepted and the null (H0) is rejected.

Findings from the students' and the teachers' questionnaires supported and confirmed the quasi-experiment results. That is, all the participants in both questionnaires believed that technology-based instruction is crucial and vital in developing FL learners' intercultural knowledge, which is the answer for the first research question. In this respect, it is highly recommended for FL teachers to integrate technology-based instruction within their teaching activities to enrich and develop their FL students' intercultural knowledge as a big step towards achieving successful and fruitful intercultural communication. Similarly, the obtained data from the follow-up interview with the experimental group students by the end of the quasi-experiment supported and confirmed the previous results. That is technology-based instruction is highly believed to be a significant tool for enriching learners' intercultural knowledge background via initiating online intercultural interactions between the international citizens around the world, which is the answer for the second research question.

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- b. To decrease stereotypic perceptions
- c. To raise the awareness of your own cultural identity and background.
- d. To foster intercultural empathy for a more peaceful world.
- e. All of the above
- f. None of the above

Question 6. Which of the following components of intercultural communicative competence you believe is the key for successful intercultural communication?

- a. Intercultural skills
- b. Intercultural awareness
- c. Intercultural knowledge
- d. Intercultural attitudes

Question 7. How could you evaluate your intercultural knowledge?

- a. Very good
- b. Good
- c. Bad
- d. Very bad

Question 8. How often do your teachers make lessons that promote your intercultural knowledge?

- a. Always
- b. Sometimes
- c. Rarely
- d. Never

Question 9. How often do your teachers integrate the various aspects of other cultures with the aim of developing your intercultural knowledge?

- a. Always
- b. Sometimes
- c. Rarely
- d. Never

Question 10. To what extent do you agree or disagree that learners' with good intercultural knowledge are successful intercultural communicators?

- a. Strongly agree
- b. Agree

- b. disagree
- d. Strongly disagree

Question 11. According to you, why does intercultural knowledge important for effective intercultural communication?

- a. Because it provides you with a better understanding of your own culture as well as other different cultures around the globe
- b. Because it helps you to adapt to new environments and prevent culture shock, wherever you travel.
- c. Because intercultural knowledge is the axis and the key of effective intercultural communication.
- d. All of the above
- e. None of the above

Question 12. How often do you make a kind of intercultural communication with people from different cultures?

- a. Always
- b. Sometimes
- d. Rarely
- d. Never

Question 13. Do you like to learn about different cultures and to join various international associations, organizations and clubs?

- a. Yes
- b. No

Question 14. Do you believe that you have a conscious understanding of the culturally appropriate behaviors when participating in a given intercultural communication?

- a. Yes
- b. No

Question 15. According to you, what is the best setting to develop your intercultural knowledge?

- a. At the university
- b. During travels and/or conversations with people from different cultures
- c. From social media and informative Web pages
- d. All of the above
- e. None of the above

Section Three: Technology-based Instruction

Question 16. How could you describe your ability in using technological devices for learning?

- a. Very good
- b. Good
- b. Bad
- d. Very bad

Question 17. What do you think about the importance of using technology to assist foreign language learning?

- a. Very Important
- b. Important
- c. Not important

Question 18. Do you use technology in foreign language learning?

- a. Yes
- b. No

Question 19. If yes, what is the most used technological device?

- a. Smartphones
- b. Tablets
- c. Personal Computers
- d. All of them

Question 20. Have you ever used an online learning platform before the Covid-19 pandemic period?

- a. Yes
- b. No

Question 21. Which of the following do you use to carry your studies during and after the pandemic period?

- a. Educational websites

- b. University platform
- c. Social media
- d. Zoom conferencing
- e. All of the above
- f. None of the above

Question 22. Do your teachers use technology?

- a. Yes
- b. No

Question 23. If yes, what is the form of technology most used?

- a. University Platform
- b. Google Meet
- c. Google classroom
- d. Zoom Conferencing
- e. Social Media
- f. All of the above

Question 24. Are you facing challenges or difficulties while using the different technological tools to learn a FL?

- a. Yes
- b. No

Question 25. What are the most faced difficulties?

- a. Poor net connection
- b. Lack of technological materials
- c. Absence of teachers' guidance
- d. All of the above

Question 26. To what extent do you agree or disagree that technology-based instruction is effective to develop FL learners' intercultural knowledge?

a. Strongly agree

b. Agree

c. disagree

d. Strongly disagree

Appendix B: The Teachers' Questionnaire

Dear teachers,

You are kindly invited to respond to this questionnaire, which investigates teachers' attitudes and perspectives on the effectiveness of technology-based instruction in the development of foreign language learners' intercultural knowledge.

Thank you in advance for your help.

Section one: General Information

Question 1. Would you please specify your age?

- a. From 25-35 years old
- b. From 35-45 years old
- c. More than 45 years old

Question 2. Would you please specify your gender?

- a. Male
- b. Female

Question 3. What is your academic qualification?

- a. Master
- b. Magister
- c. Phd

Question 4. For how many years have you been a teacher at the university?

- a. Less than 10 years
- b. 10 Years
- c. More than 10 years

Section Tow: Culture and Intercultural knowledge

Question 5. What do you think about the integration of the target culture and other cultures within the foreign language curriculum?

- a. Very important
- b. Important
- c. Not important

Question 6. How could you describe your EFL students' intercultural communicative competence?

- a. Very good
- b. Good
- c. Very bad
- f. Bad
- e. I do not know

Question 7. Which of the following components of intercultural communicative competence do you believe is the key for successful intercultural communication?

- a. Intercultural skills
- b. Intercultural awareness
- c. Intercultural knowledge
- d. Intercultural attitudes

Question 8. How could you evaluate your students' intercultural knowledge?

- a. Very good
- b. Good
- c. Average
- d. Bad
- g. Very bad
- f. I do not know

Question 9. According to you, why does intercultural knowledge important for effective intercultural communication?

- a. Because it provides learners with a better understanding of their own culture as well as other different cultures around the globe
- b. Because it helps learners to adapt to new environments and prevent culture shock wherever they travel.
- c. Because intercultural knowledge is the axis and the key of effective intercultural communication.
- d. All of the above
- e. None of the above

Question 10. How often do you make lessons that promote learners' intercultural knowledge?

- f. a. Always b. Sometimes
- g. c. Rarely d. Never

Question 11. Do you think that learners' with good intercultural knowledge are successful intercultural communicators?

- a. Yes b. No

Question 12. How often have you organized for your students a kind of intercultural communication with people from different cultures?

- a. Always b. Sometimes c. Never

Section Three: Technology-based instruction

Question 13. How could you describe your ability in using technological devices for language teaching?

- a. Very good b. Good c. Very Bad d. Very bad

Question 14. What do you think about the importance of using technology to assist language learning?

- a. Very important b. Important c. Not important

Question 15. How often do you use technology in foreign language learning?

- a. Always b. Sometimes
- c. Rarely d. Never

Question 16. Which technological device do you use more to teach a foreign language?

- a. Computer b. Smartphones c. Tablets d. All of them

Question 17. How much are you interested in online teaching/learning?

- a. Much
- b. Little
- d. Not at all

Question 18. Have you ever used an online learning platform before the pandemic period?

- a. Yes
- b. No

Question 19. Which of the following do you use to teach during and after the pandemic period?

- a. Google meet
- b. University Platform
- c. Google Classroom
- d. Zoom conferencing
- e. Social media
- f. All of the above

Question 20. Are you satisfied with the design of MOODLE learning platform?

- a. Very satisfied
- b. Satisfied
- c. Unsatisfied
- d. Very unsatisfied

Question 21. Are you facing challenges or difficulties in using the different technological tools to teach a FL?

- a. Yes
- b. No

Question 22. If yes, what are these difficulties?

- a. Poor net connection
- b. Lack of technological materials
- c. Absence of teachers' training programs
- d. All of the above

Question 23. To what extent do you agree or disagree that technology-based instruction is effective to develop FL learners' intercultural knowledge?

- a. Strongly agree b. Agree c. disagree d. Strongly disagree

Appendix C: The Pre-test and Post-test

1. American culture

1. Who are the Native Americans, or the indigenous people of the Americas?
 - A. Red Indians
 - B. Europeans
 - C. Africans
 - D. Asians
2. When do people in the US celebrate Thanksgiving each year?
 - A. November 25
 - B. October 2
 - C. September 24
 - D. December 3
3. How many days of annual leave do Americans typically receive?
 - A. 10 days
 - B. 15 days
 - C. 20 days
 - D. 30 days
4. What do Americans celebrate on the 4th July?
 - A. Independence day
 - B. Thanksgiving
 - C. Halloween
 - D. Valentine's day
5. What do the red and white stripes on the American flag symbolise?
 - A. Red symbolizes hardiness and valor, white symbolizes purity and innocence, and blue represents vigilance, perseverance and justice.

B. Red symbolizes the blood of the martyrs, white for peace, and bleu for the oceans

6. What's the largest ancestry group in the US?

A. Germans

B. Black/African-Americans

C. Mexicans

7. What are "grits"?

A. Type of food

B. musical genre

8. Complete this sentence: "As American as.."

A. The hamburger

b. Texas Barbecue

C. Apple Pie

2. British Culture

9. What makes up the United Kingdom?

A. Wales, England, Scotland, Northern Ireland and the Republic of Ireland

B. Wales, England, Scotland and Northern Ireland

10. What is the minimum compulsory school leaving age in the UK?

a. 16

b. 18

11. What do the British celebrate on Bonfire night on 5 November?

a. The failure of Guy Fawkes to blow up the king and Houses of Parliament

b. The end of the Great Fire of London

12. Which of the following nationalities has the largest number of UK residents?

a. Irish

b. Indians

13. How often has general election held in the UK?

a. Every five years or sooner if the Prime Minister decides

b. Every four years, on the last Thursday in May

c. Every five years, on the first Thursday in May

14. Which of the following is considered poor etiquette in the UK?

a. Arriving for dinner at someone's house 15 minutes late

b. Arriving at someone's house to say 'hello' uninvited

15. You have just joined a new job. Your manager sends everyone in the team an email asking for opinions about a big decision that needs to be made, how should you respond?

a. Respond saying that you know your manager will make the right decision

b. Assume that the email isn't for you as you are new to the team

c. Respond saying what you think as your manager is genuinely interested in your opinion

16. How should you address senior managers in a British organisation?

a. By their first name

b. Mr/Mrs/Miss/Ms and their surname

c. ir/Madam only

3. Mexican Culture

17. What is the spoken language in Mexico?

- a. English
- b. Spanish
- C. Portuguese

18. Mexico passed by different and huge societies and civilizations, which of the following is the biggest one.

- a. Olmec
- b. Maya
- c. Toltec

19. When does The Mexican independence war start?

- a. 16 September 1810
- b. 15 september 1810
- c. 17 september 1810

20. What is Guayabero?

- a. Kind of traditional food
- B. Kind of traditional clothes
- C. Kind of traditional sport

21. Which of the following is the most famous traditional food in Mexico?

- a. Chilaquiles

b. Ranch eggs

c. Machaca

22. What do the Mexicans celebrate on Sep 16th?

a. Independence day

b. Constitution Day

4. Uzbekistanian Culture

23. Who are the first recorded settlers on what is now Uzbekistan?

a. Eastern Iranian nomads, known as Scythians

b. Russians

24. What is the capital of Uzbekistan?

a. Tashkent

b. Samarkand

c. Bukhara

25. 25. What is the official language used the state in Uzbekistan?

a. Uzbek

b. Russian

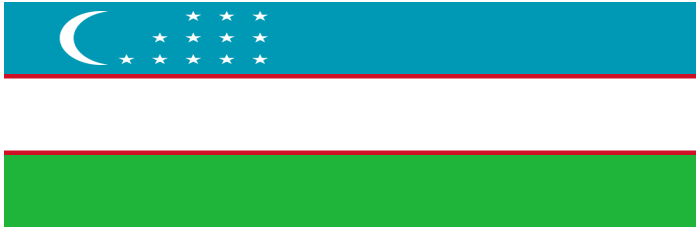
c. Turkish

26. What is the most famous musical genre in Uzbekistan?

a. Shashmaqam

b. Jazz

27. Which of the following is the flag of Uzbekistan



28. What is the official religion in Uzbekistan?

a. Christianity

b. Islam

29. What's the most famous dish in Uzbekistan?

a. Plov

b. Shashlik

30. What does uzbekistanians celebrate on January 14 th each year?

a. Independence Day

b. Day of defenders of the Native land

Appendix D: Follow-up Interview

Dear students,

This interview investigates the experimental group students' attitudes and perspectives on the effectiveness of technology-based instruction in the development of foreign language learners' intercultural knowledge after the treatment. It will be of pivotal importance to our investigation, as it will provide us with some answers about the topic in question. You are kindly invited to take part in this short interview, which will be recorded, based on your permission. Thank you in advance for your help.

Questions:


Q1. Have you enjoyed the experience of online intercultural communication?

Q2. What do think about the use of multiple technological tools to discover others' cultures?

Q3. How could you evaluate your intercultural knowledge background after being taught via technology-based instruction to discover various cultural aspects of different cultures?

Q4. According to your personal experience, do you believe that technology-based instruction is effective to develop your intercultural knowledge?

Appendix E: Screenshots for Some Online Intercultural Interactions and Activities



22:09   📶 .ll 87% 🔋




← ×

1 PUBLICATIONS PUBLICATIONS RÉCENTES PUBLIC.


 **Innovative English Teachers' Club** ...
Lifelong Learning · 7 avr. 2021 · 🌐


Hello teachers, i am from Algeria and i want to integrate my students of English with other students from different cultures to enhance their intercultural communication, who can help **sos** ?

   13 22 commentaires



 J'aime  Commenter  Envoyer




5 commentaires correspondants

 **Lifelong Learning**
No adults at the university

 **LET reviewers 2022 · Suivre** ...
Jevealyn Malaque Apawan · 5 sept. · 🌐

*What is the philosophy behind Philippine schools that seek to promote democratic opportunities for all and humanistic education through lifelong learning?
A. Classical education
B. Progressivism
C. Perennialism
D. Positivism

  288 135 commentaires

 J'aime  Commenter  Partager

||| ○ <



Virtual "Cultural Exchange Program" Agency >

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- Sujets
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Exprimez-vous...

En direct

Photo

Salon

Nouvelle activité

TRIER



Nafisa Narzulloyevna



Admin · 3 h ·



**s. Oumeddour**

4 déc. 2021



Don't forget about zoom meeting with the Mexican students today at 20:00. I will share the link in a couple of hours. I wish you have prepared some ppt présentation about the Algerian culture

Ajouter un commentaire au cours

**s. Oumeddour**

27 nov. 2021



Dear students, we will have zoom meeting with Mexican students of English on next Saturday, 4th of December at 20:00 pm.

Please try to prepare some présentations about

Ajouter un commentaire au cours

**s. Oumeddour**

19 oct. 2021 (modifié 7 nov. 2021)



Topics to be presented:

1. Intercultural communication in the FL educational context...

4 commentaires dans la classe



Flux



Travaux



Participants



Oral Expression



4 commentaires dans la classe



s. Oumeddour

17 mars



Thank you all for your presentations.

📎 2 pièces jointes

4 commentaires dans la classe



s. Oumeddour

17 mars



10 minutes...

Link:

<https://us04web.zoom.us/j/4484800089?pwd=>

Ajouter un commentaire au cours



s. Oumeddour

17 mars



Discussion will start at 3 pm (Alg)

Link:

<https://us04web.zoom.us/j/4484800089?pwd=>



Ajouter un commentaire



Travaux



Participants





6 Vue par

J'aime Commenter Partager

Écrivez un commentaire...

Nafisa Narzulloyevna
 Admin · 13 mars ·



8 Vue par

J'aime Commenter Partager

Ajouter un commentaire au cours



s. Oumeddour

17 mars



Discussion will start at 3 pm (Alg)

Link:

<https://us04web.zoom.us/j/4484800089?pwd=>

Ajouter un commentaire au cours



s. Oumeddour

17 mars



March 17th 7 pm Uzbekistan time

!!!

Uzbekistan-Algir.

Алжир- Узбекистан

Ajouter un commentaire au cours



s. Oumeddour

17 mars



Hello, just remind you about zoom meeting cultural discussions.

This is the zoom link

<https://us04web.zoom.us/j/4484800089?pwd=>



Ajouter un commentaire



Travaux




Participants



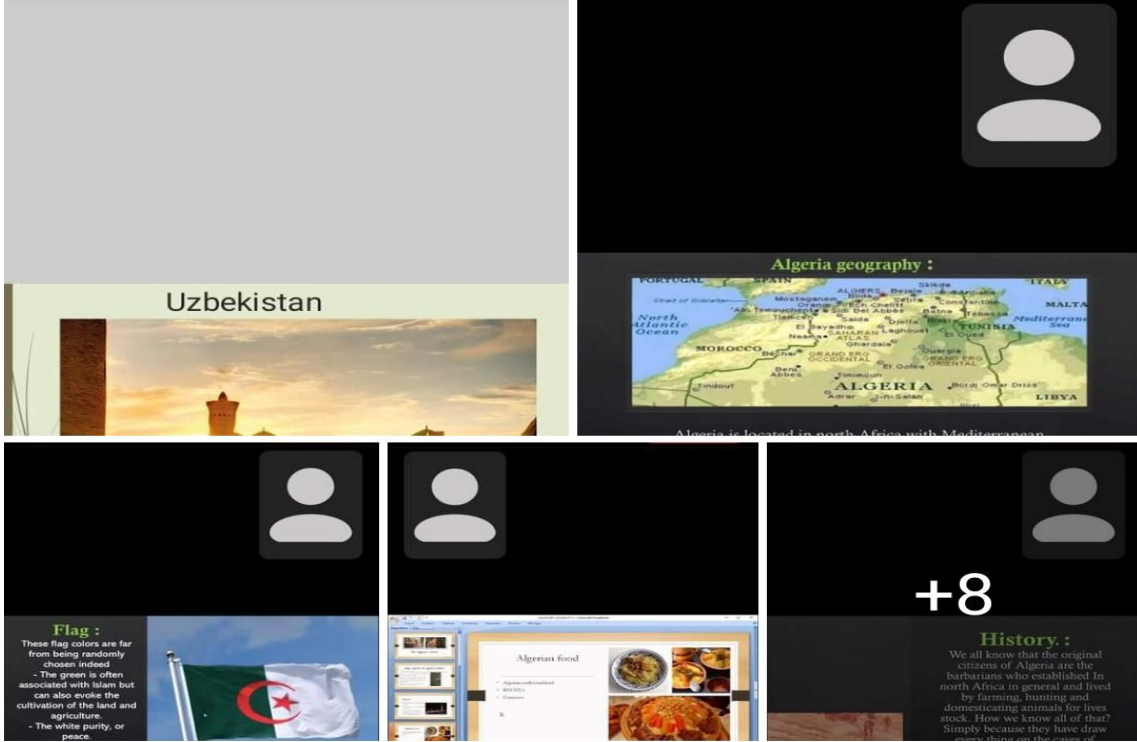
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92%


 Écrivez un commentaire...


Nafisa Narzulloyevna
 Admin · 17 mars · 🌐


[#culturalexchangeprogram](#)
 Uzbekistan-Algeria
 Topics: "Meet my country!" &
 "St. Patrick's Day".






 18 6 commentaires · 1 partage · Vue par 

 J'aime
  Commenter
  Partager


 Écrivez un commentaire...


Nafisa Narzulloyevna
 Admin · 22 mars · 🌐



Écrivez un commentaire...



Nafisa Narzulloyevna est avec **Laylo Xaydarova** et **Ania Błaszowska**.

Admin • 19 févr. • [Location]

#culturalexchangeprogram



13 2 commentaires • 2 partages • Vue par [Icons]

J'aime Commenter Partager

Écrivez un commentaire...



Nafisa Narzulloyevna



17 JUN, 15:24



Hello dear friends! We are having a meeting tomorrow talking about festivals around the Globe 🌍. You & your SS (+16) are most welcome ❤️ please feel free to prepare some slides or pics in order to share information about your country!
SATURDAY JUNE 18TH AT 9:00 AM
🇲🇽 MEXICO TIME

Poli Help le está invitando a una reunión de Zoom programada.

Tema: LET´S PRACTISE
Hora: Este es una reunión recurrente Reunirse en cualquier momento

Unirse a la reunión Zoom
<https://us02web.zoom.us/j/89642158923?pwd=NjRXbzZLcmJ0d2xSQ2lvWkJMak1>



Cette personne n'est pas disponible sur Messenger.



Résumé

Il est largement admis que l'enseignement de la culture dans les classes de langues étrangères vise à enrichir les connaissances interculturelles des apprenants pour une communication interculturelle efficace et appropriée dans le monde du XXI^e siècle caractérisé par l'impact de la mondialisation et du multiculturalisme. Par conséquent, la recherche actuelle vise à étudier l'impact de l'enseignement basé sur la technologie sur l'amélioration du développement des connaissances interculturelles des apprenants dans les classes de langues étrangères. À cet égard, la recherche a émis l'hypothèse que l'enseignement basé sur la technologie peut conduire à enrichir et à développer les connaissances interculturelles des apprenants de langues étrangères. Pour atteindre l'objectif de la recherche et tester ses hypothèses, une approche quasi-expérimentale a été suivie en plus de mener deux questionnaires pour les enseignants et les étudiants de langue anglaise à l'Université du 8 mai 1945, Guelma pour obtenir leur point de vue concernant l'impact de l'enseignement basé sur la technologie sur l'amélioration des connaissances interculturelles des apprenants dans les classes de langues étrangères. Selon l'analyse statistique des résultats du groupe expérimental et témoin au pré-test et au posttest, on peut dire que l'éducation technologique a un impact significatif sur le développement et l'enrichissement de l'équilibre culturel des élèves. De plus, les résultats obtenus à partir des questionnaires des étudiants et des enseignants ont soutenu et confirmé les résultats obtenus précédemment par l'approche quasi-expérimentale. Sur cette base, quelques recommandations pratiques ont été suggérées afin d'enrichir l'équilibre des connaissances culturelles des apprenants de langues étrangères grâce à l'application de stratégies d'enseignement basées sur la technologie.

Mot clés : connaissances interculturelles, l'enseignement basé sur la technologie, communication interculturelle.

المخلص

يتفق أغلب المختصين في علم التدريس أن دمج الثقافة في المناهج الدراسية لتخصص اللغات الأجنبية يهدف إلى إثراء الرصيد المعرفي الثقافي للمتعلمين في مختلف الثقافات من أجل التواصل الفعال والمناسب للطلبة عبر مختلف الثقافات في خضم تحديات القرن الواحد والعشرين الموسومة بتأثير العولمة والتعدد الثقافي. ومع ذلك، فإن الملاحظ لمستوى الرصيد المعرفي الثقافي لمعظم طلاب السنة الثالثة في قسم اللغة الإنجليزية، جامعة 8 ماي 1945، قالمة (الجزائر)، يجد أنهم يمتلكون خلفية معرفية ثقافية ضعيفة للغاية في العديد من الثقافات على الرغم من كونهم طلاب لغة أجنبية. وبالتالي، يهدف البحث الحالي إلى التحقيق في تأثير التعليم القائم على التكنولوجيا في تطوير وإثراء الرصيد المعرفي الثقافي للمتعلمين في فصول اللغات الأجنبية. في هذا الصدد، افترض الباحث أن التعليم القائم على التكنولوجيا قد يؤدي إلى إثراء وتطوير الرصيد المعرفي الثقافي للمتعلمين في مختلف الثقافات في ميدان اللغات الأجنبية. لتحقيق هدف البحث واختبار فرضياته، تم اتباع المنهج الشبه تجريبي بالإضافة إلى إجراء استبيانين لأساتذة وطلاب اللغة الإنجليزية في جامعة 8 ماي 1945، قالمة للحصول على وجهات نظرهم فيما يخص تأثير التعليم القائم على التكنولوجيا في تطوير وإثراء الرصيد المعرفي الثقافي للمتعلمين في فصول اللغة الأجنبية. وفقاً للتحليل الإحصائي لنتائج المجموعة التجريبية والضابطة في الاختبار القبلي والبعدي، يمكن القول أن التعليم المعتمد على التكنولوجيا له تأثير كبير على تنمية وإثراء الرصيد المعرفي الثقافي لدى الطلاب. بالإضافة إلى ذلك، فإن النتائج المستخلصة من استبيانات الطلاب والأساتذة دعمت وأكدت النتائج المتحصل عليها سابقاً من خلال المنهج الشبه تجريبي. وعلى هذا الأساس، تم اقتراح بعض التوصيات العملية من أجل إثراء الرصيد المعرفي الثقافي لمتعلمي اللغات الأجنبية عبر تطبيق استراتيجيات التدريس القائم على التكنولوجيا.

الكلمات المفتاحية

الرصيد المعرفي الثقافي، التعليم القائم على التكنولوجيا، التواصل عبر الثقافات.