TEACHING AND LEARNING ARABIC AS A SECOND LANGUAGE ONLINE:
A CASE STUDY OF DUBAI DURING COVID-19 PANDEMIC

BY

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DISSERTATION

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Abstract

Enrolment into Arabic as a second language (ASL) in Dubai has increased steadily due to the high influx of expatriates' populations. Although Arabic is the primary language in Dubai, the government has mandated that Arabic be taught in all private schools in for non-native Arabic speakers from grades one to nine. This was at the time when the COVID-19 pandemic hit the world and it threw this mandated study into the world of teaching and learning via online means. Therefore, the purpose of this study is to examine the teaching and learning of ASL online in Dubai during the COVID-19 pandemic by exploring the role of innovation and technology infusion in teaching ASL, assessing how education stakeholders can motivate students in online learning, and investigating ways of effectively assessing students' progress in online learning. The study utilized a qualitative case study where ten teachers and ten learners in 20 private schools in Dubai were interviewed, having been selected through the purposively sampling technique for the administration of unstructured interviews. The researcher analyzed the data using thematic analysis.

There were three major findings in this study. First, the adoption of online digital technologies for the teaching and learning of ASL has a positive influence on online teaching. The adoption of such technologies was successfully carried out with the support of capable infrastructure and efforts by the Dubai government, parents, leaders, and teachers of Dubai schools. Second, students are motivated by their parents and teachers for the adoption of online learning techniques where the learning was made interesting, flexible, manageable, autonomous, and generalized. Third, online learning shifted the focus from quantifiable assessment means such as grades, credits, rankings, and markets to the achievement of learning and teaching outcomes and acquiring the needed skills.

The study concluded with recommendations, implications for practitioners, and limitations of the study. It also identified suggestions for future research.

To His Highness Sheikh Zayed bin Sultan al-Nahyan, the founder of UAE,

His Highness Sheikh Khalifa bin Zayed Al Nahyan, the President of UAE,

His Highness Sheikh Mohammed bin Zayed Al Nahyan,

the Crown Prince of the Emirate of Abu Dhabi

His Highness Sheikh Mohammed bin Rashid Al Maktoum,

the ruler of Dubai, UAE,

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List of Abbreviated Terms

ACTFL	American Council on the Teaching of Foreign Languages
AFL	Arabic as a Foreign language
ARCS	Attention, Relevance, Confidence, and Satisfaction Model
ARCS-V	Attention, Relevance, Confidence, Satisfaction, and Volition
ASL	Arabic as a Second Language
CALL	Computer-Aided Language Learning
CEFR	The Common European Framework of Reference for Languages
COVID-19	Coronavirus disease 2019
CMALT	Certified membership of association for learning technology
DSIB	The Dubai School Inspection Bureau
EFL	English as a Foreign Language
ESL	English as a Second Language
EMSA	External Measurement of Student Achievement
ICT	Information and Communications Technology
KHDA	Knowledge and Human Development Authority
L1	First Language
L2	Second Language
MALL	Mobile Aided Language Learning
MOE	Ministry of Education
MSA	Modern Standard Arabic
RALL	Robotics Aided Language Learning
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2

SDT	Self Determination Theory
SMALL	Social Media Aided Language Learning
SOD	Student of Determination
STEM	Science, Technology, Engineering, and Mathematics
TA	Teacher Assistant
TAFL	Teaching Arabic as a Foreign Language
TASL	Teaching Arabic as a Second Language
UAE	United Arab Emirates
UNESCO	United Nations Educational, Scientific and Cultural Organization

Chapter 1: Introduction

Chapter Outline

The purpose of this chapter is to introduce the study, provides contextualization, and explain the research problem that the researcher aims to address through this investigation. This chapter will also explain the purpose of the study and the study background. There will also be significance subsections such as those that address the study's contributions to researchers, policymakers, and stakeholders in the education sector.

Introduction to Topic and Contextualization

Figure 1.1. His Highness Sheikh Mohammed bin Rashid Al Maktoum Ruler of Dubai talks about the importance of Arabic language (Government of Dubai, 2019).

His Highness, Sheikh Mohammed bin Rashid Al Maktoum Ruler of Dubai, always appreciates and supports the Arabic Language and innovation by motivating teachers, students, parents, and all stakeholders to be creative and share the Arabic language in innovation methods, as shown in figure 1.1. The Arabic language is increasingly receiving recognition in the world community because more countries realize its importance in international communication. His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai said the initiative (https://thedigitalschool.org/) will provide smart education to students wherever they are. His Highness has argued future generations will have been failed if the knowledge gap is not addressed; this gap caused by war and conflict that has affected millions of children (ARN News Centre, 2020). The acceptance of Arabic as a working language by the United Nations (UN) set the path for the inception and incorporation of Arabic in educational discourses (UN, 2019). The UNESCO conference of 1948, that convened in Beirut, Lebanon, endorsed the Arabic language to facilitate UN summits convened in Asian or Arabic-speaking countries (UNESCO, 2019). The recognition of Arabic as a crucial communication language worthy of the status that Chinese, Russian, and Spanish received in the UN in 1974, increased the adoption of Arabic in global meetings (UNESCO, 2019). The language was subsequently incorporated into the education acumen (UN, 2019).

It has been estimated recently that Arabic is the native language of about 200 million people. It is the sole (or joint) official language in twenty countries in a region stretching from Western Asia to North Africa, as shown in figure 1.2 (Watson, 2011). Since Dubai is an Arabic city, and the Arabic language is a primary language of UAE, all Dubai private schools have responded to the growing need to learn Arabic as a second language (ASL). Mercer and

MacIntyre (2014) examined the second language acquisition process, constraints, and noted that it faces numerous hurdles.

Figure 1.2. Countries of the Arab world (Watson, 2011)

The education curriculum in UAE infused Arabic as a core curriculum delivery language. For instance, Islamic religious studies that are compulsory for all students at the senior-level are delivered through Arabic (Alkutich, 2017). In Dubai, the education system has two types of schools: public and private. Public schools are only for Emirate citizens, and non-Emirate citizens cannot study in public schools. The private schools are open for both non-emirate and emirate students as well. Hence, in private schools, there are Arab and non-Arab students, so Arab students study Arabic as a first language (Arabic A), and non-Arab students study Arabic as a second language (Arabic B) (Kamal, 2019). While Arabic may be easier to teach and learn for Dubai residents, Arabic for international visitors and residents has remained a challenge for learners and instructors (Alkutich, 2017). Ahmad (2018) and Moeller and Catalano (2015) examined foreign languages' instruction and learning. The findings of the above researchers supported the arguments of Alkutich (2017) in that Arabic remains a challenge for some. Dubai

is growing at a meteoric rate to become a global destination for workers, tourists, investors, and scholars (Hojeij, Dillon, & Perkins, 2019).

Dubai's growth as a global tourist destination and commercial hub in the Gulf region positioned it as a cosmopolitan city with diverse cultures and languages. The diversity increases the demand for ASL among non-locals and nonnative Arab speakers since Arabic is a primary communication language in Dubai. Private schools in Dubai have increased the classes for Arabic as a secondary language. The UAE government also has supported these efforts through enacting programs that foster teaching and learning of ASL. The interest in Arabic was sparked by some arguments on the essence of imposing natives to learn in English in the light of globalization yet ignoring their native language. Alkutich (2017) examined Arabic teaching in UAE and found that although it was used in communication in all school levels, native learners experienced learning challenges.

According to Alkutich (2017), the pro-Arabic arguments indicated that the challenges were mainly attributed to the failure of enacting effective policies for guiding teaching and learning ASL. According to Alkutich (2017), a few non-native learners can speak fluent Arabic. Piller (2016) and Kharkhurin (2015) also attribute the challenges experienced in instruction and learning of Arabic are because of the many dialects[1] of the Arabic language. Al Hussein and Gitsaki (2018) supported Piller (2016) and Kharkhurin's (2015) arguments; that is, Hussein and Gitsaki (2018) argued that although learners can write in Arabic, they experience challenges with the correct pronunciation. The challenges and constraints experienced depict that there are challenges beyond the teachers' and learners' control present in the macro-environment. Nonetheless, there are challenges in the microenvironment that the stakeholders can rectify.

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[1] Dialect refers to a specific form of language spoken in one area

However, to achieve the above goals, more research is required in ASL's instruction and learning in Dubai.

Figure 1.3. #Inthistogether by KHDA (Government of Dubai, 2019)

However, the rapid spread of the COVID-19 virus pandemic has disrupted the traditional classroom learning and instruction, thus necessitating schools to enact alternative techniques that adhere to the social distancing guidelines for avoiding catching or spreading the virus. After shifting to online classes, the KHDA established the #inthistogether to motivate and support all the education stakeholders in Dubai, as shown in figure 1.3. Online learning techniques are essential in foreign learning environments (Ahmadi, 2018). The permeation of technology in education has revolutionized teaching and learning methodologies in all sectors (Pourhossein-Gilakjani, 2017). The increase in the adoption of online technologies for learning foreign languages has been widely embraced during deadly pandemics that call for alternative learning and teaching foreign languages following the closing of learning institutions.

In a review of ICT use in learning and teaching of foreign languages, Negoescu and Bostina-Bratu (2016) noted that its increased proliferation contributed to the rapid adoption of online technologies as a curriculum discovery mode. Gonzalez-Vera (2016) argued that the permeation of technology in learning a foreign language has evolved from conventional in-classroom learning to distance learning and later to more intricate online learning methodologies. According to Pareja-Lora and colleagues (2016), modern technology-based learning and

teaching modes, such as online, blended, and distance learning, have made the foreign language pedagogy ubiquitous and diverse.

Bilyalova (2017) supported the effectiveness of online-based technologies in foreign language instruction and learning. The findings of Al-Busaidi and colleagues (2016) supported that teachers widely embraced technology in teaching the Arabic language based on its effectiveness in teaching and learning of Arabic. In times of pandemics, online learning and teaching technology have proved useful in bridging the learning and teaching gaps when controls were needed to reduce contagion and avoidance of spreading. At a time when the world is grappling with challenges from COVID-19, physical school-based learning and teaching modes have been closed globally.

The availability of online learning technology has been the impetus for the learning and teaching mode for education to continue in response to COVID-19. Rodriguez and Mineo (2020) noted that the closure of schools following COVID-19 and the rapid increase in demand for online instruction was a revelation on the potential benefits of online technologies. Mian and Khan (2020) examined the challenges facing the medical education sector amid the COVID-19 crises. They noted that teleteaching, online, and distance learning and instruction technologies provide much needed intelligent solutions to the ailing education sector. Although the learning modes above support education, there is an element of fulfillment that contributes to how students' motivation affects online technologies for learning.

Such technologies supported learning but measuring students' performance, and teaching effectiveness remains problematic because COVID-19 had led to cancellations of examinations (Mian & Khan, 2020). The challenge in the use of online technology in teaching and learning amid the COVID-19 pandemic was regarding the extent of effectiveness and when the pandemic

would subside significantly to warrant reopening of in-classroom lecture-based modes for examinations. The insights above, therefore, bring up a question of how online technologies can be used to motivate teaching and learning of Arabic assessment of performance and measuring student success.

Study Background

According to Piller (2016) and Kharkhurin (2015), Dubai's growth as a multicultural and multi-linguistic city creates greater demand for UAE private and public schools and the teaching of Arabic. Dubai administration recognized the importance of linguistic diversity and the promotion of Arabic as a local language. A 2012 billboard campaign to promote linguistic cohesion, diversity and tolerance of cultural diversity has bilingual writings in English and Arabic as shown in figure 1.4.

Figure 1.4. Dubai is a multicultural and multi-linguistic city (Piller, 2016)

The caption had one English woman and two Emirati women conversing about an Apple notebook in what looked like a restaurant (Piller, 2016). According to Piller (2016), the promotional billboard's right side showed an Asian man, an Indian person, and a black male smiling to promote Dubai as a multi-linguistic and multicultural city. One of the catchphrases onboard read as follows:

”دبي, ...195 جنسية وفرصة لتحسين مهاراتك اللغوية“

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The translation of the above Arabic phrase means, "Dubai is …195 nationalities to practice your language skills on." The above caption is but one of the primary endeavors of the UAE government to promote linguistic diversity. According to Piller (2016), although English is widely used in Dubai, Arabic is the official language and that compels many residents in Dubai to enroll in schools to learn Arabic as a secondary language. Hussein and Gitsaki (2018) studied foreign language, learning policies in the UAE, and found that instruction and learning foreign languages in the UAE are affected by several political, social-cultural, and economic factors. The authors illustrated that economic factors promoted EFL instruction and learning by Dubai residents while foreigners demanded to learn Arabic.

Zayed (2015) investigated whether Dubai residents used English as an overseas dialect or an additional dialect. The findings indicate that English was used as a foreign language in curriculum considering that it was not an official language in Dubai (Zayed, 2015; Baker, 2016; Calafato & Tang, 2019). Similarly, residents in Dubai use Arabic as a foreign language. However, the difference between the use of English and Arabic and foreign languages in Dubai is salient on the need for learning the language. For residents, learning Arabic is key to their coexistence by working and conducting business in Dubai, and thus considering it as the official language spoken by many residents (Zayed, 2015).

Goby, Nickerson, and David (2015), and Calafato and Tang (2019) support augments of Zayeb (2015). However, according to Maheshwari and Maheshwari (2019), learning Arabic as a second language arose from the need for residents to become competent in the UAE's national language. Introducing foreign languages in STEM education in the UAE improves the curriculum delivery. Foreign languages have become an integral component of the delivery of global curriculums. For instance, in an investigation of foreign languages' effects in STEM

education, Maheshwari and Maheshwari (2019) illustrated that foreign languages are essential in schools that run multiple curricula. In the UAE, learning Arabic as a second language for non-native Arabic speakers is compulsory for all learners up to grade 9 to appreciate the local culture and linguistic diversity (DSIB, 2019).

There have been limited research studies on the Arabic language for several decades, focusing on teaching practices and ASL's learning process. Shehata (2017) noted that the literature that existed two decades ago was disproportional since it focused on teaching and learning English as a new dialect to learners from other linguistic backgrounds. However, the current decade has witnessed a remarkable proliferation of literature on the instruction of Arabic as a secondary language to non-native speakers, as indicated by Baker and Burri (2016), Burri, Baker, and Chen (2017), Shehata (2015a), Shehata (2015b). The above researchers explored aspects of learning and instruction of Arabic as a foreign or an additional language, such as importance and challenges. Such issues motivated the researcher to examine Arabic's teaching and learning online in Dubai during the COVID-19 pandemic.

Problem Statement

COVID-19 has far-reaching impacts on the education sector, especially in-class lecture-based teaching, and learning methodologies. Many schools with the capacities to support electronic learning have turned to either distance or online learning methodologies. Schools with no capacity or infrastructure to support online technology have embraced teleteaching, such as televised classes during the COVID-19 pandemic (Davis, 2020). The World Bank (2020) also supports that low-income countries and schools with no online education technologies infrastructure were not rapidly adopting distance learning. Massive global lockdowns have
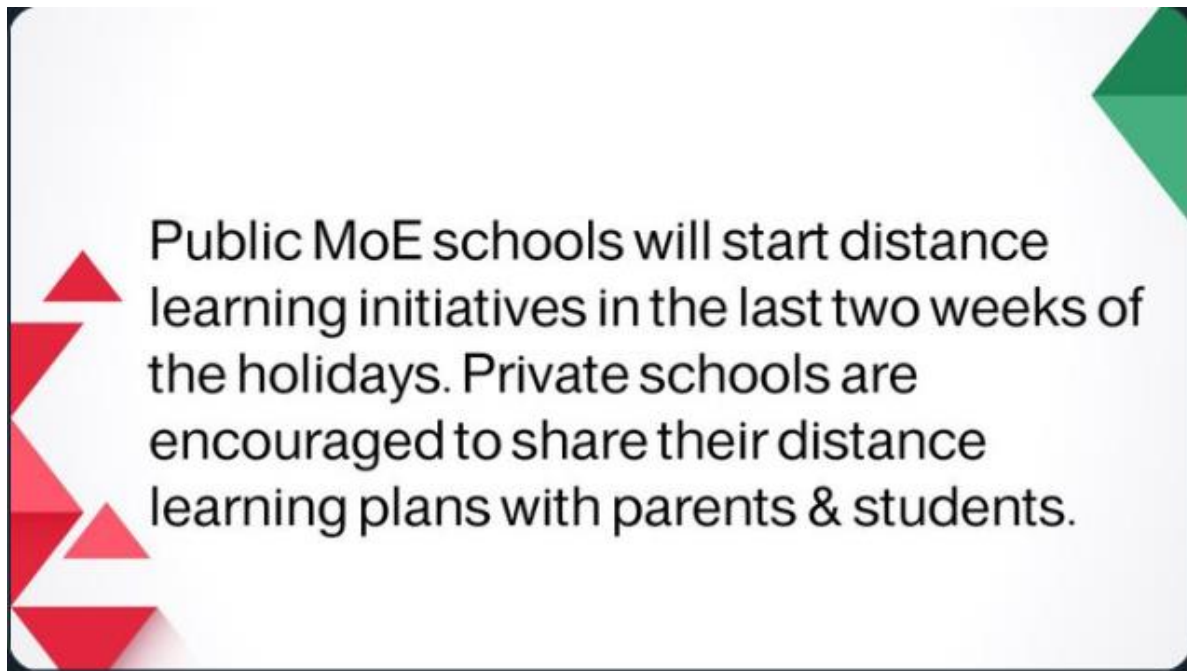
affected learning and teaching, but there was still hoped to salvage the education sector through

online learning and teaching technology (Burgess & Sievertsen, 2020).

Figure 1.5. KHDA announced to close all schools in Dubai (KHDA, 2020)

As of 28 March 2020, more than 1.6 billion students were affected globally by COVID;

that's tantamount to approximately 80% of all enrolled students worldwide. (Saavedra, 2020).

Also, Dubai schools were affected by the pandemic and forced to close from 1st Mach 2020, and

shifted to online learning, as shown in figure 1.5. An examination of the impacts of COVID-19

on the performance of 12th-grade pupils showed that schools' premature closures would affect

students' learning and performance if COVID-19 were not controlled early, thus necessitating

alternative learning modes for learners (Sintema, 2020). The impacts of COVID-19 in learning

and instruction is a rapidly growing debate as COVID-19 ravages most countries, leading to

schools' closures. Discourses of online technology adoption of learning are on the rise. The

closure of schools based on scientific scrutiny clearly impacts the spread of the COVID-19

pandemic; it showed that closure is a necessary and sufficient medical measure that has detrimental impacts on instruction and teaching (Viner et al., 2020).

Public MoE schools will start distance learning initiatives in the last two weeks of the holidays. Private schools are encouraged to share their distance learning plans with parents & students.

Figure 1.6. KHDA and MOE announced to start online learning in all UAE schools (Ministry of Education UAE, 2020)

Moreover, because of COVID-19, most schools were forced to close partially or totally to apply physical distance. Hence, online learning was the only solution to continue learning and teaching. So, on 8th March, the KHDA announced a 2-weeks spring break (from 8th March to 21st March) and then started online learning on 22nd March. During the two weeks off, the government cooperated with Hamdan Smart University to train teachers for online instruction for free, provide free internet and upgraded the internal internet speed for free, and provided free laptops for students who do not have one at home, as shown in Figure 1.6 (Nasir, 2020). A government partnership with Hamdan bin Mohammed Smart University launched the "Learning from A Far" initiative, and more than 42,000 UAE teachers were trained on virtual teaching and learning (Mansoor, 2020). The KHDA launched the #InThisTogetherDubai initiative to promote

online teaching and learning. The UAE government has piloted several teaching models and learning foreign languages due to the increased demand for foreign languages, including the Madrasa (School) initiative and thedigitalschool.org.

COVID-19 has a detrimental spillover effect in the education sector and the global economy due to social distancing (Ozili & Arun, 2020). Such developments prompted the Chinese government, the pandemic's origin, to enact rapid measures for adopting online learning technologies (Zhang et al., 2020). However, Zhang and colleagues (2020) found that online learning face challenges emanating from inadequate or lack of online education infrastructure, untrained or semi-trained teachers, and lack of an enabling environment for online learning home. Ross (2020) supported the creation of quarantine-based curricula that encouraged continued learning, such as virtual online or digital teaching and learning.

A thorough search of scientific research studies on the role of online technology in learning or instruction of Arabic as a second language (ASL) yielded no matching results; the subject can be related to other studies that focus on online technology in learning and teaching. In this case, insufficient literature is a problem because there are no insights into how ASL teachers can implement such technologies for increased teaching outcomes and other expected results and uncertainties. Although online education methods are supported, for the solutions to the COVID-19 disruption of education there is a conundrum on how student success can be evaluated during such cases.

There is also a contentious issue on how learners can be motivated to use online technology amid the growing concerns for the social and mental welfare of learning in isolation, quarantines, and social distancing developments of the COVID-19 pandemic. Another enigma that sparked the interest in this subject was the rapid adoption of online digital technology in

teaching and learning with no firmly reliable mechanism for assessing student success and performance. The current study seeks to explore the role of online technology in learning and instruction of Arabic as a second language, focusing on how students are motivated to adopt online technology and possible ways of measuring student success in online learning of Arabic as a second language.

Aim and Objectives of the Study

The study intends to explore the role of online technologies in ASL instruction and learning amid the COVID-19 pandemic using a case study of Dubai. The precise objectives of the study are enumerated below.

1. To examine the role of innovation and technology infusion in teaching ASL.

2. To assess how education stakeholders can motivate students in online learning.

3. To investigate ways of assessing students' progress in online learning.

Research Questions

The study seeks to address the following research questions:

1. How does digital online technology influence the learning and instruction of ASL during the COVID 19 pandemic?

2. How can teachers and other education stakeholders motivate ASL learners to adopt digital online technologies to foster ASL's learning comprehension during the COVID-19 pandemic?

3. What opportunities/techniques of digital online technology exist to evaluate the success, performance, and progress of online learners of ASL during the global COVID-19 pandemic?

Purpose and Significance

The study purposed to explore the adoption and role of digital online technologies in ASL learning amid the COVID-19 pandemic. The study also determines how ASL learners can be motivated to adopt such technologies and how their success in this learning mode can be assessed. This study's findings will be crucial to education stakeholders in Dubai and other areas affected by the pandemic to comprehend the potentially endless opportunities for online learning and instruction. The discoveries will hopefully provide insights into how learners can be motivated to use online learning and how the success of learners can be assessed. The Dubai education stakeholders may benefit as the study will explore the subject in the Dubai context that yielding more reliable results applicable to their case. Other researchers in this developing stem of researchers will find these discoveries instrumental in informing their studies.

Overview of Theory and Methods

The study will rely on two fundamental theories to illuminate the subject. First, the motivational theory will be fundamental in demystifying motivational aspects in online learning and teaching during the COVID-19 pandemic. The theory will demystify intrinsic and extrinsic motivation factors to understand such factors within learners and teachers in adopting online technologies in education and macro factors that motivate them. The interpretive theory is also overarching, explaining different researchers' theoretical perspectives and how individuals create meaningful knowledge from their behavior and external stimuli. The researcher plans to examine online teaching and learning of ASL during the COVID-19 pandemic using qualitative methods. The study will have an inductive approach for reasoning and theory formulation, case study strategy, and interview methods to glean data from 20 participants selected during the

convenience and purposive sampling. All research ethics will be adhered to, and the data collection will be online only.

Chapter Summary

Online learning techniques are essential in foreign learning environments. The permeation of technology in education has revolutionized teaching and learning methodologies in all sectors, especially during the COVID-19 pandemic. The increase in the adoption of online technologies for learning foreign languages has been widely embraced during deadly pandemics that call for alternative learning and teaching foreign languages after learning institutions are closed. The increased proliferation of ICT in learning and teaching foreign languages contributed to the rapid adoption of online technologies for learning as a curriculum discovery model during COVID-19 pandemic containment measures. The study aims to assess online teaching and to learn ASL in Dubai during the COVID-19 pandemic. The study will assess online technology's role in education during the pandemic, ways of assessing learners' progress online, and motivations for embracing online education during the COVID-19 pandemic.

Chapter 2: Literature Review

Chapter Outline

  This second chapter reviews the findings of previous research into the learning and teaching of ASL in Dubai. The sections will prioritize research findings on online teaching and learning during the COVID-19 pandemic. The section is categorized into five major headings. The first subsection reviews the concepts and aspects relating to teaching and learning ASL. The subsection reviews the importance of learning ASL, programs of teaching and learning ASL in Dubai, and the standards prescribed for the practice. The perceptions of the above stakeholders will be reviewed to comprehend their impact on teaching and learning ASL. Notably, it is fundamental to understand the teaching ASL approaches and their efficacy in teaching and learning ASL. The second subsection reviews the concepts and aspects relating to the role of educational innovations and technology in teaching and learning, such as Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL). The third subsection reviews how previous findings on how students and teachers can be motivated to embrace online-based learning programs and teach ASL in Dubai.

  The chapter also reviews previous researchers' findings on ways of assessing students learning progress in online learning modes and the standards prescribed for the practice. Notably, it is fundamental to comprehend the technology-based approaches of learning ASL and their efficacy during the COVID-19 pandemic. The review of the above findings and literature will reveal existing research gaps and shortcomings of the studies reviewed. Therefore, the fourth segment summarizes and synthesizes key gaps in research noted during the literature review. The last section will review findings on motivation theory in the const of online teaching and learning.

Figure 2.1. Social (physical) distance in the classrooms during the COVID-19
(Collegiate American School, 2020)

In September 2020, the Dubai government decided to resume face-to-face learning with a mix of online learning or hybrid learning. Still, the physical distance restrictions forced students not to be closer to their classmates like before the pandemic. Still, parents are creative and support their kids by designing their classmates' models to be sitting with them, as shown in figure 2.1. Teaching and learning ASL is the subject of increasing controversy. Amara (2017) states that Arabic is the official language of the UAE. However, most of the Dubai population speaks English because the UAE was a British colony until 1971. Despite this, the UAE is one of the Arab countries in which the Arabic language is one of five key subjects on the national curriculum alongside Islamic education, Math, Science, and English.

Moreover, a high influx of expatriates in the UAE has increased linguistic and cultural diversity (DSIB, 2019). Consequently, the demand for English as the global language and Arabic as the common language in Dubai has increased, leading to increased demand for Arabic as a

foreign language among non-natives Arabic speakers and expatriates. The diversity and increased need led to the emergence of a bilingual education system where Arabic and English are utilized in curriculum delivery (Goby, Nickerson & David, 2015). Figure 2.2 shows the diversity of the UAE population.

EXPAT POPULATION IN THE UAE

	Millions	Percentage
India	2.623	27.49%
Pakistan	1.211	12.69%
Bangladesh	0.706	7.40%
Philippines	0.530	5.56%
Iran	0.454	4.76%
Egypt	0.404	4.23%
Nepal	0.303	3.17%
Sri Lanka	0.303	3.17%
China	0.202	2.11%
All other countries	1.711	17.94%
Total Expat Population	8.447	88.52%

Figure 2.2. The diversity of the UAE population (Global Media Insight, 2020)

Figure 2.3 explains the diversity in Dubai's private schools for the academic year 2019-2020. Suppose one calculates the numbers of the largest nationalities learning Arabic as a second

language at Dubai's private schools. In that case, we will find that more than 130.000 students are learning Arabic as a Second Language, which means they need more attention from the stakeholders to develop their Arabic language skills to use it daily in Dubai.
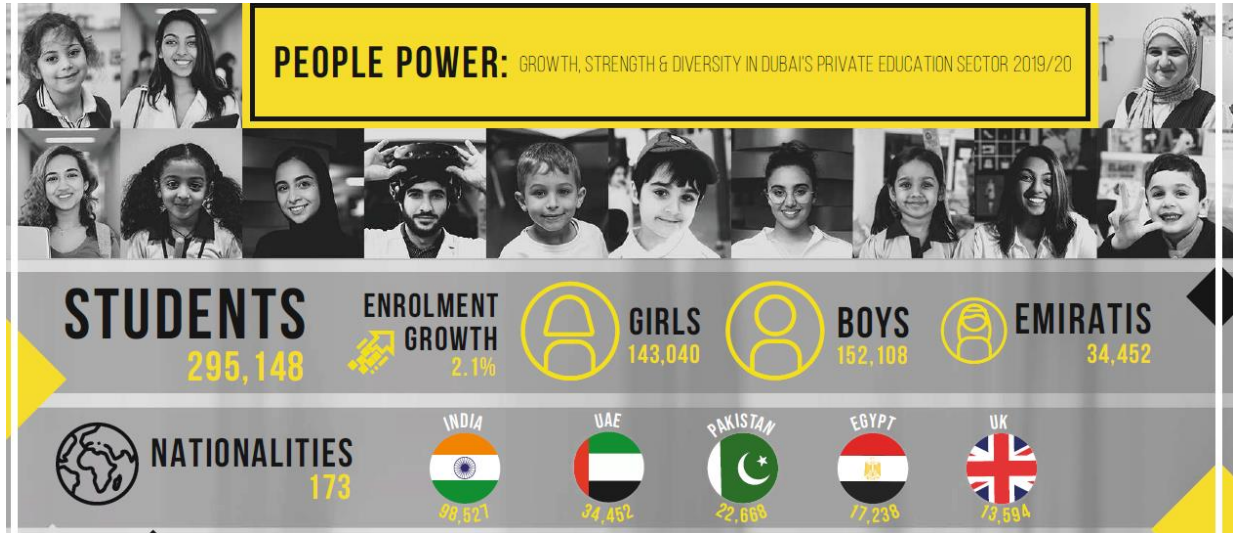
Figure 2.3. The diversity in Dubai's private schools (KHDA Government, 2020)

According to AlHagbani and Khan (2016), over the last few years there has been increased emphasis placed on teaching the Arabic language compared to non-Arabic speakers in the UAE, with the primary objectives being to develop awareness in learners of relationships between the Arabic language and Arabic or Islamic culture, enhance awareness of the need for the Arabic language across the world and improve both oral and written communication skills to strengthen the process of obtaining an information literacy level. According to Sabbah (2016), one element of a controversy argued that Arabic was a dying language in the Middle East in the face of globalized English. Other studies (Cook, 2016; Carroll, Al Kahwaji, & Litz, 2017) indicate that the other divide argued that the Arabic language was a growing language in the UAE.

Moreover, Arabs living in Dubai are not using MSA (modern standards of Arabic), but they are using language variety based on their nationalities. The code between the student and society is not valid because it is not the same (Wardhaugh & Fuller, 2015). In Dubai society, five groups are living and using their specific language variety: 1) dialects of the Arabian Peninsula, 2) Mesopotamian dialects, 3) Syro-Lebanese dialects, 4) Egyptian dialects, and 5) Maghreb dialects. So, the student learning in school Modern Standard Arabic, but when he is trying to communicate, or code-switching is not working because there is more than one group of Arabic speakers. For example, figure 2.4 shows different forms of the same clause (Bassiouney, 2009).[2]

(8)	pr 1sg 'I'	v 1sg imperf-ind 'to like'	det-n 'reading'	adv 'a lot'
MSA	ʔana	ʔuḥibbu	l-qira:ʔa	kaθi:ran
TCA	ʔana	n-ḥibb	il-qra:ya	barʃa
ECA	ʔana	ba-ḥibb	il-ʔira:ya	ʔawi
LCA	ʔana	b-ḥibb	il-ʔire:ya	kti:r
ICA	ʔa:ni	ḥibb	il-iqra:ya	kulli:ʃ
SCA	ʔana	ḥibb	il-gra:ya	kθi:r

Figure 2.4. Arabic Dialects (Bassiouney, 2009, p. 23)

As shown in Figure 2.4, in Dubai, one can hear a different way or language variety of the same question. For example, how are you? In Gulf dialect is "shlonak شلونك" "shoo akhbarak شو أخبارك," in Syrian and Lebanese is "kefak كيفك," and in Egyptian is "ezzayak إزيك." On the other

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[2] Varieties of Arabic spoken in Dubai include Tunisian Colloquial Arabic (TCA), part of the North African group of dialects; ECA, part of the Egyptian group of dialects; Lebanese Colloquial Arabic (LCA), part of the Levantine group of dialects; Iraqi Colloquial Arabic (ICA), part of the Mesopotamian Arabic group; and finally, Saudi Colloquial Arabic (SCA), part of the Gulf Arabic dialect group.

side, the Arabic learner in international schools in Dubai learned the meaning of, how are you?

"كيف الحال kayfa al hal" which is not the same as what they hear in Dubai society.

Q2. Fuṣḥā is more important to me than ʿāmmiyyat			Q3. It is easy to learn fuṣḥā		
	Frequency	%		Frequency	%
Strongly Disagree	2	4.0	Strongly Disagree	7	14.0
Disagree	18	36.0	Disagree	19	38.0
Don't Know	4	8.0	Don't Know	4	8.0
Agree	18	36.0	Agree	18	36.0
Strongly Agree	8	16.0	Strongly Agree	2	4.0
Total	50	100.0	Total	50	100.0

Table 2.1. Attitudes towards Arabic dialects (Husein, 2017, p. 93)

Related to that, Husein (2017) examined the attitudes towards Arabic dialects. Husein interviewed 50 people to glean their perceptions on the use of the Fusha Arabic dialect and its implication in learning MSA and found that they had positive attitudes on the dialect, as table 2.1 shows. Additionally, 52% of students agreed that the MSA is more critical than using dialects; however, only 40% of students found that it is easy to learn the MSA. The findings supported diglossia[3] aspects in education, arguing that native Arabic constitutes the foundation for learning MSA. The investigation also supported the Egyptian Arabic dialect's infusion in learning MSA since the learners perceived its native Arabic dialects useful in learning. The researcher recommended recognizing native Arabic dialects in the learning process since they are the primary translation dialects during MSA learning. The major concern about the study in this context is its focus on learners' attitudes, thus leaving out teachers' attitudes or perceptions.

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[3] Diglossia denotes the usage of two dialects of a language, also referred to as bilingualism. (Bracker, 2018). For instance, the Arabic language has several dialects that affect ASL's learning and teaching to locals and foreigners. Diglossia also refers to a situation in which two languages (or two varieties of the same language) are used under different conditions within a community, often by the same speakers. The term is usually applied to languages with distinct 'high' and 'low' (colloquial) varieties, such as Arabic. (Oxford Languages, 2020).

Besides, the study explored the attitudes of students toward the Fusha Arabic dialect. Therefore, the generalization of results in other Arabic dialects in other Arabic countries and the UAE were limited.

Al Suwaiyan (2018) investigates the Arabic language's diglossia aspects and its impacts on Arabic learning and teaching. This author's investigation examined the development of various standard language words from diglossia dialects of Arabic to standard Arabic. The phonology and lexicological aspects of Arabic are investigated. The researcher found that pronunciation was challenging among various dialects of Arabic. The challenge was severe among non-native and locals who learned Arabic as s secondary language. The findings showed that diglossia negatively impacts teaching and learning of Arabic since learners get accustomed to the colloquial or native dialects of Arabic rather than the standard Arabic taught. The investigator noted the possibility of Arabic evolving into a subfamily of Arabic dialects that would increase the need for a standardized Arabic dialect. Although the researcher examined the diglossia aspects affecting teaching and learning Arabic, the discourse was generalized in the Arab world and not a precise focus on any Arab country. The researcher concluded the article with a discourse on the future of Arabic language teaching and learning. Therefore, differences in aspects like culture and technology infusion in curricula delivery may cause notable variations in that the examination was focused on specific regions. It is a lesson for the current researcher to focus the extant study on Dubai to harness information that is context-specific for significant generalization of the findings regarding teaching and learning of Arabic as a foreign lingo.

Furthermore, Dajani (2015) examined the complex scenario of teaching and learning Arabic in the Arab world by examining the complex reality of challenges that hinder successful teaching and learning of Arabic. The researcher noted that colloquial dialects of Arabic prevail

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over the formal standardized Arabic, thus raising the question of what macro-factors are affect the teaching of Arabic. The researcher explored challenges such as colloquialism, deprived curriculum, and being overshadowed by original languages such as English. After examining the challenges that face the teaching of Arabic, the researcher assessed the creative approaches that can be implemented to make the teaching and learning of Arabic as secondary learning more attractive to teachers and learners. The researcher argued that creative methodologies and programs are needed in improving the learning and teaching of Arabic as a second language in the Arab world. The investigator concluded that more research on teaching aid, methodologies, and programs for ASL was necessary to illuminate the role of the three factors in teaching and instruction of ASL. However, this study's major flaw is that it ignored the learning aspects of Arabic and emphasized Arabic teaching only.

Alkutich (2017) examined the challenges facing Arabic language curriculum delivery of Arabic as a foreign or second language in the UAE. The study population was secondary school and private schools in this country. There was a lack of cohesiveness in curriculum delivery and implementation of Arabic as a second language. Constraints include differentiating between learners who understand and write in Arabic, teaching methodologies shortcomings, learning materials of teaching and learning Arabic as a second language. Using a qualitative methodology, the researcher examined the challenges of curriculum delivery. The study findings revealed that ASL has highly qualified teachers, but the curriculum had challenges teaching ASL. The other challenges are insufficient teaching material, assessment methods, and different teaching methods in public schools. The study was carried in Abu Dhabi and not Dubai; thus, it limits the findings in the context of geographical location characteristics. Because the study was

conducted in Dubai, a multicultural city that is representative of the broader UAE, the findings are generalizable to UAE.

Thomure (2019) examined the Arabic language teaching and learning in Dubai with a particular interest in the challenges learners and teachers face in the Arabic language. The author examined the UAE government's efforts in fostering the learning and teaching of Arabic as a second or foreign language through various governments initiates. The author articulates the discussion with an analysis of the challenges faced in the process. The author mainly argued that learning Arabic as a second language effectively empowered teachers through advanced training, preparation, and collaboration with their leaders. Examined was the international Arabic reading standards, Abu Dhabi External Measurement of Student Achievement (EMSA), Arabic diglossia, quality, past initiatives, and challenges. However, it was noted that teachers and administrations of the schools were the fundamental foundation of schools. Hence, the recommendation that is continuously training them on updated Arabic learning trends and instruction was crucial. It was argued that failure to enact continuous development measures in instructors watered down the initiatives enumerated above. Examined were the challenges such as time allocated to Arabic language, rigor, uninformed leadership, curriculum quality, teacher quality, private communication in Arabic when in schools, and instructors' professional development. It was concluded that teaching and learning require all UAE stakeholders' support to boost government efforts to promote Arabic literacy. Related to that, Salama (2017) noted that the UAE government had reshuffled places and systems and increased efforts to bolster the Arabic language to enhance businesses, interactions, and innovations. Further, Bernikova and Redkin (2017) added that increased linguistic integration also increased the need to explore the practice of teaching and learning of ASL in Dubai.

Moreover, the COVID-19 pandemic has disrupted learning in most institutions globally and brought learning to a halt in schools that do not have online learning modes. The pandemic disruptions increased the demand for remote education technological innovations. Such demand for mobile technology, whiteboards, virtual classes, video conferencing, online learning modules, and televised classes are rising. Infusion of MALL, SMALL, CALL, and RALL are on the increasing during COVID-19. According to Abedalla (2015a, 2015b), the exponential growth in the adoption of modern technologies in learning foreign languages has increased the adoption of mobile learning in the pedagogy of Arabic as a foreign language.

Therefore, based on the background information, this literature review will critically synthesize and analyze sources that have explored the following questions.

1. How does digital online technology influence the learning and instruction of ASL during the COVID-19 pandemic?

2. How can teachers and other education stakeholders motivate ASL learners to adopt digital online technologies to foster ASL's learning comprehension during the COVID-19 pandemic?

3. What opportunities/techniques of digital online technology exist to evaluate the success, performance, and progress of online learners of ASL during the global COVID-19 pandemic?

Conceptual Review

Importance of Learning and Teaching Arabic as a Second Language

Although learning ASL is demanding and challenging, it crucial to learn Arabic when considering living or working in UAE (Salameh, 2018). According to Kataw (2016), learning ASL is not only crucial for communication with residents but also keeping one's literacy rates

high. Habbal (2017) conducted a qualitative investigation of Arabic discourses in a classroom setting and noted its benefits to learners and teachers. Habbal (2017) also discovered that other researchers found that ASL's demand had increased worldwide, particularly in countries with close political and economic ties with the Arab countries. Other researchers who concluded that learning and teaching of Arabic was challenging including Moeller and Catalano (2015), Alkutich (2017), and Kharkhurin (2015).

Habbal (2017) examined classroom discourses between teacher and learners to comprehend the perceived benefits and importance of learning and teaching ASL. The researcher used the second language attainment framework and the Vygotsky model to assess the significance of learning ASL to learners and the motivations of teaching ASL among teachers (Habbal, 2017). The findings of the study indicated that learning and teaching of ASL were crucial because they fostered secure interaction among learners and teachers (Habbal, 2017). The analysis also revealed that there were learner-specific reasons for understanding ASL, such as employment prospects in an Arabic country and social interactions. The researcher examined the increasing demand for ASL or AFL and found that Arabic is central to Arab culture and religion. Additionally, the increased expatriation drives ASL's teaching and learning (Hussein & Gitsaki, 2018).

Although the studies in this segment highlight the importance of learning ASL, those findings and discussion were skewed towards the importance of learning ASL, thus ignoring the importance of teaching ASL. The major drawback of the research on the importance of Arabic was the more limited examination given the importance of teaching ASL. There was an existing gap in the motivation, importance, and drivers of teaching Arabic ASL, like Wilson and colleagues (2016) noted. Maskor and colleagues (2016) also noted that teachers' perceptions of

the importance of learning and teaching Arabic ASL were underexplored. The findings of the studies reviewed in this subsection are insightful to this investigation because they illuminate the significance of teaching and learning ASL in Dubai.

Moreover, the purpose of teaching a second language is undoubtedly to cultivate learners' language communication skills. In the past, teachers attached great importance to language ability. However, our understanding of the ability to use language is more focused on "language knowledge" plus "language skills" or the conversion of language knowledge into language skills. Unfortunately, insufficient attention has been paid to learners' strategic abilities and psychological processes (Larsen-Freeman, 2015). All types of factors are essential and should also be highly valued in the process of teaching. It is believed that the original understanding of communicative language abilities should be expanded. Authors agree with the view that the purpose of Arabic language teaching is to develop comprehensive language skills (Cook, 2013; Hinkel, 2011).

Generally speaking, great importance is given to the training of language skills and emphasizes the balanced development of listening, speaking, reading, and writing, which is not sufficient. Now people pay more attention to what a learner can do with such language skills at a certain level. In the past, people also paid attention to the teaching of language knowledge, phonetics, vocabulary, grammar, and Arabic characters. This is only in terms of the language itself (Wahba, Taha, & England, 2018).

Lastly, now it seems that educators should pay more attention to learners 'emotional attitudes under the guidance of functions and topics: interest, motivation, self-confidence, will, cooperative spirit, and other related factors that affect students' learning process and other issues that affect learning. Although cultural consciousness and learning strategies have been studied in

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recent years, they are scattered and not systematic and have not attracted the attention of Arabic teachers. Special attention is needed to the cultural connotation behind the language. The most important characteristics are that the five aspects of language skills, language knowledge, emotional attitudes, learning strategies, and cultural awareness constitute an inseparable whole and jointly promote the formation of comprehensive language ability. This kind of understanding is obviously much broader and richer in content than what educators originally understood (Long & Doughty, 2011; Cook, 2013).

Programs of Learning and Teaching ASL

According to Thomure (2019), the UAE government has piloted several teaching models and foreign languages learning outcomes due to increased demand. Hussein and Gitsaki (2018) examined policies for teaching six foreign languages and noted that global and national factors impacted teaching and learning programs. The increased demand and changes in curriculum delivery of foreign languages in the UAE are due to the country's economic progress. UAE has grown from an economy that depended mainly on merchandizing sea pearls to a global oil-producing giant (Gazdar et al., 2016). The economic expansion and tourism led to the influx of expatriates, tourists, and scholars, thus increasing the need for teaching and learning of ASL (Lewicka & Waszau, 2017).

Moreover, Hussein and Gitsaki (2018) noted that UAE was a unique country because the indigenous minority are the ones who speaks native Arabic. However, Arabic is the primary language of communication. The presence of expatriates in the UAE diversified the need for foreign languages, where locals or Emiratis demand English as the global language. Expatriates demand Arabic as the language of socialization in the UAE. Besides, the high expatriates' population also increased demand for other languages in the UAE. Therefore, policies for

infusing foreign language into the existing curriculums were essential. Hussein and Gitsaki (2018) explored the English policies in the UAE. They found that English as the medium of globalized education systems in the UAE. international schools denied most Emirati learners the opportunity to enroll in such schools. The government improved equality through the incorporation of Arabic to promote bilingualism in UAE education.

According to Thomure (2019), the UAE government responded to the growing demand through enacting policies and establishment agencies that promote Arabic as a primary and secondary language in the UAE curriculum. For instance, the establish of KHDA improved the use of Arabic in UAE school curriculums (Ahmad, 2018). The standardization of Arabic used in schools was a significant step in promoting standard Arabic in the curriculum delivery, considering that diglossia and triglossia affected teaching and learning ASL. In a news article published in the Gulf News, Salama (2017) contended that although English is the global language of science, commerce, and innovation, the UAE government had reshuffled several systems in the education sector to promote Arabic as the future language of business, science, and tourism in the UAE. Moreover, as shown in figures 2.5 and 2.6, a private school journey in Dubai that has been rated as "Outstanding" for more than ten years, and the Arabic department is the only department still rated as "Good."

Figure 2.5. School rated track (Dubai Knowledge, 2019)

Arabic as an Additional Language	Attainment	Not applicable	Good ↑
	Progress	Not applicable	Good
English	Attainment	Outstanding	Outstanding
	Progress	Outstanding	Outstanding
Mathematics	Attainment	Outstanding	Outstanding
	Progress	Outstanding	Outstanding
Science	Attainment	Outstanding	Outstanding
	Progress	Outstanding	Outstanding

Figure 2.6. Comparing rating of the Arabic department to other department (Dubai Knowledge, 2019)

Salama (2017) listed some of the programs that the UAE government had rolled out in its quest to promote the Arabic language as the strategic language of preserving Dubai's culture, heritage, and economic growth. The efforts include the formation of CMALT, publishing modern Arabic Language Dictionary, the "Lughati" initiative, Arabic language charter, and Arabic learning institute. The agencies were formed to support the development and improvement of a curriculum for instructing and teaching ASL. The government's efforts allow schools to have ASL, but the curriculum is prepared and reviewed by education agencies. Although the review in this subsection is insightful, it revealed an alarming deficiency in scientific inquiry into the programs of instructing and learning ASL.

Perspectives of Arab as a Second Language in Dubai

Perceptions of ASL were assessed on a range of topics, ranging from the use of technology, teaching methods, the efficacy of the methods; also assessed where program customization to match the dynamic needs of scholars in Dubai (Ryding, 2016). Results were

interesting. For instance, studies on the infusion of technology in instruction and learning Arabic in Dubai and other Arabic countries have revealed that technology makes learning and teaching enjoyable (Al-Busaidi et al., 2016). Findings also revealed that technology makes ASL learning automated and faster since it does not rely on face-to-face classroom discourses (Al Musawi et al., 2016; Abedalla, 2015a). Al-Busaidi and colleagues (2016) carried out a related study and found that technology makes learning and teaching of Arabic more accessible; thus, they supported it use in the modern ASL curriculum. Abed (2018) and Abedalla (2015b) also recommended that technology is useful in delivering ASL and the AFL curriculum.

Learners perceive Arabic as a critical language in Dubai's communication competency, considering that it is the primary language of communication (Almansour, 2016). Learners enroll in Arabic classes hoping to excel but often get disappointed by the numerous hurdles they encounter in learning Arabic, such as triglossia, diglossia, and English use, among others (Al Suwaiyan, 2018; Carroll, Al Kahwaji, & Litz, 2017). Bani-Khaled (2014) inspected standard Arabic language perspectives using higher education learners as the population and the sample of 366 students. Learners perceived standard Arabic as a language that would gradually fade away due to colloquial Arabic, while others thought that it was old and has uncomfortable words to some speakers (Bani-Khaled, 2014).

Notably, learners felt that standard Arabic that is taught in a formal classroom constitutes a small percentage of the Arabic spoken considering the colloquial Arab dialects used by the residents (Bani-Khaled, 2014). A learner expressed that rarely do people in the Arabic word converse in standard Arabic (Bani-Khaled, 2014). Instead, other colloquial dialects are used. The findings of Husein (2017) support those noted above. Therefore, respondents questioned the essence of teaching and learning standard Arabic in a local classroom. Other respondents

expressed that the standard Arabic language was decreasing in all the Gulf and Arab countries due to the modernization and adoption of English as the contemporary universal language of communication.

Moreover, Bani-Khaled (2014) identified the good themes under which the student perspectives toward MSA could be classified. The themes are status and future of MSA, affective emotions towards MSA, intra-language concepts, intercultural factors, and impact on MSA, a religious dispensation of MSA, lexical gap, perceived expansionism, and lack of confidence in the prospects of MSA, His discoveries also raised a question on the implications of learners' and teachers' perspectives and attitudes in achieving learning outcomes in both foreign or secondary dialects. Besides, as the school should teach Arabic as a first language for native and as a second language for non-native, they are teaching it separately but not in the dual program. Attitudes impact perceptions regarding the learning and efficacy of achieving standard pronunciation, as shown in figure 2.7. The results revealed that it was challenging for non-native learners of Arabic to attain standard pronunciation aspects of native speakers such as accents.

- *"Arabic will stop spreading finally will fade away."*
- *"Standard Arabic is dying dramatically…"*
- *"It is very old"*
- *" Some Arabic words may feel heavy or old-fashioned to the user*
- *"they consider Arabic old language…"*
- *"Arabic language is suffering"*
- *"The use of Arabic began to fade"*
- *" I do believe that standard Arabic will die in the upcoming future."*

Figure 2.7. Students' perspective toward MSA (Bani-Khaled, 2014, p. 161)

However, AlMansour (2016) and Shraybom-Shivtiel (2018) expressed that ASL perceptions are dependent on the cultural background of the learners and teachers. Shraybom-Shivtiel (2018) illustrated that Muslims value Arabic more since it is the Holy Quran's primary language. Diversity in culture affects the perceptions about the language (Lewicka & Waszau, 2016). The researcher expressed several challenges he perceived as the prime hurdles to teaching and learning standard Arabic, as discussed in the subsections below (Husein, 2017). The findings reviewed in this subsection are insightful to the current investigation. However, the discourses on perceptions are relative to the respondents and the researcher. Therefore, they keep changing, but teachers' and learners' current perspectives hold that standard Arabic is a fading language that requires strategies to revive its adoption among the locals and nonnatives. The researchers concurred that more research on this concept should be carried out.

Approaches to Teaching and Learning Arabic as a Second Language
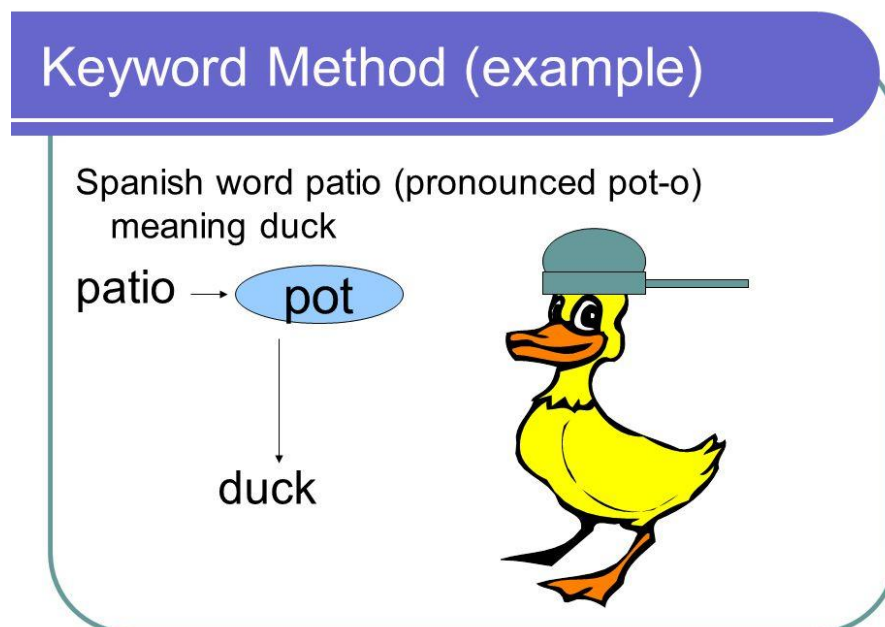
Figure 2.8. Keyword Method Illustration (Gordon, 2012)

Keyword Method. The keyword technique of learning a foreign language has two fundamental steps. The primary step involves the learner associating a foreign language with the formulated keyword, and the second step involves conceptualizing the word in the brain through imagery as shown in figure 2.8. Hamidin (2015), Piribabadi and Rahmany (2014), Taheri and Davoudi (2016), and Wyra and Lawson (2018) examined the keyword approach in teaching foreign languages. The researchers found that the strategy is effectively learning vocabularies of a foreign language as more learners recorded higher outcomes than when the methods had not been implemented.

Although the findings proved the efficacy of keywords in teaching and learning foreign languages, researchers were concerned about the challenges faced in teaching Arabic among other second languages as a foreign or second language (Taheri & Davoudi, 2016). Notably, none of the studies examined the shortcoming of the method. Additionally, there is no literature on how the strategy can be implemented in the foreign language curriculum, thus leaving the teachers confused regarding implementation. Taheri and Davoudi (2016) expressed their reservation on the implementation and reliability of the methods in instruction and learning of Arabic as an overseas language since the strategy lacks a standardized procedure for implementation in a classroom set up. Although the merits of the methods in achieving the desired outcomes outweigh the demerits and controversies surrounding the implementation, such concerns require extensive research inquiry. Hamidin (2015) recommended that education policymakers revisit the strategy to device appropriate procedures for infusing the foreign language curriculum technique.

Using Arabic for English Translation. Translation as a technique in teaching foreign languages has attracted more controversy than support, with the opponents arguing that it derails

the learning process. Proponents of the translation techniques argue that it is useful in grammar-translation contexts. In contrast, the dissenting perspectives argue that it affects the learner's communicative development in speaking the foreign language (Aydoğu, 2019). An investigation of learners' and teachers' perspectives on the effectiveness of translation as a technique in an Arab country revealed that it effectively teaches foreign languages (Mollaei, Taghinezhad & Sadighi, 2017). Moreno (2015) also supported translation in foreign language instruction, especially during the preliminary stages. Jaramillo and colleagues (2019) demystified the origin of translation and argued that although there are critiques of the techniques, it fundamental and unavoidable in teaching foreign languages.

Mei, Zakaria, Adam, and Ju (2016) examined the teaching of ASL and success factors. The researcher found that translation is essential in teaching foreign languages, especially during the first lessons, as most learners have little to no knowledge of the Arabic language (Mei et al., 2016). The studies reviewed in this subsection are critical and insightful. However, they have revealed that more research is required to explore the dissenting views of translation in teaching and learning ASL. For instance, the use of translation in teaching foreign language was criticized on the basis that not all learners in a typical classroom will share a common language for translation. The review has shown that translation is an essential technique in teaching and learning ASL, but it has critiques that question its outcomes. Therefore, this investigation will illuminate the translation aspects of teaching ASL to assess the validity of the dissenting views on the subject.

Use of Mother Tongue. Mother tongue use in teaching and learning ASL correlates to translation as it involves the translation of Arabic phrases to the tongue. The essence of vernacular in foreign language pedagogy is contentious as different studies have diverging views

on its utility in teaching and learning foreign languages. Researchers such as Fitriani and Zulkarnain (2019), Mohammad (2015), Zheng and Liu (2018), Alenazi (2018), and Alzamil (2019) found that mother tongue strategy was detrimental in teaching a foreign language. For instance, the studies revealed that using colloquial Arabic to teach standard Arabic or English was detrimental as learners kept using the mother tongue words more often than the second language. Other researchers, such as Alkhateeb and colleagues (2016), inspected the mother tongue's English learning outcomes among Arabic learners and found mixed results.

The researcher's findings and conclusions held that the mother tongue is not entirely detrimental. It may be propagated in some studies but recommended that its use in teaching foreign language should be minimized. A similar study obtained identical findings (Dmour, 2015). Although the studies reviewed above-obtained results that controverted vernacular use in teaching ASL, researchers such as Thyab (2016) supported the use of colloquial Arabic in teaching foreign language since learner can express their views and ask the question in ASL or AFT classroom set up. A salient argument in the studies above is that the mother tongue helped learners express themselves to teachers during the course's preliminary stages since they were not conversant with the standard Arabic. This review's findings are crucial to this investigation as they demystify the existing contradicting viewpoints on the use of native Arabic vernacular in teaching and learning ASL. However, more research is needed on the use of colloquial Arabic in the teaching of standard ASL among foreigners or non-native Arabic speakers in Dubai.

The Vocabulary Technique. The application of vocabulary technique is widely supported in numerous studies such as Farjami (2018), Maskor and colleagues (2016), Teng (2015), and Al-Masrai and Milton (2012). Abdrabo (2018) supported vocabulary use since they empower learners to encode the meaning of foreign languages taught. Vocabulary is essential in

learning ASL since it is the foundation of Arabic language literacy and proficiency. Al-Masrai and Milton (2012) investigated the number of words and vocabulary that an ASL learner must know before that learner could be term and proficient in standard Arabic. The qualitative investigation using evinced that learners require proficiency in 25000 Arabic words (Al-Masrai & Milton, 2012).

Moreover, Abdrabo (2018) was concerned with the pedagogical involvement of research on related linguistic aspects; particularly those involve learning and instruction of foreign dialects. Abdrabo (2018) had three prime aspects to inspect, namely the process of acquiring new dialect effectively, cortical sections associated with intention semantic encoding, and effective implementation of semantic encoding in a classroom setup. The researcher concluded that the encoding process of ASL should be prioritized as it forms the basis for crafting practical approaches in the teaching of ASL. The researcher listed five aspects that support learning and encoding of learning language. The researcher recommends MSA as a suitable model for implementing semantic encoding in the learning of ASL. Besides, Abdrabo (2018) investigated encoding a new language's semantics to utilize foreign language instruction information.

Figure 2.9 shows how the information process: There are three phases for the information process: acquiring, retaining, and using. In the first phase, students are gaining new knowledge from outside to their short memory, and if the student did not get new knowledge properly, it would be moved to wasted memory. If the students recognize the new knowledge will be transferred to the working memory, then to the long-term memory. In the second phase, if the student wants to recall the stored memory experience, it will be linked to the learning topic. In the last phase, the students' knowledge is converted to the working memory, in which all students responded to the learning situations.
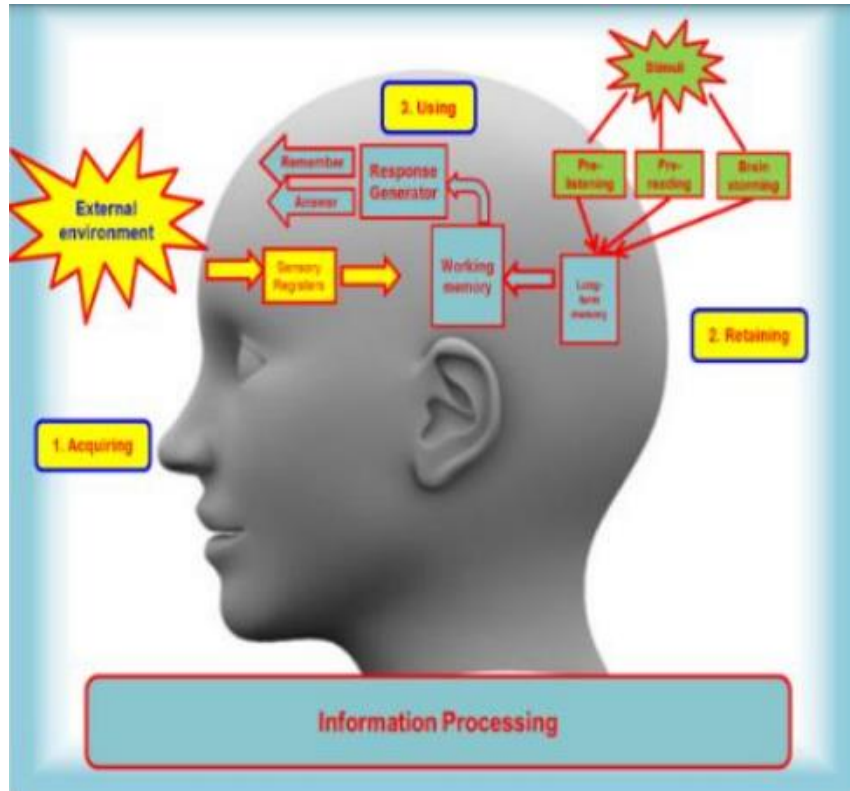
Figure 2.9. Encoding process of ASL (Abdrabo, 2018, p. 5)

Another investigation on instructing and learning Arabic language using the vocabulary

approach asserted that gaining competence in vocabulary is the pinnacle of any foreign language

or second language proficiency (Maskor et al., 2016). The researcher further argued that

effective and lucid command of a foreign or second language depends on the competence in

choosing the most appropriate combination of words in specific contexts (Maskor et al., 2016).

As such, learners must have good mastery and comprehension of the vocabulary. Ferrari (2018)

and Alobaydi and colleagues (2017) supported the use of vocabulary in foreign or second

language settings.

Ferrari (2018) assessed the vocabulary approach in TAFL and TASL contexts using two

experimental designs. The researcher compared the practice with colloquial Arabic settings and

found that focus-on-form teaching of Arabic vocabulary led to more comprehension of the ASL

or AFL. Despite the insights on vocabulary on teaching of TASL and TAFL, a notable shortcoming of the review is that there was a deficiency in the number of studies investigating the difficulties or challenges faced in using this technique in teaching and learning ASL. Laufer and Mclean (2016) also noted the need for more research in vocabulary teaching method.

Cooperating with Peers. Carter and colleagues (2014) established a sense of learning community through interaction with peers and implemented the learning concept of "cooperating with peers." Cooperative learning is a creative and effective form of classroom teaching widely used today, and it is still rarely used in Arabic language teaching classrooms. Some people in the second language teaching community have put forward the slogan "student-centered." Teachers are required to take a very cautious approach to this formulation. In fact, during the implementation of communicative activities, teachers still control the teaching content and teaching methods to a certain extent in the classroom. Teachers are more likely to accept "student-centered" if it is understood as classroom teaching is centered on the language communication activities carefully organized by the teachers, giving full play to the students' self-learning spirit, inspiring the interaction between students, and completing the learning tasks in a harmonious and pleasant atmosphere. Students' awareness of participation, attention to students' learning differences, and reasons advocate communicative classroom learning activities; these ideas are recognized and appreciated by most Arabic as a second language teacher.

The second language acquisition research (Ellis & Shintani, 2014) found that the high degree of interaction among the second language is key to learners' language acquisition. The most effective high-level interaction comes from task design, teaching organization, and system science implementation. Waninge and colleagues (2014) introduced the "communicative

teaching method," one of the leading teaching forms of foreign language teaching, discussing the successful second-year teaching model in American universities. The methods presume that language communication activities include three aspects: expression, interpretation, and negotiation of meaning. The expression means that the speaker expresses a particular idea, requests for opinions, or requests. Comprehension and interpretation refer to the listener's self-inference and interpretation when listening to the speaker's expression to understand its content and intention. Semantic negotiation refers to the listener asking questions to the speaker without fully understanding. The speaker proposes explanations, clarifications, explanations, additional details, etc. In the process, between the speaker and the listener, language interaction, one-on-one exchanges, one question, and one answer, until one or both parties think it should be over.

The outstanding teaching concept of the communicative teaching method is that in a real context, with real language materials, the self-learning spirit is exerted, so that students are at the center while paying attention to the language form, pay more attention to it is the manifestation of language function and to the process and value of semantic negotiation, which truly uses the language learned. The author further enumerates the key points of group interaction activities between students of communication teaching method and gives many examples of common activities. In short, establish the teaching goal of cultivating the learner's comprehensive language useability, implement the teaching principle of "using middle school," adopt the task-based teaching method, promote teacher-student interaction, student-child interaction, cooperative learning, and fully mobilize students' ability to "do things with language." Is the current trend of second language teaching in the world? Arabic, as a second language teaching, should be integrated into this trend (Woods & Çakır, 2011).

The Role of Education Innovations and Technology in Teaching and Learning

Impact of Technology on Language Education

The new millennium appeared to be a turning point for education and other areas. The generation of young people brought up in the digital age – the era of ubiquitous electronics, the Internet, and globalization – entered the schools. In just two decades, our globe has changed to such an extent that today the so-called generational differences between grandparents, parents, and children are no longer limited to a different view of the world and its social relations. Today, it often happens that members of the same family, representing different generations, function in entirely different realities. For people brought up in the Arab world, the mobility, multiculturalism, and expansiveness of the young generation is a mystery. His lack of sense of connection with national tradition and patriotism in a specific sense in the most common areas of criticism and the field of traditional conflict. In turn, the generation of the globalization era is taught to appreciate completely different values: openness and tolerance, which are shaped by the Internet and open international borders; flexibility and mobility – at work and education, which is currently acquired continually, throughout life, in various countries (Riasati, Allahyar, & Tan, 2012).

Finally, and in many areas at the same time, ease in using technologies, primarily electronic, information and communication, without much competence, it is impossible to imagine functioning in the modern world. Unfortunately, the same generation conflict often happens, or rather a generation gap divides not only grandparents and parents and their children but also students and their teachers. Therefore, since the reality in which modern children will function and work in the future is so different from the reality in which contemporary adults, including teachers, functioned and worked, it is apparent that it is the school to the requirements

of the present day to be able to effectively implement their most important mission – to prepare

young people for a mature and conscious start of an independent life and equip them with

knowledge and skills that will allow them to lead this life well. The era in which we live is often

called the "McDonaldization era" or "sometimes instant," pointing to the acceleration and

simultaneous reduction, simplification of all phenomena and relationships in modern societies

(Houcine, 2011). In other words, it becomes a world of instant gratification.

These terms seem to be perfect; they depict the world in which young people function,

primarily, but at the same time, it is not a scheme in which school should enter. Modern

education and modern teachers do not have to, and should not give up, their current educational

goals. Modernization does not mean a complete break with tradition, abandoning the values that

have been promoted so far. School and teachers still have a lot to convey to their students, often

blindly enthusiastic about the temptations created by the instant gratification quick and easy at

reception. Their task is still to share their life experience and knowledge that cannot be obtained

at the same pace at which instant coffee is brewed, values that are not included by the New York

Stock Exchange. Instead, the means, ways, and methods used to reach the student must change in

order to convey this knowledge and experience (Bermudez & Parra, 2012).

To this end, the teacher must become a participant in the world where his student

functions and understands. This is the first step in building a bridge between the student and the

teacher world. All this means that the curricula of contemporary schools are reformulated so as

to emphasize the skills and competencies that are crucial for functioning in the modern world,

without, of course, giving up the transferred resource of substantive knowledge and values in the

field of cultural, civic and patriotic education. In order to successfully implement the

assumptions of such constructed curricula, and above all, to establish a dialogue with a modern

student, the teacher must demonstrate not only excellent substantive and pedagogical preparation but also the ability to implement and integrate innovative means and methods into the teaching process, as well as high competence in the area of modern information and communication technologies (Bermudez & Parra, 2012).

Information and communication technologies are becoming a determinant of the modern educational process. Modern technologies in the teaching process respond to today's students' expectations, immersed in the digital world. Growing up surrounded by electronic toys, computers, mobile phones, or tablets, young people spend more and more time interacting with digital media, creating their almost natural living environment. They are often referred to as digital natives, net generation, or app generation; a generation for which the virtual world is as natural as the real one. On the other hand, the generation of teachers is digital immigrants who remember times without computers or the Internet and are much less able to deal with new technologies (Riasati, Allahyar & Tan, 2011).

According to Velea and Farca (2011), every teacher's responsibility is to find oneself in the new reality and support students in the computer-assisted process of acquiring knowledge, skills, and communication. Teachers' attitudes and actions are one of the key factors influencing the reduction of dissonance between the student's world and school practice. Digital solutions offered by modern technologies have enormous educational potential, which is worth using, especially in early language education. This study aims to present selected tools and applications of information and communication technologies that can be used in teaching English at the first educational stage.

Mobile-based and Computer-based Technological Innovations in ASL

In a review of the adoption of mobile learning technological innovations, Abedalla (2015a) found mobile applications revolutionized online language learning tenets from the conventional physical lecture-based principle to the contemporary ubiquitous "learning anywhere, anytime" tenet. The studies of Abedalla (2015a, 2015b) compared mobile-based technological innovations of learning ASL and other technological innovations of computer laboratory-based methods. Mobile learning innovations in ASL learning, like another technology-based learning milieu, may be either distance or face-face through online video platforms (Abedalla, 2015a).

Studies of Alotaibi and colleagues (2019), Bin-Hasni (2017), and Daud and colleagues (2018) supported Abedalla (2015a; 2015b) that mobile technological innovations of learning Arabic supported learning of ASL more than computer-based approaches because of easy availability of mobile phones, easy navigations, and the portability and convenience of the application. Bradley and colleagues (2017) found that mobile technology was instrumental among immigrants for learning the Arabic language. Contrary to the advantages-based approach in the studies above, the findings of AlHasanat and Rahman (2015) revealed that mobile technologies fostered online learning of the Arabic language but were marred by challenges beyond the learner's ability.

AlHasanat and Rahman (2015) called for integrations with other methodologies to achieve comprehensiveness in learning Arabic. According to Daud and colleagues (2018) and Sahrir and colleagues (2017) affirmed earlier findings that mobile technological innovation for learning were effective and efficient. Gharawi and Bidin (2016) collected from 196 Malaysian learners of ASL showed that mobile learning was faster, easier, and convenient, considering that

most students could easily be afforded smartphones for M-learning of Arabic. Although such technological innovation has been embraced widely due to its meritocracy in support learning and teaching of ASL, the outcome of Jung (2018) revealed contradictory results that learners tend to resist mobile-based learning of ASL.

Jung (2018) examined the subject in the context of rapid evolution from CALL to MALL learning modes of ASL. Simultaneously, some learners cited a lack of infrastructure to support the MALL curriculum; others cited a lack of internet-connected resources needed for most online-based MALL platforms (Jung, 2018). Mobile phones and tablets are the most common mobile devices used. Simultaneously, the prime tools utilized for MALL include blogs, Wikis, digital portfolios, podcasts, games, and virtual learning environments that support online video conversing classes (Jung, 2018). The findings of Rosell-Aguilar (2015) supported podcasting as a tool for online mobile learning of the Arabic language.

Despite the innumerable advantages cited in Jung (2018), he concluded that the MALL mode of learning ASL is incomprehensive, considering that not all learning objectives can be achieved through mobile online learning such as examinations. Chen (2016) also cited Duolingo as a widely adopted MALL tool due to the high interactivity and customization of learning aspects desired. It is limited because it is not a reliable tool for academic measurement of success learning progress. Ghounane (2019) obtained a similar finding that not all MALL cases are openly adopted by learners considering that student has a considerable number of negative perceptions regarding the use of MALL in learning foreign languages.

Yusof and colleagues (2015) found that although ubiquitous m-learnings tools for Arabic had occurred in the last decade, most learners still grappled with grammar issues and idioms in Arabic, thus necessitating the need for developing grammar-oriented learning modes. The

discoveries of Yusof and colleagues (2015) and Karkar and colleagues (2015) support the use of m-learning learning and instruction of Arabic grammar. The need for learning Arabic mainly based on the need for gaining literacy in the Holy Quran saw the rise of Quranic applications that supports learners to gain literacy in Arabic using Quranic texts and illustrations (Mustaffa, 2020). Ojokoh and colleagues (2015) examined the use of mobile-based learning technologies. They found that they were useful but criticized them based on the initial cost of capital invested in the infrastructure to support online classes and the interfaces.

Although most of the findings reviewed in this section support the use of mobile-based and other online learning and teaching technology, the arguments and conclusion of Al-Mohsen (2016) expressed a dissenting perspective. According to Al-Mohsen (2016), online technologies are essential in learning Arabic. Its success is contingent on the collaborative and integrated approach where other supplementary methods and resources are deployed collectively. The researcher's focal argument was that ASL teachers have embraced technology but still hold that other methods must be used to supplement and offset the shortcomings of online-based methodologies (Al-Mohsen, 2016). Shehab and Zeki (2015) and Omari (2015) also supported the usefulness of online computer-based learning approaches in ASL instruction and learning.

An investigation of the efficacy of interactive whiteboards in Arabic instruction and learning among Kuwait higher education learners showed that such technologies fostered learning and achievement of learning outcomes (Aldhafiri, 2020). The results, however, revealed that such technologies are costly to acquire, install, and maintain. The researcher used a random control strategy and the results indicated that the use of CALL whiteboard technology improved performance compared to traditional learning cases with such technologies (Aldhafiri, 2020). Related to that, interactive whiteboard software is the most used that publishers offer given a

wide range of interactive whiteboard software. In many cases, commercial software is part of the manual's digital housing with which it is correlated. However, publishers also offer software that can be used in the classroom, regardless of the textbook being implemented. Such programs' universality is possible due to selecting topics considered at a given educational stage (Pardanjac, Karuović, & Eleven, 2018). This type of software does not allow teachers to create their own exercises. Additional tools have been included in the latest digital solutions to create original lessons or additional exercises. The boards are also equipped with their own software, which allows teachers to create original teaching materials. Interactive exercise templates, didactic game templates, or rich graphic resources from many academic areas provide unlimited possibilities for their use and customization. The following are examples of language exercises using the Qomo and SMART Board whiteboard software. It takes a few minutes to prepare such an exercise, and its most important property is the ability to adapt the content to the current topic. Interactive boards are slowly growing into schools' didactic everyday life because they are educational technology relatively easy to use (Pardanjac, Karuović, & Eleven, 2018).

In the context of Dubai and the broader UAE, Kennetz and Carroll (2018) demystified the underlying arguments that Arabic language use was being used less frequently. Arabic as a medium of communication was deteriorating due to the competition from the globally placed English language. Kennetz and Carroll (2018) attributed the growing extinctions of Arabic to the increased expatriates' population that communicates in English. In Kennetz and Carroll's (2018) arguments, the enigmatic conundrum was that increase in English expatriates leads to the extinction of Arabic. However, the highest number of students enrolled in ASL in Dubai were expatriates. Bin-Samah and colleagues (2016) noted that increased ASL adoption in Dubai faced curriculum challenges involving the little infusion of technology in learning and teaching ASL.

Alkahtani (2019), Hadi (2019), Mosa and Kakehi (2015), and Mustaffa and colleagues (2019) also affirmed that low adoption of different distance-learning, mobile-based and online technologies was the prime challenge in the new instruction and learning of ASL. Al Musawi and colleagues (2016) and Gharawi and Bidin (2016) supported the adoption that computer-assisted language teaching techniques because such technologies facilitate the gaining of competency in writing and speaking Arabic. The application of online-based technological innovations in instruction and learning of ASL is widely explored by researchers such as Gharawi and Bidin (2016), Haron and colleagues (2016), Kennetz and Carroll (2018), and Batainah and colleagues (2018). The role of technological innovation in ASL instruction and preparations of ASL teachers is widely explored by Zakaria and colleagues (2019), Jwaifell and colleagues (2018), and O'Sullivan (2017).

Alkutich (2017) also investigated the efficacy of the innovation infusion in solving curriculum delivery constraints in ASL teaching, focusing on UAE institutions. Alkutich (2017) found technology to be effective in improving the learning of ASL in the UAE. Online technologies have increased the interest of learners and teachers in foreign languages (Nobre, 2018). Nobre (2018) supported the adoption of multimedia technologies in foreign language learning because they are highly interactive. Ilter's (2015) findings supported innovation and infusion of technology in learning because his results affirmed that technology promotes learning. Kessler (2018) explored teaching languages' future from methodological perspectives with a keen interest in comprehending how technological innovation would affect future technologies. Kessler's (2018) discoveries supported the infusion of technology in learning foreign languages, the importance of training and preparing foreign language teachers to be

familiar with the new technology tools to be able to use them effectively in foreign language classes.

Educational publishers who realize that the world of teaching is changing rapidly are encouraging the use of modern digital tools in didactic work. Currently, multimedia is becoming the binding standard in education. Exciting and effective teaching and high-quality educational materials are based on the use of new technologies (Larson, 2013). It is worth emphasizing that publishing houses encourage smart digitization that starts in the teacher's mind. He knows which skills are best suited to be practiced at the computer and which require traditional methods. The teacher knows best which topics to show on the interactive whiteboard and which tasks to put on the Internet as homework. Therefore, a good teacher can never be replaced by even the best computer and the latest technology (Crittenden et al., 2018).

Another innovative publishing proposal is the online homework system, i.e., digital exercise books and self-evaluation tests. This solution fully replaces traditional paper exercise books, giving many benefits to both teachers and students. Using an electronic workbook allows teachers to save time during lessons and at home, thanks to the ease of assigning homework and their automatic assessment. Easy control of students' achievements, monitoring their learning progress, and providing feedback on issues that require further exercises or repetitions is significant (Burkhart & Craven, 2020). The teacher also has the option of an individual approach to work with students, including by creating their own tasks tailored to specific students' needs. Related to that, the electronic homework system offers students the opportunity to perform assigned tasks in their favorite digital environment, which positively encourages and motivates them to do additional work at home. The attractive form of interactive exercises also stimulates a positive attitude to the learning process. Automatic evaluation and immediate feedback on the

errors made allow for their correction and facilitate the achievement of better results (McCoy et al., 2016).

On the other side, Web 2.0 technologies determine the new generation of applications or websites created after 2001. Tim O'Reilly coined the term Web 2.0 in 2004 during a conference on the new internet trend that appeared after the dominance of Web 1.0. Additional to that, storybird is an application that allows teachers to create short stories inspired by the illustrations of professional artists: graphic designers and book illustrators. Dazzling illustrations stimulate the imagination and awaken the creativity of writers. The use of this application in early Arabic language education develops the ability to construct longer written statements and see the relationship between word and image. The story can be created individually or as a team because one of its functionalities is cooperating with other students. This tool develops writing and reading skills to teach Arabic as a second language (Muho & Kurani, 2016).

Furthermore, Wordle is an application to create so-called word clouds from any selected text. This tool is often called a word painted image generator. Word clouds can be modified using different types of fonts, layouts, and color combinations. Word cloud is a kind of colorful illustration that can be used in various lexical exercises. In early language education, this tool enables creating many creative exercises tailored to the subject matter. Tagxedo is another tool also used to create word clouds, but with more advanced functionalities. An attractive solution is choosing the shape to present the selected lexical area or enlarge a single word. The student's task is to indicate and read words defining the given topic in the category of applications used to create word clouds, many other generators, such as Tagul, ABCya, or WordItOut (Mehrdad et al., 2016). Also, the Etwinning program is an innovative use of information and communication technologies is one of the priorities in the partnership projects of schools and kindergartens –

eTwinning. During the implementation of international educational initiatives, teachers, and students most often reach modern digital tools. The descriptions of winning projects in eTwinning competitions attract attention by the multitude of digital tools and applications. Thus, for example, in the Talking Pictures project, which won first place in the kindergarten category in simple multimedia applications used: WordPress, Paint, Windows Movie Maker, Photostory 3, Smilebox, Tripadvisor, Voicethread, PhotoPeach, Jigsaw puzzle, 123D Catch, Glogster, Padlet, Glossi, Skype, Doodle (Akdemir & Ayik, 2017).

Effective functioning in a dynamically changing world requires constant updating of knowledge, skills, and competencies, enabling adaptation to new living conditions. Critical skills in the 21st century include creativity and innovation, critical thinking, problem-solving, cooperation, autonomy, plasticity, and lifelong learning. However, in a world dominated by modern technologies, digital skills seem to be the most important, enabling the use of modern tools. They are actually the key to developing all of these skills. Teachers should be aware that the skillful use of digital tools from the first educational stage is a must because only in such an environment is it possible for students to develop the desired digital competencies. The digital solutions presented are just examples taken from the ocean of modern educational technologies. The multitude of various applications available on online resources and their educational potential encourage the use of digital solutions in early language education. Many applications are available without incurring financial expenses. The use of digital tools in language education allows teachers to help students develop both language competencies (Aramă, 2019).

Social Media Aided Language Learning (SMALL) Technological Innovations

Social media is another upcoming avenue for technology infusion in learning and teaching of different foreign languages. Social media is evolving as a multifaceted platform that

learners can harness to hone their Arabic language literacy, interactions with fellow learners and instructors. Rahimi and colleagues (2015) explored the student's perceptions of using Facebook social media in learning ASL. Rahimi and colleagues (2015) found that ASL enjoy learning via social media because of its interactivity and disrupted by pop-up notifications on mobile phones (Sari & Hasibuan, 2019). Albantani and Madkur (2017) explored YouTube's contributions which dominant mobile technology in ASL's learning and teaching. They found that YouTube is useful in Arabic instruction, considering that it has visual tutorials.

Sari and Hasibuan (2019) examined learners' perspectives regarding using social media aided language learning (SMALL) in Arabic. The results of Sari and Hasibuan (2019) found that some social medium platforms such as Facebook, Instagram, Twitter, and YouTube can support learning pages, handles, and channels, respectively, and translation features that help learners gain competency in learning Arabic. Muflikhah (2019) supported the use of social media to foster the learning of Arabic among foreign learners. A related study that focused on the use of WhatsApp on learning Arabic showed that the platform increases the efficacy of learning, student success, and interest in learning ASL because it is highly interactive (Ando & Setianas, 2017).

Although the findings above portray SMALL as a useful model for ASL pedagogy, Ando and Setianas (2017) noted that social media is highly interactive but not interactive enough to support foreign language learning alone. The scrutiny of the argument of Ando and Setianas (2017) reveals that researchers' underlying contention was that it requires the supplementation of other online techniques to harness the benefits of online learning and teaching of ASL fully. Au et al. (2015) also echoed such challenges noting that the use of social media in learning requires optimal supervision and monitoring to avoid learners diverting attention to the entertainment

aspect. According to Au et al. (2015), such learners must be encouraged to plan their social media use.

On the other hand, Palfreyman and Karaki (2017) inspected Arabic and English concepts as the main languages of pedagogic instruction in the UAE. Almekhlafi and Almeqdadi (2010) assessed teachers' perceptions of technology integration and how it can effectively teach ASL. Aburezeq and Ishtaiwa (2013) focused on WhatsApp's social media network and its impact on interaction in Arabic language teaching. In contrast, Alasraj and Alharbi (2014) examined the effectiveness of computer-aided technologies in teaching ASL. Similarly, Wahdah (2018) assessed the learning strategy concepts of Arabic and related issues while Baus and Costa (2016) evaluated second language processing issues and concepts. The following table 2.2 explains the result of the question, "What are the challenges of using WhatsApp as a mobile learning tool?" asked by Aburezeq and Ishtaiwa (2013).

Theme	FREQ	Percent
Expenses involved in WhatsApp use	16	23%
Extra work load	14	20%
Distraction to learning	12	17%
Lack of students' commitment for effective participation	11	16%
Lack of WhatsApp integration skills	8	12%
Small screens of mobile technology	8	12%
Total	69	100%

Table 2.2. Challenge of using WhatsApp as mobile learning tool (Aburezeq & Ishtaiwa, 2013, p. 174)

However, the changes in technology and its permeation in modern pedagogy led to the invention of technology that simplifies TAFL and learning ASL (Shehab & M Zeki, 2015). Alhumaid (2019) examined the perspectives regarding the infusion of technology in teaching and learning ASL in the UAE. The researcher investigated perspectives regarding the infusion, competence, and ease of learning and found that contemporary learners are accustomed to

technology in learning foreign languages due to its ease of navigation, customization, and independence. Learners can search for vocabularies and get their meaning in Arabic instantly (Alhumaid, 2019). The qualitative investigation concluded that technology was inevitable in TAFL and TASL. Al Musawi and colleagues (2016) also conducted a similar study that was to be part of the 3-year project to support the development of software for teaching and learning ASL.

Video Conferencing Technological Innovations

Video conferencing based online technologies achieve also improved teaching and learning (Albantani & Madkur, 2017). In support of the assertions above, Ghani et al. (2016) argued that a web-based application that supports video conversations improved ASL learning. Other researchers, such as Dai (2019), MacLeod and colleagues (2019), Al-Samarraie (2019), and Ting and colleagues (2018) also supported the notion that online video conferencing does support learning and teaching. However, MacLeod and colleagues (2019) found that the necessary infrastructure and high internet connectivity was required for this tool to be functional and effective in fostering learning and teaching outcomes.

The Role of Online Technology in Teaching and Learning During the COVID-19 Pandemic

A search of the scientific literature on using technology in teaching and learning during the COVID-19 pandemic obtained a few results. For instance, Bao (2020) studied the impacts of online learning during the COVID-19 pandemic using a case study of Peking University to demystify how online technology promotes learning during such times when in-classroom lectures are halted. Bao (2020) found that the adoption of online teaching was initiated as an emergency response strategy to the closure of schools, and its success was contingent on six basic instruction designs. Figures 2.10 and 2.11 below supports the above argument.
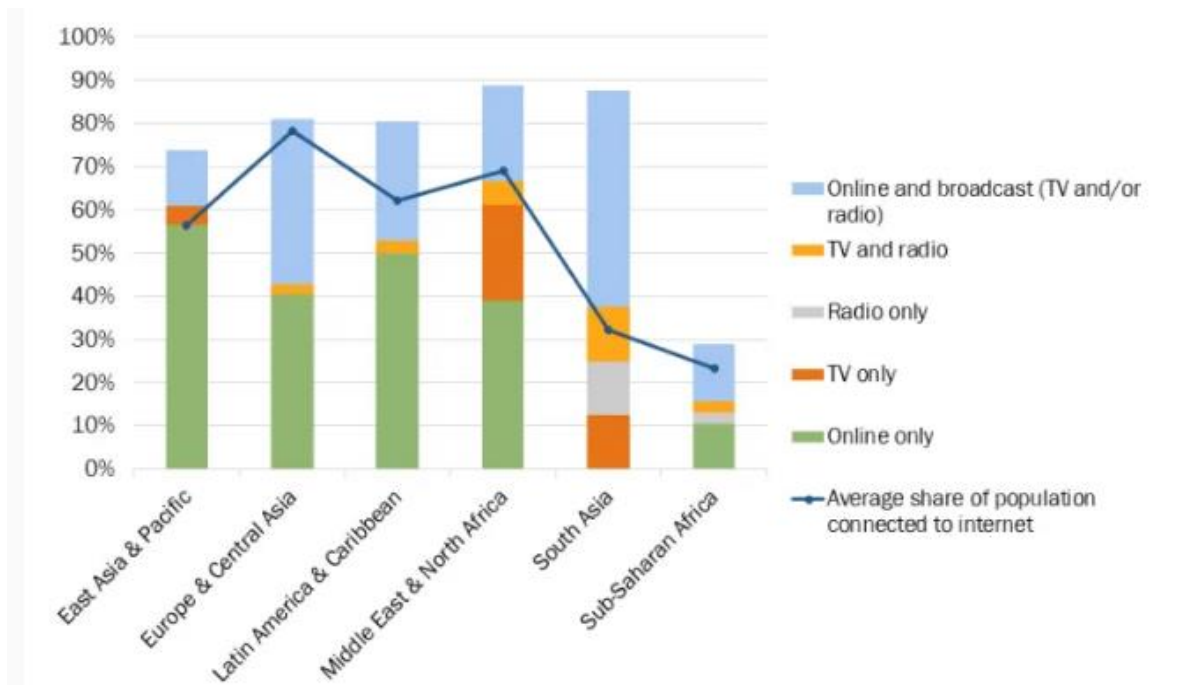
Figure 2.10. Share of countries responding to schools' closures with different forms of remote learning and teaching by continent (Vegas, 2020)

Bao (2020) argued that teachers and other stakeholders in the school must make emergency preparedness plans to deal with a surge in demand for online instruction. The second strategy involves categorizing content through the subdivision to enhance student attention and effectiveness in grasping the content, while the third involved gaining focus on voice-based approaches (Bao, 2020). Other strategies enumerated by Bao (2020) included supporting instructors with necessary infrastructure, strengthening active learning among learners, and combine offline and online technologies for optimal benefits. Bao (2020) concluded with a formulation of five principles essential for the adoption of online technologies during the COVID-19 pandemic, namely effective delivery, appropriate relevance, adequate support, high-quality participation, and preparation of contingency plans. Middle East, North Africa, and South Asia were leading in online learning and teaching during COVID-19. The high number can be attributed to the onset of COVID-19 in most Asian and Middle-East countries; thus, they had

more time to respond to the growing emergency than other countries where the virus spread

much later in March.
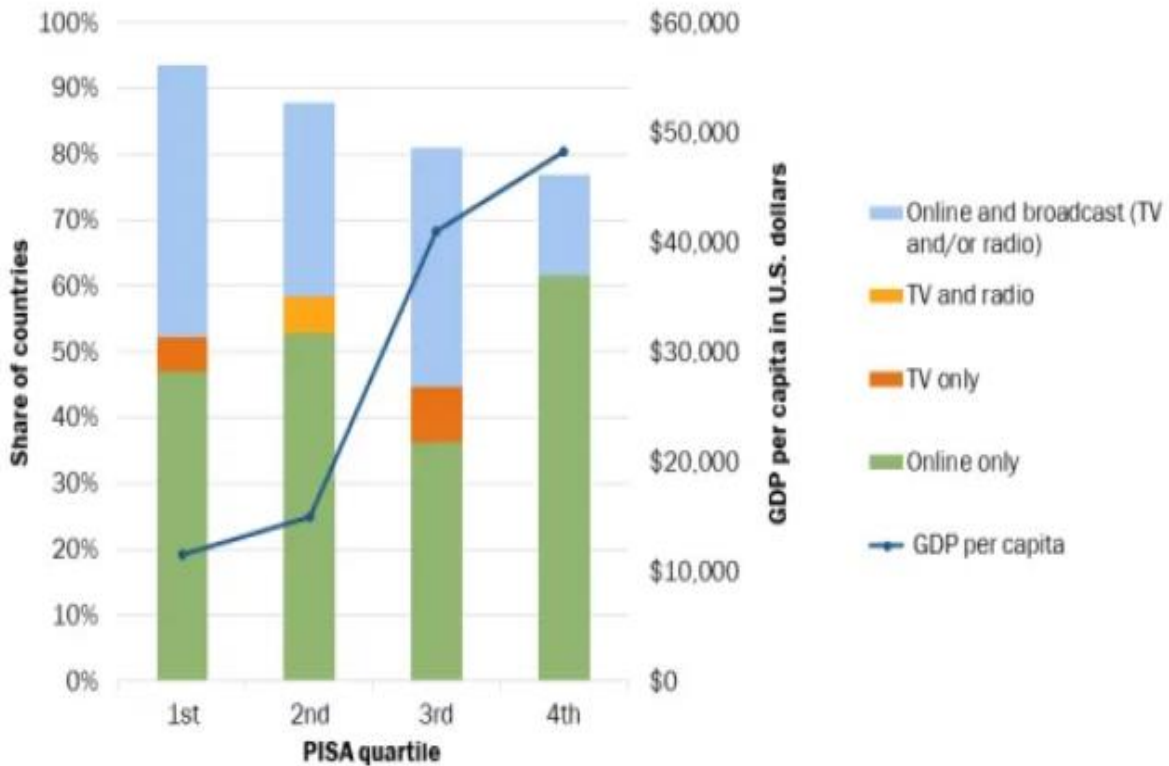
Figure 2.11. Share of Countries responding to the pandemic with different forms of remote teaching and

learning by GDP and student performance (Vegas, 2020)

The statistics in Figure 2.11 were based on a 2019 pandemic, and they suggest that online

learning and teaching would be the leading form of remote education during the COVID-19

pandemic considering it was the leading technological innovation used in teaching and learning

following school closures. The data show that social-economic factors impacted the adoption of

online and other innovations technologies in education during COVID-19. Figure 2.12 supports

the statement above that the income level of countries of the schools' population affects its

adoption of online income during the pandemic, and the data in Figure 2.13 showed that the

high-income level supported online teaching and learning.
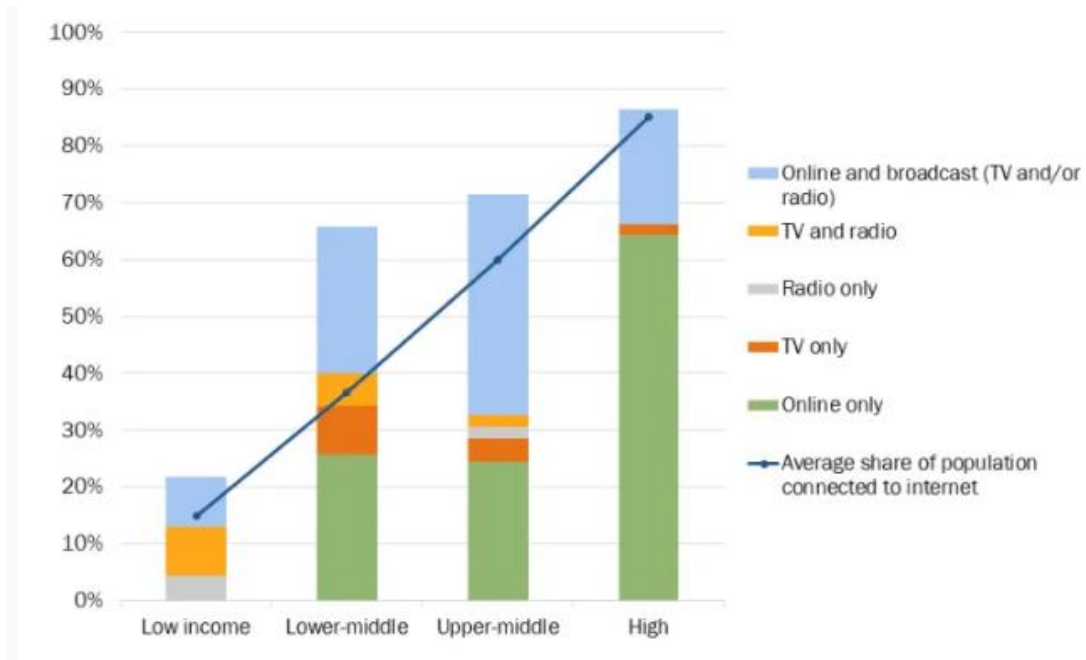
Figure 2.12. Share of countries responding to school closure with different remote education techniques

by social-economic status (Vegas, 2020)
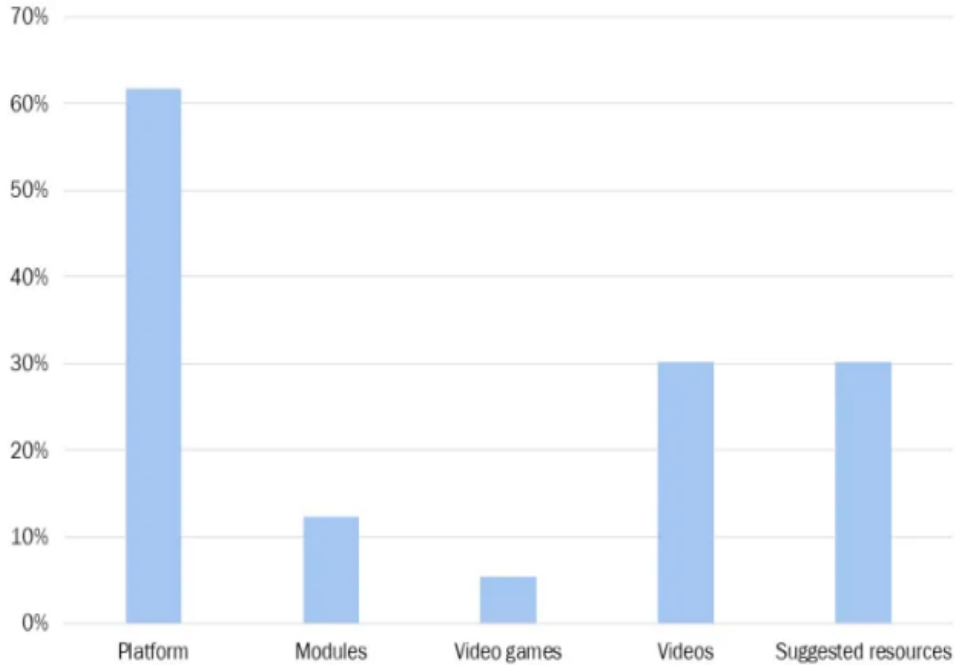
Figure 2.13. Share of countries using different forms of online teaching and learning resources/techniques

(Vegas, 2020)

Bao (2020) argued that teachers and other school stakeholders must make emergency preparedness plans to deal with a surge in online instruction demand. The second strategy involves categorizing content through the subdivision to enhance student attention and effectiveness in grasping the content, while the third involved gaining focus on voice-based approaches (Bao, 2020). He also suggests that other strategies are enumerated included supporting instructors with necessary infrastructure, strengthening active learning among learners, and combine offline and online technologies for optimal benefits. Bao (2020) concluded with a formulation of five principles essential for adopting online technologies during the COVID-19 pandemic: effective delivery, appropriate relevance, adequate support, high-quality participation, and contingency plan preparation. Vegas (2020) explored statistics on how different counties responded to education emergencies arising from school closure due to COVID-19 from an online and distance learning perspective.

The data in figure 2.13 affirmed that online platforms such as MOOCs are the leading technological innovations during the COVID-19 pandemic. A related study on how the Chinese education systems dealt with the education needs amid the COVID-19 disclosed that online technologies have been critical in supporting the "school's out, but classes is on" initiative that has been emulated widely across the globe. Reich and colleagues (2020) also explored online learning guidance during the COVID-19 pandemic. Reich and colleagues (2020) affirmed Bao (2020) above results in the assertion that the Chinese government faced massive challenges in keeping learning afloat amid massive closure of schools, but online technology replaced the conventional classroom-based lectures. Guo and Li (2020) found that teachers also required centralized guidelines on online teaching delivery as one of the strategies to keep learning afloat during the SARS-CoV-2 pandemic. Figure 2.14 showed that most teachers used online

technologies for communication without formal teaching due to a lack of supporting

infrastructure and training to facilitate formal teaching on the platforms.
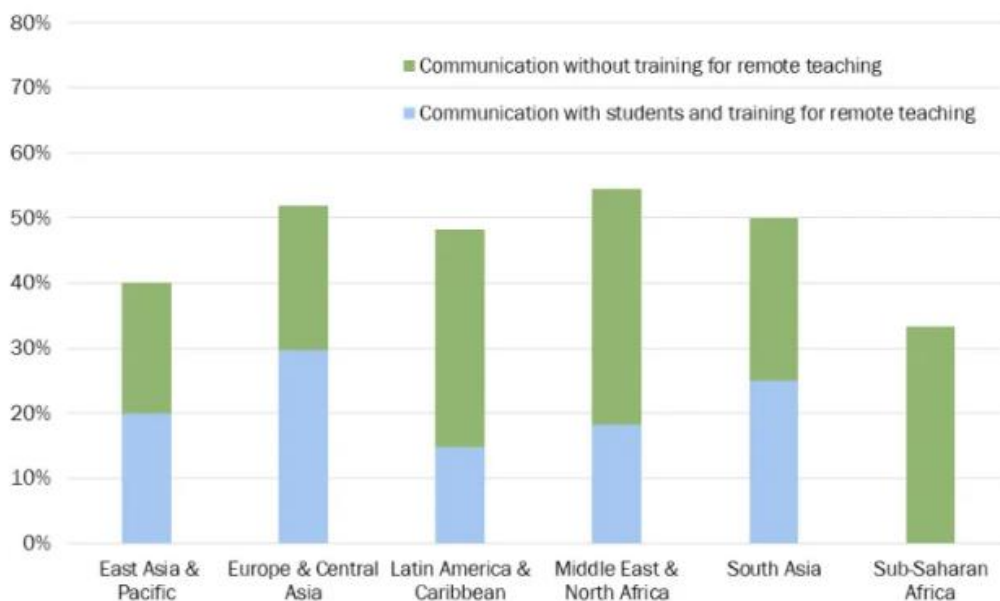
Figure 2.14. Share of countries providing official guidance and training to teachers for remote teaching by region (Vegas, 2020)

Figure 2.14 also supported Guo and Li's (2020) arguments that teachers' training and

guidance are critical in online learning, but most teachers were not trained or guided during the

COVID-19. Huang and colleagues (2020) found that online technology was one of the critical

solutions to the professional need for alternation forms of thing and learning following school

closure during the COVID-19 education crises. Advanced scrutiny of the rapid adoption of

online technologies in learning and teaching during the COVID-19 pandemic by Hodges and

colleagues (2020) aroused the contention on the differences between online and remote learning.

The contention was based on the trend that what was being witnessed globally regarding

the rapid adoption of online education technologies in February and March in 2020 was not

online learning but emergency remote learning (Hodges et al., 2020). According to Hodges and

colleagues (2020), online learning is more organized and takes time to plan and initiate than the

emergency remote learning witnessed during the COVID-19 pandemic. Thus, the researchers concluded that the quality of education offered through the mushrooming online learning during the COVID-19 pandemic might not match up to the quality provided when there are no pandemics (Hodges et al., 2020).

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Huang and colleagues (2020) found that online technology was one of the critical solutions to the adept need for alternation forms of thing and learning following the school closure during the COVID-19 education crises. Advanced scrutiny of the rapid adoption of online technologies in learning and thing during the COVID-19 pandemic by Hodges and colleagues (2020) aroused the contention on the differences between online and remote learning. The contention was based on the trend that what was being witnessed globally regarding the rapid adoption of online education technologies in February and March 2020 was not online learning but emergency remote learning (Hodges et al., 2020).

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Moorhouse (2020) found that online technologies during the pandemic have been adopted as synchronous and asynchronous teaching modes. Considering that cavernous challenges threatening the adoption of online technology in education during COVID-19, Gewin (2020) provided five guidelines for its successful implementation. The guideline supported collaboratives, interactivity, feedback planning for transition, and combining online video and audio techniques (Gewin, 2020). Nell and colleagues (2020) also explored the motivation of learners during the COVID-19. According to Nell and colleagues (2020), COVID-19 has been increasing the adoption of online technologies for learning and teaching, considering that teachers and learners still require to cover the syllabus and required material.

Nell and colleagues (2020) argued that COVID-19 presented challenges for the completion of the school year and thus teachers required further learning on online platforms. For instance, online classes which includes a social life on the site, which inspires students to be taught, are occasionally difficult for students to remain current, and assessments are challenging for students to review. Zhang and colleagues (2020) also supported online technology's criticality in supporting learning when classes have stopped. Zaharah and Kirilova (2020) also found that the COVID-19 virus pandemic has detrimental impacts on conventional instruction and learning, thus necessitating alternative avenues in line with mitigating the social distancing guideline COVID-19 contagion and spread.

The UAE government supports learning on the digital madrasa.org platform and thedigitalschool.org (World Bank, 2020). According to ITU News, "the United Arab Emirates announced on 22 March, a two-week distance learning initiative including all its students." Dubai schools had scaled up their online education and examination, as seen in the assertion of Burgess and Sievertsen (2020) that "many universities and colleges are replacing traditional exams with online assessment tools." Nasir (2020) and Sircar (2020) supported that the Dubai administration was heavily investing in online learning. According to Gulzar (2020), Dubai teachers embraced online teaching and supported learning online during the pandemic.

The literature on impacts of COVID-19 is emerging as the pandemic unfolds in different countries and the adoption of online technologies to support learnings following school closures. A search of the literature on the role of online technologies in learning and infrastructure of Arabic as a second language did not yield results. Considering that the COVID-19 pandemic is still unfolding, more literature on the subject is expected to surface during and after the epidemic

because online teaching and learning are in high demand globally following international schools' closures.

Motivating Students to Embrace and Adopt Online Technology in Learning ASL

Francis (2017) studied the impacts of technology on learners' motivation and engagement in classroom activities and found that students taught using technology-based approaches were more engaged and motivated than those who did not have technology infusion during instruction. Shadiev and Yang (2020) examined the impact of technology-based learning approaches on foreign language learning and found that technologies improve learners' motivation. Shadiev and Yang (2020) found that the learners' motivation level differed depending on the type of technology adopted and how old or interesting the technology was is the learning process. From a divergent perspective, Turnbull and colleagues (2017) found that music "technology" arouses learners' interest and motivation to learn foreign languages because it is captivating to learners.

Analysis of motivational factors and correlations with online learning of foreign languages by Zhang and Lin (2019) disclosed that autonomous motivations had more positive impacts on foreign language learning than controlled motivation. However, Escobar-Fandiño and colleagues (2019) found that a variety of other extrinsic factors affected motivation aspects. Results of Garcia and Jurado (2019) and Alshenqeeti (2018) stated that in addition to technology infusion, other critical external and internal factors affect the motivation for learning foreign languages. Saidouni and Bahloul (2018) found that MALL's use increases learners' motivation in learning EFL.

Hong and colleagues (2016) and Cheryl (2019) also supported that RALL technologies motivated learners to harness most of the capabilities to learn foreign languages. Findings of numerous researchers such as Bambirra (2017), Akbari and colleagues (2016), Panagiotidis

(2018), Ivleva, and Fibikh (2015), Guillén-Gámez and colleagues (2019), and Kopinska (2017) supported that technology increases motivation for learning foreign languages. For instance, Bouabdallah (2017) found that the use of twitter in learning Arabic as a second or foreign language increased the learners' motivation and engagement. Harandi (2015) found that e-learning approaches motivated students' engagement in foreign languages.

According to Lin and colleagues (2017), the desire to learn and motivations for adopting different online learning and teaching technologies is contingent on one's learning strategies. Motivating learners to embrace online learning depends on the teacher's ability to increase learners' participation in online activities and time management (Song & Bonk, 2016). Keller (2016) used an ARCS-V model to examine the relationship between technology, learning, and motivation and found that technology infusion increases motivation and improves learning outcomes. From a learner autonomy perspective, the discoveries of Liu (2015) and Calderón and colleagues (2019) revealed that online technology increased learners' motivation in foreign language classes.

Different ICT technologies support learners and engagement and motivation to learn foreign learners. Aleem and colleagues (2019) also found that the infusions of different online and offline technologies in teaching foreign languages motivated teachers due to numerous advantages of the methods such as high interactivity and ease of infusing knowledge to learners. Selwyn (2015) also found that teachers who used technology to motivate students increased learners' motivation significantly, suggesting that technology infusion in the curriculum is a critical determination of intrinsic learning motivation. Lin and colleagues (2017) examined the impacts of digital online learning technology on learning motivation and positively impacted learners' motivation. A notable drawback of the studies reviewed above is that they adopted a

myopic approach to the subject, considering that they supported technology in increasing learning motivation. The studies did not consider other detrimental impacts of the online technologies reviewed on motivation to learners, such as diverted attention and motivation other captivating aspects of the technology such as entertainment.

Furthermore, Mahdikhani (2016) examined motivation and its implication on the acquisition of foreign languages. According to Mahdikhani (2016), motivation is the driving force that propels learners to master new words. The examination of Anjomshoa and Sadighi (2015), Ordem (2017), and van Roy and Zaman (2015) also found that motivating learners and teachers boost their morale regarding the second language. Farhat and Benati (2018) examined the impacts of motivations on the acquisition of modern ASL. The researcher found that motivation creates an enabling environment for instructors and learners of ASL. However, the major drawback of the motivation arguments is that the approach advocates for comprehension of multiple behaviors and revives forces for actions using a single approach. Farhat and Benati (2018) explained that motivation is comprised of complex concepts and thus can be exhaustively examined under a single method or this study.

Lastly, because feedback can provide information about the progress of the goal, it has a significant impact on motivation. To achieve the best results, the feedback must be timely and constructive. Timely feedback refers to giving feedback immediately after the behavior or assignment is completed so that students can absorb feedback in the following activities. Constructive feedback is to clarify the advantages and disadvantages of behavioral performance and provide suggestions for subsequent actions (Olesova & de Oliveira, 2018).

One ensures that the standards and rules used to evaluate student assignments are fair in their execution. When the academic level assessment involves multiple raters (if there are

multiple teaching assistants), it is incredibly necessary to pay attention. The next task is to guide

students to view success or failure in the right way. To enhance students' sense of control over

behavioral outcomes and thus affect their expectations for success, teachers can teach them how

to attribute success or failure. Teachers should guide students to learn to attribute success to

proper learning strategies, good time management, and hard work (Olesova & de Oliveira,

2018).

Assessing Students' Progress and Performance in Online Learning of ASL

The findings reviewed above provided overwhelming support for the effectiveness of

online technologies' in improving foreign languages' learning and teaching. The results critically

reviewed above also supported the adoption of online technologies to teach languages and

increase learners' and teachers' motivation. Although adequate research supports the adoption of

online technology in learning, the assessment methods for performance and online language

progress remain largely a contentious issue due to the lack of standardized approaches. Martin

and Ndoye (2016) assessed the methods used to determine or assess students' success and

performance online.

Martin and Ndoye (2016) found that learning analytics can be used to measure

performance online. According to Martin and Ndoye (2016), online learning and teaching shifts,

the focus from quantifiable assessment means such as grades, credits, rankings, and markets to

the achievement of learning and teaching outcomes and acquiring the needed skills. Figure 2.15

illustrates the steps that Martin and Ndoye (2016) advocated in the learning analytics of

assessment of online success and progress.
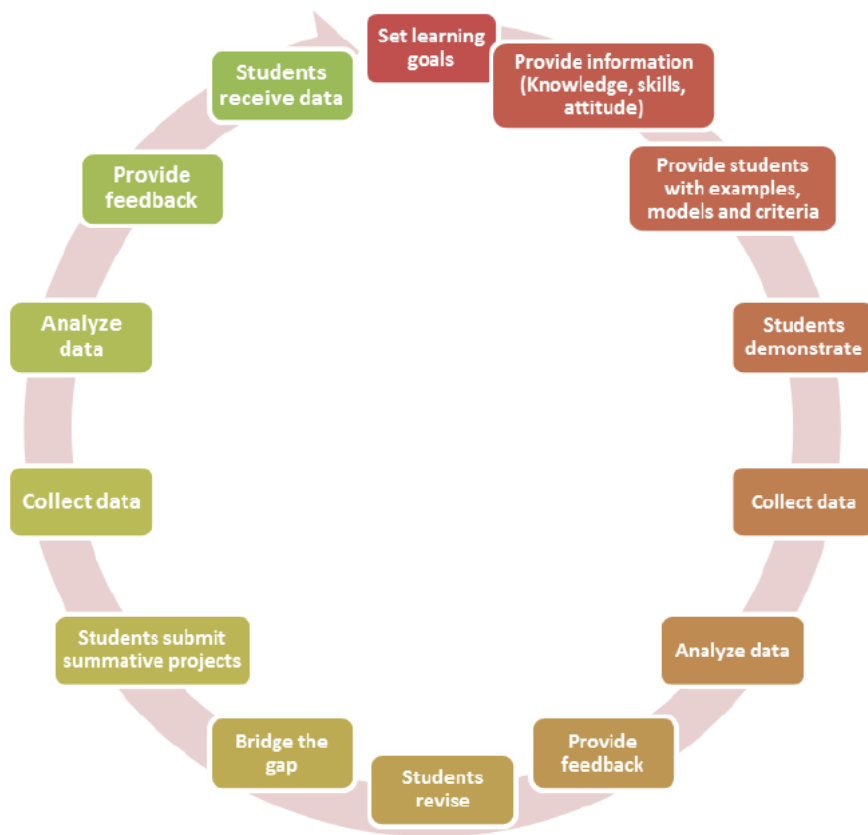
Figure 2.15. Formative and summative online assessment steps (Martin & Ndoye, 2016)

Muller and colleagues (2019) also supported that online learning mainly focuses on the

achievement of online learning and teaching account. According to Muller and colleagues

(2019), previous research studies supported that online learning and assessment should include

different assessments, such as self-tests, online discussion boards, peer assessment, projects, and

portfolios. they also argued that such formative assessment techniques should be supported by an

assessment's rubric that guidelines the learners to comprehend key learning outcomes that the

teacher will be looking for when assessing the work.

Learner-centered summative assessment prioritizes linking the content, often online

learning, to the assessment such that the teacher assesses the learner's ability to grasp the

concept, comprehension, and application of the concepts in other contexts. Cathorall and

colleagues (2018) asserted that hybrid online learning approaches required hybrid assessment models where several tools are combined to gain optimum insights on learning outcomes among learners. Ramsin and Mayall (2019) assessed whether the Thailand application on online learning for ESL examines online learning efficacy and found its increased student success. Self-assessment tools available online, such as time tests, helped learners assess their comprehension of different English language (Ramsin & Mayall, 2019). However, the study clarified that most teachers lack standard techniques and tools to assess learning and other progress in online learning of the English language. UNESCO (2020) expressed concerns over the fairness in the examination issues through online platforms during the COVID-19 pandemic when online education demand and capacity limits are put to the test.

The existing literature on assessment tools and strategies used by teachers in online learning showed limited scientific studies and tools and tools and how such tools can be used to administer examinations during the COVID-19. (James, 2020) examined how universities globally were administering examinations to their studies, especially those who completed their syllabus through the online option. The focus was on administering examinations remotely during the COVID-19 pandemic that led to schools' closure following social distancing directives. James (2020) noted that higher education instruction had administered different examination assessments and final examinations online following the COVID-19 pandemic's disruptions. Such institutions included Imperial College London, Oxford University, University of Cambridge, University of Bologna, University of Pisa, National University of Singapore, University of Technology Sydney, and Monash University (James, 2020).

James (2020) enumerated virtual classrooms, Janison, and video conferencing platforms such as Google hangouts, Microsoft teams, and Zoom to administer video-based assessments to

eliminate the cheating aspect. Sun (2020) emphasized that administering exams online during the COVID-19 is an elaborate affair due to the lack of strict invigilation aspects noted in the National University of Singapore cases where rampant cheating was witnessed following online examination. The students were reported to have shared answers that ended up plagiarizing each other's responses, amounting to cheating. The American University in Cairo (2020), in the guideline for assessment of AFL student's online advice, required teachers to use applications such as Google classroom, Quizlet, Kahoot, and WhatsApp to assess learners online during the pandemic.

Furthermore, there are applicable instruments to evaluate learning, including the objective test, interleaved questions, adaptive and self-adapted tests, essay tests, project, questioning, checklist, scales, rubric, portfolio, and concept map. An objective test is used less and less by the teacher to assess his students' learning. On the other hand, it is common in online distance courses, mainly because it provides to qualify in an automated way and structure parallel tests from a reagent bank. Interleaved questions are asked throughout the class in traditional teaching or texts in distance education. In both cases, they are used frequently, although, in the classroom, they are applied randomly, without planning, and an explicit objective. In distance learning, specifically online classes, they are planned, have a particular purpose, are painstakingly elaborated, and are pertinent. Adaptive and self-adaptive testing These instruments necessarily require the use of the computer. The first refers to the test in which the questions are presented to the evaluated according to their level of ability so that there are individualized tests (Doe et al., 2017). Besides Quiz Revolution allows teachers to create quizzes and multiple-choice tests. The revolutionary nature of this tool results from its multimedia potential. The material based on which the student's knowledge is checked can be text (e.g.,

stories), graphics, and even a film. This is an example of an application that integrates pictures, sounds, and words. This form of testing students' knowledge certainly makes traditional paper tests unattractive. Storybird, ZooBurst, or Myebook belong to the category of tools used to create stories or comics online. Wordle, Tagul, ABCya, or Tagxedo can be qualified for the group of programs used to create word clouds. In early childhood language education, it is also worth using other applications, e.g., for creating photo galleries, slide shows or films, programs for creating online presentations, and programs for drawing and editing graphics (Saglam & Arslan, 2018).

Synthesis of Key Research Gaps Noted During the Review

A thorough search of the literature in different databases and archives revealed insufficient literature on online learning assessment methods during COVID-19. The existing sources advocated for various techniques that ranged from self-supervised tests, timed tests, and projects. The currently available techniques are neither reliable nor standard tools because they allow learners to consult widely on possible solutions or answers. For instance, a self-test administered online allows learners to search for answers online. While these fosters learning eventually, it is not reliable in critical assessment tests such that transitions examination one level of education to another that requires close supervision to avoid exam cheating.

The few studies that attempted to use online learning assessment tools also revealed that the tools mentioned had not been explained on how they should be administered. They were briefly mentioned. Another research gap in this dimension is the inadequate illumination of how technology can assess learning performance online or when such assessment should be given to learners in person. The reviewed findings yield no clarity on how the tools can be utilized to measure learners' performance in online learning of languages.

The reviews also identified a research gap on technology applications' negative impacts to motivate online learning students. The material reviewed above disclosed overwhelming support for technology in motivating foreign language learning but failed to highlight technology's negative impacts on motivations. In this study's concepts, the review material showed research gaps in applying online learning and teaching technologies during COVID-19. Another gap salient in reviewing online technologies applications in ASL instruction and learning during the COVID-19 pandemic. The existing literature does not offer insights on assessment strategies to use amid the rapid adoption of online learning and instruction technologies in ASL during the pandemic. The extant study seeks to address some of the research gaps above.

Theoretical Review: Theories of Second Language Acquisitions

The motivational and online technologies theoretical postulation of extrinsic and intrinsic motivations guided the study. Although there are many motivational theory tenets, the intrinsic and instinct tenets illumine this study. The instinct theory of motivation is critical in understanding the growing demand for online learning, where motivation is viewed as a resultant force essential for survival (Gopalan et al., 2017). The theory applies to this case because it helps comprehend how learners are motivated to adopt online learning because of the COVID-19 emergency and the need to continue learning. However, Hartnett (2016) explained that learners must have an intrinsic force to embark on online learning when learning has been paralyzed globally despite the intrinsic or extrinsic factors. In support of Hartnett (2016), Widjaja and Chen (2017) asserted that SDT, intrinsic, extrinsic, and ARCS tenets of motivation are fundamental in understanding how learners are motivated by personal and external factors during COVID-19 to embrace online learning and teaching of ASL.

COVID-19 pandemic has disrupted learning in most institutions globally and brought learning to a halt in schools that do not have online learning modes. Intrinsic motivation is the fundamental force that keeps students encouraged to study through other means after schools are closed. Legault (2016) explained that intrinsic motivation encourages one to work hard to achieve specific life goals. Challenge, curiosity, fantasy, competition, cooperation, control, and recognition drives the initiative to engage in different endeavors to achieve something (Singh, 2016). The challenge factor of intrinsic motivation in learning confers that learners are continuously encouraged to achieve some goals that require optimal learning efforts. The challenge factor of intrinsic motivation is the force that drives learners to get increases the effort input in learning even in circumstances that generally would encourage one to rests or take a break from learning.

Although intrinsic motivation depends on the learner's internal factors, Kazakova and Shastina (2019) argued that the learners' social factors influence the forces that drive intrinsic motivation for learning. Jung (2018) also found that learners' intrinsic motivation can impact the English language's achievement learning outcomes. Czeropski and Pembrook (2015) explored the intrinsic motivation theory extensively, and their results support the conclusion that motivation factors spur achievement of learning outcomes. Czeropski and Pembrook (2015) also argued in cases where learning circumstances and scenarios changed, and intrinsic motivation keeps learners encouraged to achieve their learning goals amid the unfavorable scenarios.

Fischer and colleagues (2019) added that fundamental forces' intrinsic motivation compels learners to develop creative and innovative learning methods during such circumstances. Contrary to the dominant perceptions that extrinsic and intrinsic motivation encourage online learning, Lin and colleagues (2017) found no correlation between an online

learning encouragement, intrinsic and extrinsic learning. According to Orvis and colleagues (2018), factors in the external environment also affect learning motivation. Such factors could be technological issues, social-economic, socio-cultural, or political factors. The fundamental aspects of extrinsic motivation theory help explain how comprehending external factors can encourage or discourage learning.

Gordeeva and colleagues (2017) and Huo (2019) found that extrinsic motivations improved learning. The extrinsic motivation theory postulations are fundamental because they will help understand how external learning environment factors impact learning. COVID-19 is a critical external factor that disrupts learning. The extrinsic motivation theory will help comprehend how the school closures and COVID-19 guidelines on education drive online learning and teaching. The theoretical postulation of intrinsic motivation theory is critical in this study because it illuminates the driving factors that encourage learners to seek alternative learning modes in the online space. The increases in demand for online learning depicts that although learning has been disrupted, learners are willing to continue learning. The intrinsic and extrinsic motivation theory explains the forces behind in growing demand for online education and teaching.

Conclusion

Online education platforms are evolving as multifaceted tools that learners can harness to hone their Arabic language literacy, interactions with fellow learners and instructors. Technological innovations in learning and teaching foreign languages include CALL, SMALL, RALL, and MALL. The findings reviewed above provided overwhelming support for online technologies' effectiveness in improving foreign languages' learning and teaching. The results critically reviewed above also supported the adoption of online technologies for teaching

languages, increasing learners' and teachers' motivation. Although adequate research supports the adoption of online technology in learning, the assessment methods for performance and online language progress remain largely a contentious issue due to the lack of standardized approaches. There is inadequate scientific research on the application of online learning during COVID-19, motivations impact, and ways of assessing students' progress online, considering that the pandemic was still ongoing, and new information about the pandemic is emerging.

Chapter Summary

The concept of online teaching and learning ASL is discussed, and its importance in continuing education during disrupted learning times, such as pandemics, is illuminated. Competence in the Arabic language is fundamental in Dubai, considering that it is a primary language of communication, business, tourism, science, and innovation. Although globalization and social proliferation have positioned English as the contemporary language of communication, the Arabic language has been growing as the Dubai population diversifies through increased immigration. However, the rapid spread of COVID-19 had disrupted the conventional learning and teaching program for learning ASL, thus completing stakeholders to implement only education using technologies such as CALL, SMALL, and MALL. The online teaching and learning approaches above are critically examined. The chapter also reviews findings on ways of motivating stakeholders' sot to embrace online teaching and learning and ways of assessing learning progress online. Additionally, the literature on challenges and the solutions is reviewed. The chapter culminates with the review of second language acquisitions and a summary of key research gaps identified through the review.

Chapter 3: Theory and Methodology

Chapter Outline

This segment describes the theory and methodology aspects of the study. The chapter has two main sections, namely theory and methodology. The chapter explains the interpretive theory and its main concepts. The theory subsection also explains how the interpretive theory helped the researcher in formulating the research question and assumptions. The researcher explains four research approach aspects. The research explains the epistemology and ontological assumptions proposed for the study. The segment describes the interpretivism philosophical paradigms, inductive reasoning, and theory formulation approach of the study.

Additionally, the researcher justifies the choice of interpretivism and inductive approaches. The segment also explains the qualitative design, its rationale, and the technique of data gathering. The chapter further describes the design and nature of the questions posed to the respondents. The population and the location are described and justified. The investigator also describes the sampling technique, procedures, and the final number chosen for the study. The investigator also describes the ethics aspects of the study to illuminate the concept that the researcher followed. Lastly, the segment has a summary of the entire segment.

Theory

Theories are critical in explaining and comprehending the research phenomenon. Theories equally critique existing hypotheses by examining the rationality of the concepts and suppositions propagated (Abend, 2013). Theories also advance existing assumptions and knowledge on a phenomenon within the confines of critical bound ideological beliefs. A research study ought to have a theoretical framework that explains the theoretical concepts and assumptions regarding the study subject, philosophical ontologies, and epistemologies regarding

the researcher's worldview of the subject (Abend, 2013). Therefore, this section will discuss the theoretical concepts guiding the researcher in this study.

Interpretive Theory and Definition of Main Concepts

The study assumptions, questions, and hypotheses of this study are developed in the guideline of interpretive theory. An interpretive theory emphasizes the importance of meaning deduced from different dynamic experiences, which are then interpreted diachronically or synchronously with other related perceptions (Bevir & Rhodes, 2002. From a synchronic perspective, interpretive theorists examine human behavior based on a collection of historical happenings or personal experiences (Nazri et al., 2019).

Synchronic perspectives of interpretive theory identify meanings in different contexts and patterns that enable a researcher to explain how such meanings fit in the subject phenomenon (Abend, 2013). The diachronic perspective of interpretive theory examines a nexus of meanings over time to illuminate how different events happenings or situational agents modify the perspectives in different contexts. A significant perspective in interpretive theory is its orientation that knowledge and acceptable truth are founded on the tenets of social reality, human behavior, and shared meaning (Littlejohn & Foss, 2009).

Based on the concept above, interpretive theory in the research context can be defined as ontological, axiological, and epistemological ideologies concerning comprehending how people interpret their daily experiences, communication, and environmental stimuli to create useful meanings within a social reality context (Gephart, 2017). The essential interactive theory supports that people create meaning from their actions, behavior, and perceptions interpreted within a social realism context (Littlejohn & Foss, 2009). Deductively, the interpretive theory

holds that knowledge of reality is contingent on the social interpretation of persons and community lived experiences, cultures, and behavior.

The interactive theory utilized in this study will have four ideological influences on research and perspectives regarding how data will be collected, analyzed, and interpreted. First, an interpretive theory is broad such that it will allow the researchers to rely on this theory to understand a phenomenon and attempt to locate their perceived meaning with a broader linguistic, social, cultural, and ideological context. Secondly, an interpretivist theory will help the investigator to create meaning and formulate acceptable truths from interpretations of respondents' explanations of behavior, perceptions, and lived experiences.

Third, the interpretive theory urges the researcher to scrutinize texts, graphics, symbols, codes, and rules that they rely on to convey meaningful knowledge and conclusions. Lastly, interpretive theories look at research as the philosophy-oriented body of knowledge that relies on the interpreted meaning of experiences and environmental stimuli (Littlejohn & Foss, 2009). Interpretive theory subscribes to constructivism tenets that people behave in a specific way based on the contextual social constructs such as social beliefs and ideologies and perceptions; as such, their behavior and experiences can be interpreted socially (Parsons, 2010).

Interpretive theory approach in research can be traced to Max Weber's philosophical construction and arguments on "verstehen," a German word that translates in English as "to understand" (Crossman, 2019). Max Weber's perspectives of sociology inform the interpretive theory in seeking meanings of research subjects in the different social constructs. Weber formulated the interpretive ideology because he recognized the deficiency in Durkheim positivist tenets that seeks to view science as a combination of statistically verifiable empirical and quantitative evidence (Crossman, 2019).

According to Crossman (2019), Weber and his contemporary counterpart Georg Simmel realized that positivist perspectives did not adequately assist in understanding social phenomenon and meaning derived therefrom. In response, Weber propagated an ideology that social phenomena should be explored from the viewpoint of those who have experienced them or involved in the phenomena. Weber metaphorically examined this theory as a one that supports researchers to put themselves in the shoes of persons who have experienced the social phenomenon they are studying and see the world from their perspective (Crossman, 2019).

Correlation of Interpretive Theory and Research Methods

As opposed to positivism theory that focuses on objects or data to understand a phenomenon, the interpretive theory focuses on subjects or persons with lived experiences (Porter & Robinson, 2011). In the context of research, interpretive theory supports that researchers should work to understand how the phenomena under scrutiny construct social reality through the meaningful interpretation of their behavior (Crossman, 2019). Approaching research subject from an interpretive perspective means that researchers must embed themselves in the lives of their subjects either practically through participatory research or partially to understand the study subject from the subject perspectives and experiences.

Researchers guided by an interpretive theory seek to make sense of their study phenomenon through perspectives, beliefs, social norms, experiences, and bound social interpretations of the participants (Abend, 2013). An interpretive theory, therefore, collects qualitative data rather than quantitative data as in positivist approach (Levers, 2013). An interpretive theory argues that research approaches the study subject from different socially bound assumptions that support the ideology of reality is subjective to the researcher 's interpretations to respondents' perspectives of the subject of investigation (Clarke, 2019).

Adopting an interpretive theory means that a researcher ought to ask different questions, use different methods and approaches of collecting data to answer the socially embedded research questions as opposed to the conventional positivism approach where empirical and quantitative data are needed (Levers, 2013). According to Crossman (2019), interpretive theory supports interpretive researchers to adopt focus group discussions, open-ended interviews, and ethnographic observations to collect qualitative data on perspectives and meaningful interpretations of the subject's experiences and behavior.

Connection of Interpretive Theory with Motivations Theory

The interpretive theory perspectives connect with motivation theory on the dimension of understanding personal factors and social constructs that cultivate motivation in learners and teachers to embrace online technology for learning and instruction. The COVID-19 pandemic is a unique time for learners and teachers globally, considering that the education sector has been detrimentally affected by school closures. Learners and instructors were encouraged to stay at home and keep social distant as the primary containment measures of COVID-19. Looking at these developments from a broader perspective, learners at home are highly likely to stop learning or get distracted by numerous social activities.

There are cases of students and teachers that have embraced online learning and teaching at a time when there is the global widespread of learning and teaching being stopped. Therefore, from a motivational theory underpinning, such persons have intrinsic or extrinsic factors that influence them to embrace online learning and instruction. An interpretive theory perspective in this research will support the researcher to explore this phenomenon from the learners' and teachers' perspectives.

The interpretive theory will help to understand why they embrace online technology at such a time when most learners and teachers have taken a break from learning and teaching, respectively. The interpretive theory will help the researcher to connect the motivation theory perspectives in comprehending online instruction and learning phenomena from socially bound interpretations and deduction of meaningful conclusions on the phenomena. Examining the qualitative data subjectively will be fundamental in formulating meaning interpretation of the phenomena through understanding it from the perspectives of learners and instructors that experienced online teaching and learning.

The Role of Interpretive Theory in the Formulation of Research Questions and Hypotheses

Understanding how interpretive theory helps researchers formulate questions and hypotheses requires one to interrogate the interpretive epistemology and ontology. Ontology explores the nature of reality, where researchers ask questions and seek answers to address the questions. According to Berryman (2019), an ontology encompasses knowledge that is independent of research and exists externally, while epistemology encompasses how researcher uncovers the external knowledge to construct a subjective reality. Edirisingha (2012) explained that epistemology pursues the question of how a researcher knows what is right and how can he or she can differentiate acceptable truths from untruths? Under the interpretive theory, an ontological disposition is that the nature of reality is multiple, subjective, and relative to the subjects' interpretation of socially constructed meanings.

Positivist ontology, a significant critique that holds that reality is objectively determined questions the interpretive ontology and epistemology adoption of flexible and personal research methods based on its subjective nature (Berryman, 2019). However, such flexibility and subjectivity allow an interpretive researcher to experience what they are exploring and

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participate in the creation of meaning together with the subjects. Therefore, this approach

requires asking open questions that do not confine the reasoning, descriptions, and interpretation

of the participants regarding the phenomena. The resultant data from this process is usually

qualitative in nature (Thorne et al., 2015).

Theoretical Framework
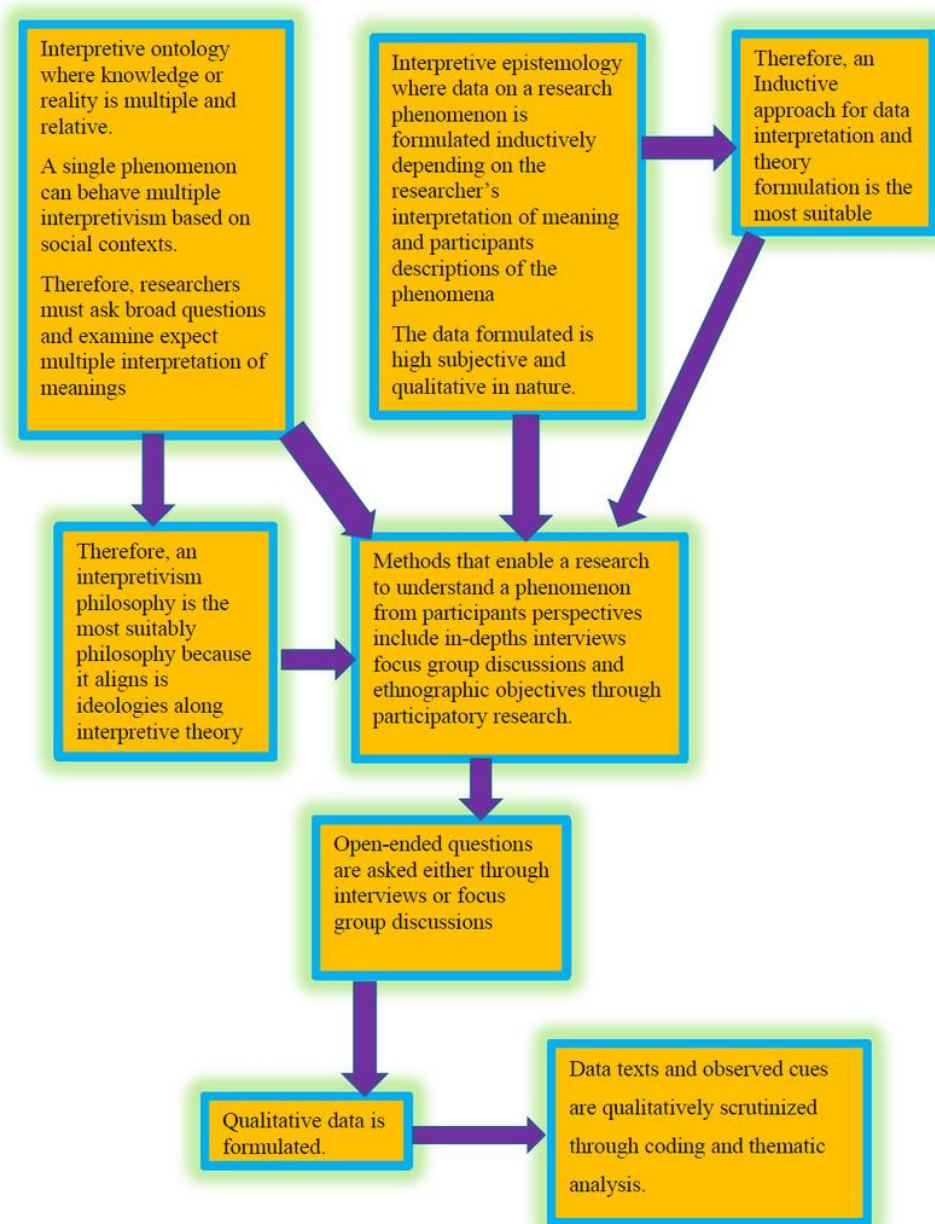
Figure 3.1. Theoretical Framework

The theoretical framework sums up the interpretive theory underpinnings, interpretive influence in methodology choices, and aspects of testing them for this study, as shown in figure 3.1. The theoretical framework diagram illustrates how different theoretical perspectives are related to each other and how they influence the methodology choices made in planning for data collection, analysis, and interpretations of the findings. The framework illustrates how an interpretive theory guides a researcher in making decisions on appropriate research designs, instruments, nature of data, and analysis techniques. Figure 3.1 illustrates how the researcher utilized an interpretive theoretical underpinning to choose a qualitative design, inductive approach, and thematic analysis.

Methodology

Research Approaches

Epistemology and Ontological Philosophies of the Study. Epistemological and ontological perspectives demystify the design of the study since the two aspects form the fundamental distinction between quantitative and qualitative approaches (Alam, 2019). According to Al-Saadi (2014), ontological perspectives elucidates perspectives of reality and the interpretations of human beings regarding the perceived reality. The interpretivist world view came to existence through the critiques of natural science as models of scientific research (Dewar, 2016). The dissenting opinions to positivist paradigms argued that knowledge is derived through unconscious and conscious research work. Klakegg (2016) added that the interpretivist approach involves a subjective quest for information through professional and scientific research.

Interpretivist paradigm explains phenomena and why such things happen through a subjectivist ontology where people are viewed as inquisitive beings always in search of more knowledge on why things happen in a specific manner (Berryman, 2019). Brown (2017)

supported epistemology assumptions in research in the argument that they explain the constituents of knowledge and means of acquiring knowledge through research. Epistemology and ontological philosophies are inevitable in research since they describe the perspectives of researchers and motives for conducting the specific investigation (Ejnavarzala, 2019; Prelevic, 2019). However, Kukla (2015) was concerned about the scoping aspects of the two elements in the argument that one cannot consider perspectives of the world and interpretations without considering what knowledge is and ways to acquire it.

Kukla's (2015) main argument was that it is difficult to separate the two concepts since they are interrelated. Don-Solomon and Eke (2018) also supported the above case citing the dilemma involved in using, describing, and justifying the two. Don-Solomon and Eke (2018) also argued that the epistemological and ontological perspectives of the research are related. However, Prelevic (2019) differed in their contention that the two aspects are not related since they have different implications on the information gleaned. Despite their salient differences, the two perspectives are complementary in achieving quality research outcomes. Notably, following a thorough consideration of the intended nature of the study, the researcher will use an interpretive research paradigm. A justification for the choice is presented in the subsequent subsegment.

Justification for Interpretivism Paradigm. Demystifying aspects of ontology and epistemology are fundamental in this study because they illuminate the perspective of knowledge acquisition, world views, and philosophical stances regarding social science research. The current investigation is social science research in nature. Therefore, it is crucial to comprehend philosophical perspectives regarding online teaching and learning of ASL online during the

COVID-19 pandemic. Besides, it is suitable for undertaking social learning processes such as teaching and learning of foreign languages online.

In line with Dai and He's (2017) perspectives, an interpretivist epistemology finds logical explanations or reasons for the subject under scrutiny. The study aimed to find out the challenges facing the learning and teaching of ASL online and the solutions to the problems. Therefore, based on the primary purpose of the investigation, the interpretivist paradigm is the most suitable approach for the elucidation of teaching and learning ASL online in Dubai during the COVID-19 pandemic.

Reasoning and Theory Formulation Approach and its Justification.

The theory formulation and reasoning approach adopted in this study will be an inductive approach. Berryman (2019) explained that an inductive approach and qualitative design underpin the interpretivist paradigm. The inductive reasoning and theory formulation approach supports the formulation of conclusions from the data collected (Bacon, 2018). The findings in inductive approaches are probable, considering that they are derived from the data gleaned and analyzed.

The investigators start with theoretical assumptions regarding the subject of inquiry, collect data to examine the subject, and afterward make a conclusion based on the findings of the investigation (Azungah, 2018). Bacon (2018) added that inductive reasoning is associated with qualitative designs since they do not have hypotheses for validation through research but use data to formulate novel hypothetical assumptions. Besides, the inductive approach is justified since it harmonizes the interpretivist epistemology and ontological stances.

Research Design, Strategy, and Justification. The investigator chooses a suitable research design for the interpretivist and inductive approaches selected for the study. The researcher chooses a qualitative case study design since the subject of this investigation is a

social problem that required examination before any conclusion on challenges facing teaching and learning ASL. A qualitative approach relies heavily on comprehending the subject in the study's social context (Rahman, 2016). Gaus (2017) explained that design selection should be aligned with other methodological approaches such as philosophy, method, instrument, theory formulation, and reasoning.

Hammarberg, Kirkman, and De-Lacey (2016) explained that a qualitative approach is suitable for a study that examines perspectives and social phenomena from the respondent's experiences or viewpoints. Rahman (2016) and Savela (2018) also explained that qualitative designs are suitable for exploring social aspects through others' experiences. A case study strategy is justified because the study will examine teaching and learning ASL online in Dubai.

Research Method and its Justification. Quinlan, Babin, Carr, and Griffin (2019) noted that differing arguments and definitions characterize research methods discourses. In some cases, researchers such as Bell, Bryman, and Harley (2018) refers to designs such as qualitative, quantitative, or mixed as the methods while some researchers such as Drake, Rancilio, and Stafford (2017), discuss methods as the instruments used to gather data. In this context, the research methods refer to the tools used to glean data from the participants. Notably, the researcher used interviews to glean data from respondents. Rosenthal (2016) and Alshenqeeti (2014) explained that interviews are suitable for qualitative methods since they explore experiences and allow extensive examination of the subject under scrutiny. Therefore, interviews are justified because the investigator aims to glean data on teachers' and learners' experiences and perceptions of teaching and learning ASL online during the COVID-19 pandemic.

Research Instrument Design. The design of the instrument determined the nature of data gathered, reliability, and validity of the data. The research used open-ended interviews. The

study will scrutinize the research question to ensure they are standard, not misleading, or infringing of the respondent's privacy. The investigator will not ask any ambiguous or disrespectful questions. Jamshed (2014) explained that in some cases, interview respondents could lead to a series of off-book questions that pertain to the investigation due to the nature of the responses given. Kallio, Pietila, Johnson, and Kangasniemi (2016) supported the above assertions in their recognition that some responses may be unclear or lead to more probing as the interviewer seeks further comparison and comprehension of the phenomena or subject under investigation.

Therefore, the interviewee will ask probing questions if the answers given to the previous question are unclear or arouses interest in a subject pertinent to the investigation. A quality interview design will ensure that interviews are interactional and avoid a monotonous nature where the interviewer asks, and the interviewee answers all through the data collection process (Wang & Zhu, 2015). According to Wang and Zhu (2015), interactional interviews allow interviewers to seek clarification regarding questions they did not understand. Therefore, the investigator will ensure that the interview process is not only standard but also interactive during the actual interviews.

Study Location and Population. The researcher will examine the teaching and learning of ASL online during the COVID-19 pandemic in Dubai. The study of online teaching and learning of ASL is suitable in Dubai because it is a growing multicultural and multilinguistic cosmopolitan city with an increasing demand for ASL among immigrants and locals who speak colloquial Arabic. Thomure (2019) examined the Arabic language systems in Dubai and the broader UAE and found that the demand for Arabic is increasing among immigrants and locals who speak other languages. Therefore, the blend of the learners in Dubai provided a suitable

location and population for examining the practices of teaching and learning ASL. The study population will comprise of teachers and learners taking ASL online in Dubai.

Online learning in Dubai is enjoying massive support from the government during the COVID-19 pandemic. Therefore, the number of learners and students and teachers of online ASL has increased over time, thus making the population large. Considering the impracticality of collecting data from all the population members, the researcher will sample a small number to represent the population of online teachers and learners of ASL in Dubai online during the pandemic. The sampling procedures and the target sample size is described in the subsection below.

Sampling Technique, Procedure, and Sample Size

The number of learners taking ASL online is high, considering that the government supports online learning and teaching in Dubai as response measures in promoting education during the COVID-19 pandemic; thus, it is impractical to investigate all due to resources constraint. Notably, the study will adopt a qualitative sampling method since the study is qualitative. The investigator will combine purposeful and convenience sampling. Benoot, Hannes, and Bilsen (2016) explained that although the purpose and convenience sampling are different, they are complementary in choosing a reliable and large enough sample size. The convenience sampling is appropriate since it will enable the investigator to choose participants who will be reachable due to resource constraints.

Additionally, the purposeful sampling is appropriate as it will allow the investigator to choose participants who will provide useful information regarding the study. The investigator will choose a sample of 20 interviewees where ten will be learners taking ASL, and ten will be

teachers of ASL. As a teacher and head of the Arabic department, the researcher will have access to the teachers and students taking ASL online.

The website of the private schools will provide fundamental data to contact the schools' online remote activities through phone calls and emails to request the authorization to interview their students regarding their online learning. The school's cooperation will be fundamental in making primary contact with potential respondents as it will provide contacts to help in accessing potential participants for the invitation to participate in this online research. There will be equity in selection because all schools are providing online learning through the support of the government. The researcher will not influence the respondents.

Data Collection and Recording Procedures

The investigator will use interviews to gather data. The interview procedures will be as follows. The researcher will approach the potential respondents through email or a phone call and establish a rapport. The investigator will then explain the intentions to interview the respondents regarding the teaching and learning of ASL in Dubai. The investigator will subsequently request the respondents for time to explain more about the study. The researcher will give the potential interviewer a consent form that will explain all aspects of the study, such as confidentiality, privacy, potential harm, intention to withdraw, and other aspects of the study.

The process of getting informed consent from the respondents explains all risks, benefits, or implications that may befall the interviewees should they chose to participate (Manti & Licari, 2018). Once the respondents give consent to participate, the researcher will request them to choose an online conversation or video conferencing platform and a suitable time for the interview. The researcher will interview respondents online through four online video platform technologies, namely Google Meet, Google Hangouts, Skype, and Zoom. The interview

discussions will be recorded using a digital phone recorder and later transcribed for further scrutiny.

Data Analysis Methods

The investigator will use a thematic approach to analyze data. First, the researcher will code the data to ensure that patterns and themes are identified and thus formulated. The researcher used an open coding technique to identify close relationships and patterns in the data. The preliminary codes will help identify crucial information. The preliminary codes will later formulate final codes that will constitute the study themes. The researcher will use the final codes to come up with themes from which the data will be discussed. Elliott (2018) explained that the thematic approach relies on coding for data analysis and discussion. The investigator will then discuss the online teaching and learning of ASL in Dubai under the themes formulated through open coding.

Data Reliability and Validity

Validity aspects examine the extent of the study in examining the subject intended to be examined (Noble & Smith, 2015). Dikko (2016) also added that reliability is critical since it is the basis upon which the findings are assessed for application in other contexts. The validity discussed, in this case, is the validity of the interviews in examining the teaching and learning ASL online in Dubai. In brief, validity ensures that the researcher is measuring what they intend to measure. Leung (2015) examined the reliability, generalizability, and validity in qualitative research and asserted that they are the fundamental basis of research. Findings must be reliable, valid, and generalizable. The investigator will test the interview questions to ensure that they are reliable in examining the subject. The researcher will avoid ambiguity in questions. The researcher will also ensure that the university research committee authorizes the interview

process, and the respondents will consent to the interview to ensure that the research findings are authentic and rational.

Ethical Considerations

The study had numerous ethical considerations since it involved the collection of data from human subjects. First, the prime ethical consideration revolved around informed consent. According to Ryen (2016), research tenets advocate for divulsion of all related information to the participants before participation so that they comprehend the study and make an informed decision regarding their intended participation. Oye, Sorensen, and Glasdam (2016) explained that informing the target interviewees on matters about the investigation and investigator so that they make a knowledgeable choice avoids ethical issues and increases the validity of the findings since the data are collected in a stringent process.

Roberts (2015) added that the ethics of informed consent is essential in this online research involving human subjects. Therefore, the research ensured that every potential respondent read an informed consent form that divulges all relevant information regarding the study and requested that the participant sign the form as proof of consenting to participate in the study. The online interview also described all information regarding the study and asked the potential interview to agree verbally to participating in the study. The conversation will be recorded as proof to avoid any future issues that could arise from participation in the interview. The consent form and invitation for participation form are attached under appendices. Secondly, the ethics of human subject research advocate for caution and avoiding intentional harm. Therefore, the researcher ensured that the interviews' questions were respectful and did not divulge any information that could intentionally or unintentionally harm the interviewees. In support of the caution and no intentional harm research tenet, Hedgecoe (2016) expressed that

respondents' questions should be examined to ensure that they do not pose any reputational risk to the participants.

Third, confidentiality and privacy are pertinent in research involving human subjects. Research involving human subjects revolves around confidentiality issues and protecting the data gathered from any unauthorized access (Petrova, Dewing, & Camilleri, 2016). The investigator will observe privacy and confidentiality ethics by ensuring the confidentiality of the participants. The researcher used fictitious names to code the interview conversation during transcription and discouraged the interviewees from mentioning the actual names or those that could be identified by third parties. The use of pseudonyms protected the identity of interviewees. Further, the researcher stored the data in safe encrypted personal computers with efficient security features to avoid data theft. Last, the investigator will explain to the interviewees that they have the right to retract from the interview or decline any questions they will not be comfortable answering during the interview. The researcher will also avoid any manipulative interviewing to dig out personal or sensitive information. Fourth, the participants are informed that they can voluntarily withdraw from the study at any time without any harmful effects upon them or their studies.

Chapter Summary

The segment explains the interpretivist theory, its central concepts, the justification for this study, and its connections with its chosen methodology. The interpretivism epistemology and the ontological stances of the paradigm, and the justification for the choice follows. The chapter elucidates the inductive approach that informed the reasoning and formulation of theoretical assumptions of the study. The rationale for choosing the approach is given and argued that it is suitable for this study because it matches the qualitative methods and the interpretivism philosophy chosen.

The qualitative design and interview methods adopted were justified since the study investigated a social problem through experiences and people's perspectives. The open-ended design of interviews adopted was justified because they allowed the collection of varied data regarding the online learning and teaching of ASL during the COVID-19 pandemic in Dubai. The researcher combines the purposeful and convenience sampled to yield a sufficient sample size of 20 teachers and learners. Lastly, the research explained the ethics followed during the investigation.

Chapter 4: Research Findings

Chapter Outline

This qualitative study was designed to explore the role of online technologies in Arabic as a Second Language (ASL) instruction and learning, students' motivation online along with the opportunities to evaluate their performance and progress online during the COVID-19 pandemic in Dubai. This chapter includes the analytical findings, considering the selected participants' responses to the study's interview questions. Furthermore, this chapter presents the data gleaned from 10 teachers and 10 students enrolled in online ASL lessons in Dubai during the COVID-19. The investigator chose the sample based on the availability convenience but ensured that all the respondents were not selected from the same private schools in Dubai. Selecting respondents from different private schools ensured that the information gathered from respondents was varied and was a fair representation of online Arabic learning and teaching in private schools in Dubai during the COVID-19 pandemic.

Figure 4.1. Teachers' demographic

The interviews, as shown in figure 4.1, were with ten Arabic teachers and ten Arabic students deeply involved with teaching and learning Arabic as a second language online in Dubai's private schools during the COVID-19 pandemic. Hence, the research covered 20 private schools in Dubai. First, all ten teachers were from different schools, and they were four females and six males. All teachers are qualified from KHDA as Arabic teachers for non-Arabs, and they are from Egypt, Jordan, Palestine, Syria, Lebanon, and Iraq. Three teachers are elementary teachers, four are middle school teachers, and three are high school teachers.

Participants and sites description

2. Schools

○ 20 schools
- American curriculum
- British curriculum
- Indian curriculum
- Pakistani curriculum
- French curriculum
- German curriculum
- Russian curriculum

Figure 4.2. Schools' demographic

Teachers are working in private schools with a different curriculum as shown in figure 4.2. Specifically, two teachers are from American curriculum schools, two teachers are from British curriculum schools, two teachers are from Indian curriculum schools, one teacher is from the Pakistani curriculum school, one teacher is from the French curriculum school, one teacher is from German curriculum school, and one teacher is from the Russian curriculum school. Besides, all schools offer the same curriculum and standards for online teaching and learning

Arabic as a second language in Dubai during the COVID-19. All teachers teach Arabic as a second language for more than two years in Dubai in the same schools.

Figure 4.3. Students' demographic

Secondly, all ten students were from different schools, and they were five females and five males as shown in figure 4.3. All students were enrolled in online learning Arabic as a second language in Dubai during the COVID-19. They were non-Arabs and living in Dubai with their families, and they were from India, Pakistan, U.S., U.K., France, Russia, Canada, Denmark, and South Africa. Three students were elementary students, three were middle school students, and four were high school students. All students were students in private schools with a different curriculum, for instance, two students from the American curriculum schools, two students from British curriculum schools, two students from Indian curriculum schools, one student from the Pakistani curriculum school, one student from the French curriculum school, one student from German curriculum school, and one student from Russian curriculum school. Only four students were Muslims, and the other six students were non-Muslims. All students studied Arabic as a

second language in Dubai for more than two years in the same schools. Also, three students' grades in Arabic were "A," three students' grades in Arabic were "B," and three students' grades were "C," and one student was "D" as shown in figure 4.4.
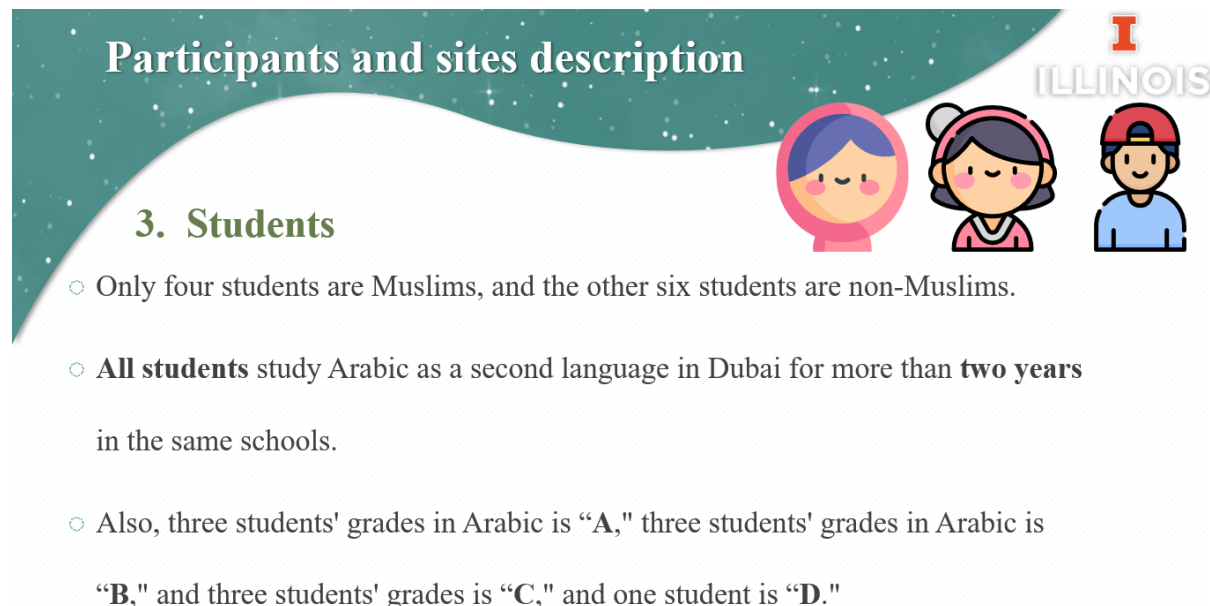
Figure 4.4 Students' demographic

The investigator scaffolded the interview questions to cover three major research objectives. These include: to examine the role of innovation and technology infusion in teaching ASL online; assess how education stakeholders can motivate students in online learning; and investigate ways of assessing students' progress in online learning.

Three themes were the focus for the teachers' and students' responses to the questions. Each theme has two subsections, one related to student responses and the other related to teacher responses addressing the three questions which are: 1. How does digital online technology influence the learning and instruction of ASL during the COVID 19 pandemic?, 2. How can teachers and other education stakeholders motivate ASL learners to adopt digital online technologies to foster ASL's learning comprehension during the COVID-19 pandemic?, and 3.

What opportunities/techniques of digital online technology exist to evaluate the success, performance, and progress of online learners of ASL during the global COVID-19 pandemic?

Thematic Analysis

The investigator first examined the data for validation, checking for completeness, then coded the data. Coding was essential in theme formulation processes under which the data would be presented, analyzed, and discussed. This chapter's analysis and discussion utilized a thematic approach, as earlier noted, and explained in the preceding chapter. The themes – influence of digital online technology on teaching and learning of ASL during COVID-19, the motivation of ASL learners by teachers to adopt digital online technologies during COVID-19, and opportunities of digital online technology for evaluation of online ASL learners during COVID-19- related to the investigation of the effect of the digital on Arabic language beaching are – teaching &learning, motivation and evaluation. These three themes were formulated through open coding processes, as detailed in chapter three.

Furthermore, the reason why selected participants were provided a codename or pseudonyms was to ensure each participant's confidentiality. Ten students and 10 teachers were selected as the sample participants who have been learning and teaching Arabic as a second language through the utilization of online technologies during the COVID-19 pandemic in Dubai. The study participants who were students have been assigned pseudonyms from S01 to S10, and the participants who were teachers have been assigned pseudonyms from T01 to T10. These code names or pseudonyms are referred to and quoted during the analysis process, where the narration or excerpts are used to support analytical interpretations. Open coding of the analysis gave birth to the three emerging themes, which are analyzed and interpreted independently to present the study's findings and conclusions.

Theme 1: Influence of Digital Technology on Online Teaching and Learning of ASL during

COVID-19

Figure 4.5. Influence of Digital Technology

The qualitative study participants responded to the question about how digital online

technology influences the learning and instruction of ASL during the COVID-19 pandemic. The

results indicate that, 80% of teachers and 90% of students believed that the influence is positive,

where a smooth transition is made from classroom learning to online learning, and the quality of

learning has also been enhanced and improved. On the other end of the spectrum of results, 20%

of teachers and 10% of students believed that influence is negative, where a challenging

transition is made from face to face learning to online learning.

Teachers. Eight teachers chose to say that one of the positive impacts of technology was

"Improved teacher feedback," as it plays a crucial role in learning and teaching, making it

advanced and strengthening the learner's communication skills. As a teacher, T04, respondent

stated, "teachers can give useful feedback to each learner at the same time as the learning process

and to figure out the common mistakes faster than in face to face classrooms," which was also

supported by T02 who stated, "Also, teachers can give each learner useful feedback at the same

time as the learning process and figure out the common mistakes faster than in face-to-face classrooms."

Further, 70% of teachers endorsed in their responses that there was "effective teaching and better learning" through online learning programs where all the learner's attention is invested in the learning process only which makes it effective and yields better results. As a teacher respondent explained (T03), "This also affects the online learning by the teacher would be able to explain things better to students, and the information would be clearer because we are focusing on one thing, and that is the student." Eight teachers claimed that students could share their views and ask questions through the chat box where the teachers can give answers verbally or through the chat, which they believe works very efficiently and seamlessly as stated by a teacher (T08), "I could reach to all students on private chat without stopping the learning process." Related to that, 70% of teachers have indicated that utilization of the digital online technology has helped the students develop their self-study learning skills, which is one of the most precious and significant skills for a student to know their own worth and potential. This point is exemplified by the words of T02 who stated,

> In fact, students can develop their self-study learning skills, which leads them to discover their real level and what they need to learn and how as well. Moreover, it becomes easier for students to find out different sources to learn from them based on their abilities. As I remember in our school meetings, they mentioned that they need a teacher for each student to develop their skills and cover their needs and abilities. Hence, the technology allows learners to control the content process, and they could review, pause, play, and choose which part of the materials they want to learn and review.

The majority of teachers, 80% explained that technology infusion in ASL instruction was a prime milestone in the teaching and learning of Arabic online in Dubai during COVID-19. The eight teachers explained that technology promoted a secure atmosphere for Arabic teachers and students by improving the students' behavior in Arabic lessons, as stated by T07:

> Technology has made learning Arabic very easy. Particularly, students' behavior management because everything has been recorded, hence, students focused only on the learning process, and teachers could work safely. In my case, as a teacher, I created all my materials in each lesson without pressure because I focused on objectives and differentiation to make the learning more fun and accessible without paying attention to the behavior issue

which has been supported by T05 "Also, I believe there is a positive impact on behavior, pleasure, satisfaction, abilities, communication, and exams anxiety which called self-esteem."

It was claimed by seven teachers that students have also been encouraged to utilize technology to its fullest potential. Those seven teachers reported that the online classes are also recorded so that if a student wants to revise a particular point, the recordings can be easily accessed to understand various topics better as stated by T10, "Students could review and watch the whole lesson after the live session if they missed it or could not understand the class." Besides, 80% of teachers expressed appreciation for online teaching-learning sessions through Microsoft teams as it is interactive where students can ask questions from their teachers to the function of "Raise hand" without disturbing the learning of other students which has a positive impact on students' behavior as well, as stated by T08, "now, there is no chance for any student to disturb my explanation by using "Raise Hands" tool on Microsoft Teams."

Moreover, 60% of teachers reported that "ease in access to knowledge sources" is one of the most beneficial impacts of technology on online teaching and learning Arabic. They claimed that learning online makes endless information more accessible as the students and teachers are enabled to search for anything through a single click. In the words of T06, "with digital online learning students and teachers will be able to do research easier as their device is turned on and is functioning, it will take less than a minute to find what they are looking for."

A minority of teachers, 20% claimed that technology had a negative impact on teaching and learning Arabic as a second language online during the COVID-19. Two teachers explained that it was not an easy task during the pandemic to shift to online learning during the two weeks allowed for the transition without adequate training and that since all training was online, it required self-learner teachers with a good background in technology as T09 stated, "I received a link from my principle to watch 12 videos about teaching online, and all were in English, so they need to make differentiation for teachers as asking us to make for students," and it has been supported by T01, "I could not handle the online training because the two weeks were a holiday, and how they are expecting teachers to work and learn in their holidays as well." Related to that, two teachers argued that another point of technology's negative impact was that the Arabic teaching materials available were not designed for delivery via digital technology. The curriculum, it was claimed, has not been digitalized yet; as stated by T09, "if our book or curriculum is still in a PDF version and not digital, so how can teachers use it online effectively."

A minority of teachers 20% also viewed that e-learning affects a student's ability to ask questions where the in-person questioning is better and more understandable, especially for language learning. Another teacher participant also viewed the transition from classroom

learning to online learning as a difficult task, especially for second language learning. As stated by T01:

> Digital online learning is a bit hard, especially in the beginning, because the teachers cannot physically help each student. When students submit their assignments, it takes time for the teacher to check one and send feedback, and when it comes to learning a second language, it gets harder cause more mistakes would be made as they are a beginner in this language. the use of online technology and different types of said use, for instance, as a backup and a complement to the content disseminated in a face-to-face classroom setting, may produce different learning outcomes among students as measured on their final exam results.

Students. Nine students recognized the perks of digital learning as requiring less use of paper. They also claimed that digitalization also enhanced their research skills as learners. As a student, S08, respondent stated, "With digital learning, the school and the students will be wasting less paper," and it has been supported by another student, S09, responded, "and doing work digitally that will benefit us for our research skills."

A majority of students, 90% appreciated the availability of recordings of classes. They claimed that it frees the learner from the challenge of establishing every concept that is being taught to them, all at once. They also claimed that it widens the scope for revisions and enables the learner to refer to what was taught in class. As a student participant, S08, shared that, "By the classes being recorded, learners who want to revise particular points can do so at ease and thereby better their understanding of the various topics." A unanimous finding was that, 100% of students agreed that the online learning environment is more secure for students because there is no chance for bullying as all lessons have been recorded, and there is no chance to be with one

student without monitoring, which they felt has a positive impact on learning Arabic online, as reported by a student participant (S07), "I am happy for online learning in Arabic lesson, so there is no one can make fun from my pronunciations."

A minority, 20% of students, were also of the view that online learning and teaching are difficult and reported that it could be more challenging to acquire and learn a second language where a word's context becomes challenging to understand in certain situations. As a student participant, S10, stated it in the following way:

Digital language learning is also a difficulty, as it is very challenging to grasp the word and the context from which it originally comes. Sitting down with our classmates and trying to talk the language with them is always better.

A significant number of students, 60%, stated that "hindrance in learning" was a negative impact, as a learner is not physically present in the same environment as the teacher; in some instances, they claimed that this comes off as a communication gap and makes it inconvenient for the learner to raise questions. As a student respondent (S04) observes, "Digital online technology influences the learning and instruction as it in a way slightly hinders a student's ability to ask a question." A majority, 80% of students found that using an Arabic keyboard in writing was challenging because they never used it before. It was reported that all of their devices are imports from their home countries and as stated by student S05, "it was a challenge for me to use my keyboard as does not support the Arabic letters physically, so I did not involve in writing tasks online," which has been supported by words of (S09), "I bought an Arabic keyboard, but it was a challenge because I am not familiar with the Arabic letters and it took me hours and at the end, I used a paper and a pen." A majority of teachers and students expressed that technology has a negative impact on their physical health because of sitting long hours in

front of screens as stated by teacher T01, "I cannot feel my back after the school day."

Something similar has been supported by student S05, "my eyes hurt after the first period."

Lastly, it was reported by a majority of students, 90%, and a majority of teachers, 80%,

that some of the positive influences of online learning include self-learning, independence, self-

direction, collaborative learning, time management, research skills, prioritization, self-

confidence, and self-motivation. In addition, 80% of the students' feedback about the influence

of technology on their learning of Arabic online included easy learning, understandability of

functions, flexibility, timesaving, valuable information, better GUI (graphical user interface), and

audio-video interactions. Simultaneously, 70% of students also provided insight into the

influence of technology in online learning as active engagement with the learning material, use

of simulation and modeling, use of real-world issues, discussion, debate board and forum,

collaborative groups, coaching, and helpful in formative assessment. As a teacher participant

explained (T03) the four dimensions affected in e-learning, as stated, "administration,

functionality, instruction, and interaction." Hence, a teacher must assess the student and e-

learning system to get the objectives from the instructions so that the students can have the

satisfaction from e-learning. A teacher participant (T04) provided the effects of e-learning in four

dimensions, as illustrated in figure 4.6. Similarly, figure 4.7 illustrate a design shared by another

teacher participant (T05) related to the technology influence.
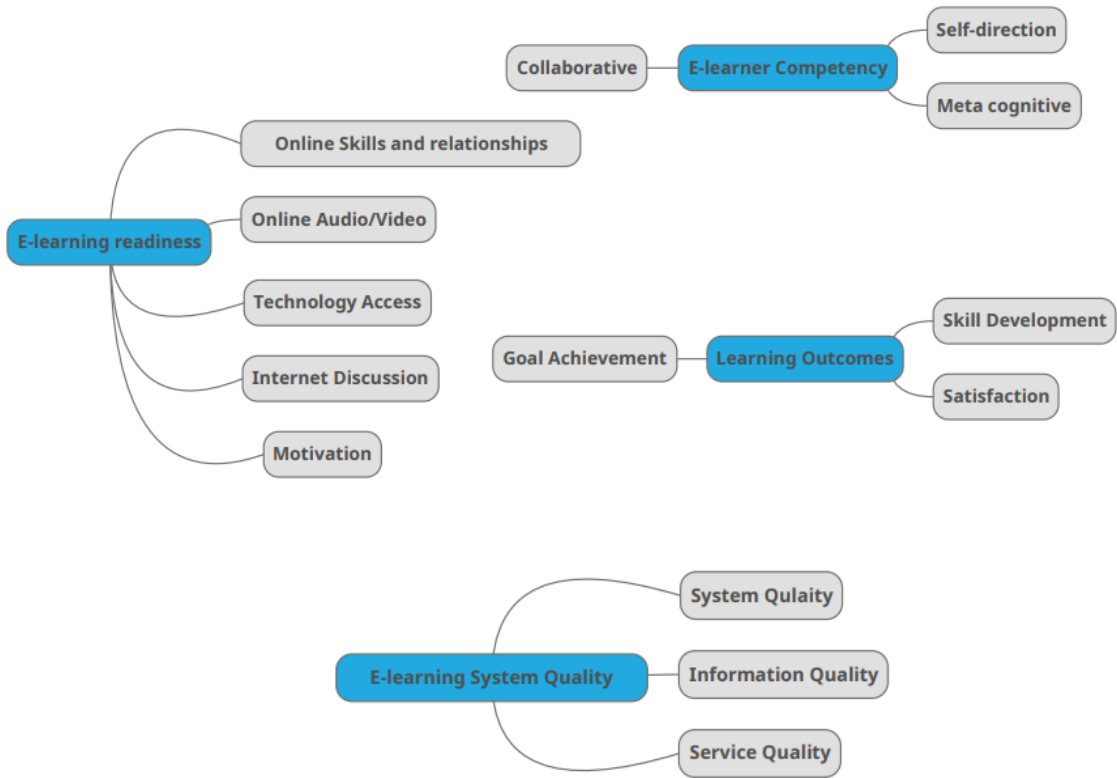
Figure 4.6. Effects of e-learning in four dimensions as provided by teacher participant (T04)
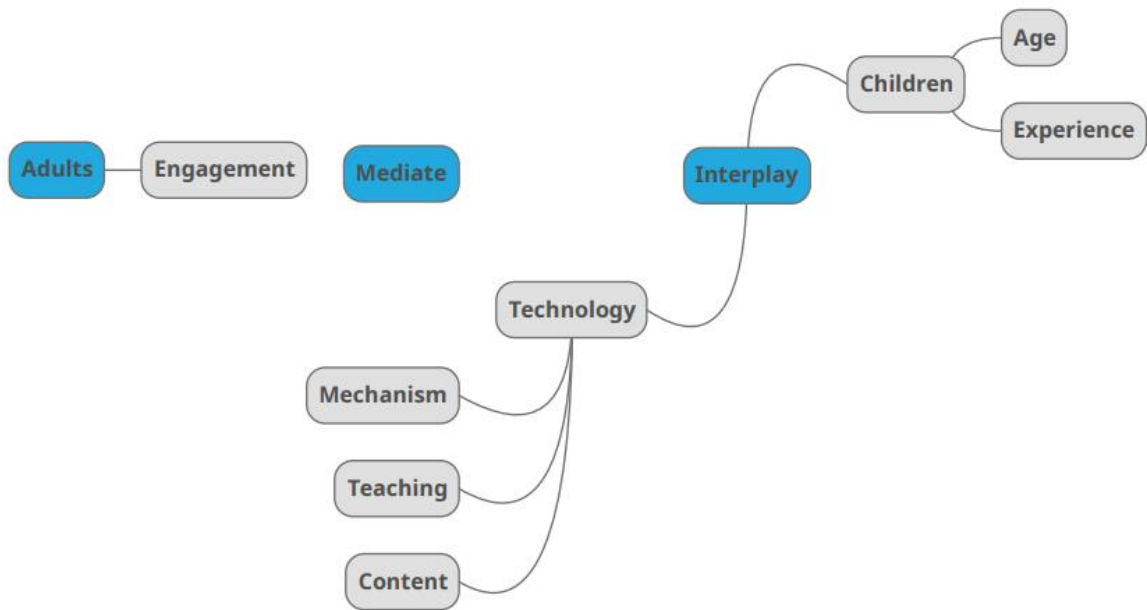
Figure 4.7. Design related to technology influence as shared by teacher participant (T05)

Theme 2: Motivation of ASL Learners by Teachers to Adopt Digital Online Technologies

during COVID-19

Figure 4.8. Motivating students online

The qualitative case study participants also provided their views regarding how teachers

and other stakeholders can motivate the learners of Arabic as their second language to adopt the

digital online technologies to foster the learning comprehensions of ASL during COVID-19.

Teachers. 80% of teachers provided several motivational elements that the teachers and

education stakeholders can adopt to motivate their learners to use online learning for ASL during

COVID-19. It is believed by eight teachers that they can help students in adopting online

learning and can motivate them by teaching the basics of how to use their program and how it

works to make the students more comfortable and well aware of what they are doing. Teachers

had also been given online training to motivate their learners for the adoption of online learning.

Some aspects of that training included, as stated by T01,

We had an online training to motivate our learners online and here are some aspects:

Good introduction to the topic, starts with a simple example and then builds on it,

reminding of previously addressed material, builds on previous information, sequence of

ideas, well co-related ideas, well structured, step by step, splitting topics into parts, well-ordered sequence of ideas, moved from one idea to another in a proper way, specific strong or weak explanation, techniques, explains not only how you do it but also why it makes sense, trying different ways to explain repetition, uses simple language, detailed conclusion, conclusive summary, general terms praising or criticizing explanation, easy to digest, direct, simple, good for dummies, spoon-feeding of information, easy to grasp concepts, very organized in explaining.

Further, all the teachers mentioned some of the other motivation elements, including the pedagogical design for students' engagement and the instructor's or teacher's behavior in promoting learners' engagement. Additionally, 70% of teachers shared the literature helpful in promoting the motivation of learners for e-learning, such as when a teacher participant (T04) shared the elements of an article including the motivational indicators as "a) timely and sensitive feedback, b) easy access to resources, c) use of a variety of instructional methods, d) teacher's enthusiasm, e) good planning and organization, and f) improved student's autonomy." Another teacher, T05, also provided successful tips for improving learners' motivational level for online learning of Arabic lessons during COVID-19. T05 continued to share, "Reward students' successes, enable students to monitor their own progress, create an open, accessible environment for students, help students set achievable goals in the course and allow students to participate in building the curriculum."

Further, 60% of teachers mentioned several traditional and innovative techniques for online young learners' motivation, such as creating online collaboration groups, turning mistakes into learning opportunities, setting aside time for self-reflection, and using the leader boards to fuel the friendly competition. As a teacher participant (T07) stated:

Young children learn by doing, through observation, play, and experience! During times of COVID-19, confinement, and school closure, you can promote your student's holistic development and build a foundation for future learning. Use play to get young children engaged, build their motor skills, increase social maturity, increase emotional maturity, build their literacy skills, build empathy skills, and promote healthy habits.

It is believed by 90% of teachers' participants that educators should be flexible with their students because it is the first time that the learners are experiencing any such pandemic. At the same time, it was claimed that parents are also needed to encourage and motivate their children to understand that COVID-19 is an exceptional time that needs exceptional care and strength to handle this unique situation. Seven teachers' participants found out that time management was the key element in making the learners engaged and motivated for online learning. As stated by the personal experience of a teacher participant (T02):

> I believe teachers and parents are the most two are responsible for students' motivation. For example, teachers need to allow students to be responsible for their learning online and personalize their learning. I found that peer-assessment is an active tool to motivate students to evaluate their peers' work and learn from each other. Moreover, self-evaluation is an effective method to give students confidence and feel secure and where their mistakes are and why it is wrong based on rubrics and standards.

Students. 80% of students claimed that the key points mentioned by the participants included explaining the impact of technological learning, explaining the benefits of e-learning, improved research skills, engagement of the learners, making learning fun and excitement were the fun games related to the language can be added to ease out the stress and pressure, use of

stories, the involvement of students in real-time, multimedia interactive learning material, and good audio and visual aids as stated by S08:

> Teachers motivate us by giving great speeches and hope, as well as so much care for our education, and they provide us with opportunities to connect to the subject matter personally; they let us set our own goals; set up a system for self-monitoring and progress-tracking; as well as encouraging us to collaborate with the teacher on the syllabus or course reading material, and act as the facilitator by doing that we can adopt digital online technologies.

Moreover, 70% of students highlighted the importance of engaging activities and the promotion of collaboration among the students in these words (S09):

> Teachers and other education stakeholders can motivate learns of ASL to adopt digital online technologies to foster learning comprehension of ASL during the COVID-19 pandemic, by providing students with engaging activates and promoting collaboration. As seen in ASL classes, by having students partake in engaging activities, not only will their understanding be improved, by they will also be more likely to utilize said technologies more frequently to foster learning comprehension of ASL during the COVID-19 pandemic. Moreover, through the use of collaborations, students will not only understand how to use said technologies for educational and comprehension of ASL, but they will also feel far more motivated and remain consistently engaged in the various comprehension-based topics.

A significant number of students, 60%, elucidated that learning ASL is challenging and requires scholars to strive hard. Regarding this, S10 asserted that "learning Arabic is difficult, particularly grammar and vocabulary, which requires one to be in the right mind to embrace the

challenge." S10 further explained that attitude and motivation towards Arabic learning was the fundamental aspect of learning ASL online. Related to that, (S07) added that "motivation is crucial in learning as it enables scholars to strive to be proficient in Arabic." From another perspective, S01 asserted that:

> I think learners are motivated to Arabic because of its association with the religion while foreigners are motivated by the feeling of belonging that comes with the ability to communicate with the locals in their native language. Still, some learners are interested in business communications to ensure that they can communicate with their customers and suppliers.

Most of the students studying Arabic as a second language are not Muslims, so the motivation to learn Arabic for a religious purpose and will not be valid for all students. Besides, all teachers and students are of the view that there is no relation between Islam and the Arabic language. In other words, you can learn only Arabic without learning about Islam as a Non-Muslim, and a Non-Arab as S09 asserted that:

> As a non-Muslim and non-Arab, I am not feeling secure some times in the Arabic lessons because the teacher is linking the Arabic to the holy verses from the Holy Book Qur'an, and it has a negative impact on my motivation to learn Arabic.

Consequently, a new concept could/should be introduced to learners in order not to demotivate students and to keep students interested in the process. 100% of students reported that pressure on learning makes them lose their motivation as the words of a respondent student explains (S08):

not to put much pressure because the student has not done this before so it would be

better if the teacher or the person in charge of the class can extend his due date so he

cannot worry about when it is done and just has to worry on getting it done.

Given that every learner has strengths and weaknesses of their own, it was claimed that a teacher

must be able to detect where a student is lacking and help them overcome it. As a teacher

respondent (T03) suggests, "This can be done if teachers in the ASL program can identify the

certain strengths of a student and assign work based upon their strength, not their peers as they

will just get stuck." Also, 80% of teachers and students supported that positive feedback keeps

learners going and motivates them to overcome their problems. As a teacher respondent T08

expressed, "Reward students' successes: try to give them a clear plan for the course with specific

dates to allow them to prepare themselves ahead and to be motivated when they can see

everything is clear."

Similarly, it was claimed that keeping the students motivated helps them a great deal in

getting the most out of every opportunity they are provided with. Indeed, 70% of teachers argued

that time management is an essential skill that a student learns from the very beginning of their

academic career. It was claimed that when a learner is respected for the time they take to learn, it

helps them stay motivated. As a teacher respondent T02 suggests,

I had many discussions with students to motivate them, and I found that timing was a key

to disengaging and leads students not to be motivated. So, teachers need to assign enough

time for students to be engaged and motivated.

Along with respecting the learner's limitations, it was reported that it also pertinent for a thriving

learning environment for a learner to motivate their students to perform better. A teacher

respondent (T04) stated that, "Teachers can help students adapt to online learning and motivate

them by teaching them the basics of using their program and how it works to make the students

more comfortable and aware of what they are doing." It was learned that 90% of teachers and

students reported that teamwork spirit results in motivation and makes sure that every learner can

absorb what is being taught through active participation. As a teacher respondent teacher, T10,

stated, *"by providing students with engaging activates and promoting collaboration."* Also, 80%

of teachers and 90% of students stated that using creative sources and incorporating learning

procedures that are interesting for the students is essential. As stated by a teacher respondent

(T06), "by making fun activities that will interact with them more and using educational, social

media apps will help them with their learning." All teachers and students agreed and stated the

steps in figure 4.9 to be motivational in online learning during the COVID-19.
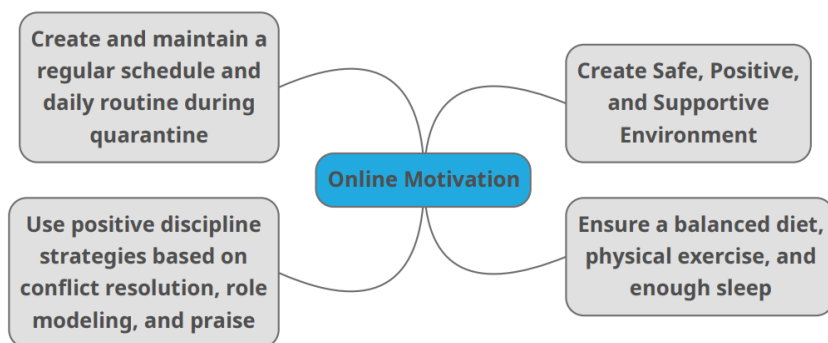
Figure 4.9. Steps to be motivational in online learning according to teachers and students

Theme 3: Opportunities of Digital Online Technology for Evaluation of Online ASL Learners during COVID-19

It has been observed that the use of online learning technologies has also changed the

evaluation process for teachers and students. The qualitative study participants responded to the

question about new opportunities and techniques have been used in digital online technology to

evaluate ASL online learners' success, performance, and progress during the COVID-19 pandemic.

Figure 4.10. Online evaluation

Teachers. 70% of teachers participants have indicated that some learning websites can keep track of the learners' performance and progress that how well a student is doing and how far a student has come from where he has begun, and how much progress has been made in this respect. As stated by T03, "And some learning websites can keep track on how the student is doing, and it can see how far the student has come from where he began and how much progress has been made." Related to that, 80% of teachers reported that "insights" tools in the Microsoft Teams could help the teacher to observe the progress of each student as stated by T07, "also, I am using insights on teams to watch my students performance in each lesson and how much progress they have been made from the beginning to the end."

It is clear that 80% of teachers stated that the projects and activities assigned to the students in their online ASL classes are a technique to evaluate the performance of the students; that is, how good a topic is understood by the student and how a student can apply that topic to the real-world scenario. Furthermore, the style in which tests are taken ensures that students are not solely re-aggregating memorized information but rather grasp how the said concepts can be

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applied and used in a practical sense. Also, 70% of teachers reported that assessments could be exams, tests, quizzes, or services where each assessment technique may have different features, consequences, classification, and learning outcomes. As a teacher participant provided the details of adopted evaluation techniques in these words (T02):

In our school, we formalized the shape of formative and summative assessment. For example, we need to make the evaluation fun and interesting by using the following Challenges, Kahoot, Pictionary, Team games, Brain Teasers, Focus on wellbeing, and APPs of fun activities. For example, we increased the formative assessment percentage to be 60% of the final grade, such as home learning/classwork, observations/participation, quizzes, practical / laboratory skills, mini assignments, and peer and self-evaluations. On the other side, we stopped three summative assessment forms, such as unit tests, semester exams, and final exams. Also, we reduced the percentage of summative assessment to be 40%, and we relied on four methods, such as essays, projects, assignments, and presentations.

Additionally, 90% of teachers observed that the summative assessments had been canceled or postponed because of the COVID-19 pandemic. Still, it reported by 80% of teachers that it was difficult for all the schools to change their whole evaluation method as in the first step, as all schools in Dubai are needed to digitalize their textbooks, tests, and assessment tools. Related to that, 90% of teachers' participants believe that online assessment can be used as formative tools but not for the large-scale summative assessment. It was claimed that there can be several reasons for this large number of student populations participating in the examination distributed in different places that may not have the required hardware for online assessment in a short period. Secondly, it was said that the online assessment is not considered scientific and fair

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enough by a large population, and thirdly, some questions with high marks and details could not be answered online. As a teacher participant, T03, considered the online assessment as a formative tool and stated that,

> I believe before collecting or performing assessments online at homes, stakeholders should answer the following three questions: Are scores obtained from at-home test administrations and remote proctoring comparable to those from traditional in-school test administrations? Do all students have sufficient technological capacity (e.g., internet bandwidth, computer/laptops meeting minimum specifications), familiarity with online testing to take the tests at home with remote proctoring, and access to the full range of accommodations they would have within-person administrations? Are there safeguards in place to prevent testing improprieties, such as cheating (by student sort their guardians) and test-question sharing, and to ensure adherence to test-administration procedures?

Further, 80% of teachers indicated that there are three most essential components which are required to achieve the equal opportunity for learning and assessment, a) reliable internet access, b) suitable electronic devices, and c) accessible content according to T06. Related to that, 70% of teachers participants have also stated that self-assessment in online learning was a challenge for online learners as stated by (T09), who also states that, "most of the students could not evaluate their progress and work properly because they do not know how to evaluate themselves based on their performance." However still, 90% of teachers agreed that home assignments were not graded as previously; as stated by T02, "most of the students had no same resources, support, and time at home." Besides, 50% of teachers argued that group participation and collaborative activities were encouraged, which are sometimes evaluated biasedly by the teachers, and the actual ability of the student is not highlighted as stated by (T09):

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If I have 230 students and I need to grade or evaluate their work online on teams, so I do not have enough time to read every single word for everyone. Hence, most of the time, based on students' names, I am evaluating him or her.

A full 90% of teachers agreed that peer assessment and online portfolios are useful tools for evaluations online, as stated by T05, "Peer assessment and portfolios are great tools for online learning, but first we need to train our students how to do both. From my experience, portfolios are more suitable for elementary and peer assessment for secondary." Related to that, 100% of teachers shared a useful online assessment technique as stated by T07:

Also, here are most of the online assessments techniques such as participation in asynchronous discussions, critiques, projects, essays, field reports, reflections, quizzes, and exams, creating questions or design activities, case analysis, questions–answers, collecting information and resources, reading and summarizing, concept-mapping, portfolios, participations other than asynchronous discussions, PowerPoint presentations, critique logs, and peer editing.

Students. 100% of students reported that they did not do the final year exam and did alternative assessment methods instead. As stated by student S07, "I was pleased that we do not have a final exam, and we are doing a project only." Related to that, 100% of students stated that all students made good progress during the online learning, as stated by S03, "I did not believe that all my Arabic class got better grades during the online learning than face to face lessons. Also, nothing has been changed the same teachers and the same students." 70% of students' participants mentioned that use of classroom calendar and feedback as an evaluation tool as stated by student S08, "Using a shared, online classroom calendar, as well as gathering the student feedback on a particular task or a test really gave us the opportunities to evaluate the

success, performance, and progress of online learning." 90% of students reported that engaging students in the learning environment is a massive task that needs a solution where learners are inclined to participate actively. As a student (S07) respondent observes that, "We could be engaged in the learning process by being creative in showcasing our learning and growth through various combinations of papers, audio/video, and presentations."

Regarding creativity, 90% of students and 80% of teachers agreed that giving out information creatively increases the learner's likability to embed the information in their minds and retain it for a more extended period. As a student (S03) respondent expressed, "Presentations can be in the form of informational web pages such as blogs, web-based student-generated quizzes, video/audio, or slide shows." Besides, 80% of students and 70% of teachers agreed that students' engagement in some kind of project as a collective effort sparks interest in the subject under discussion and gathers more ideas. As a student S07 respondent expressed, "Group activities are engaging all of our group to perform better in Arabic, but when it has a clear and logical criterion." Related to that, 80% of students claimed that interest arousing activities are a great source to achieve the most in a learning outcome. As student respondent S010 suggests, "simulations/animations/virtual lab/game." Besides, 80% of students reported that participation and class discussion are essential to allow both parties to observe the learning environment closely and address their concerns for improvement. As a student respondent (S05), expressed that,

> Participation and most of the students do not know how teachers are calculating
>
> participation in the class. It gives a space for teachers' bias and judges more related to the
>
> behavior and not the actual level or students' ability. However, it is a great approach.

Moreover, 60% of teachers claimed that assessment testing is challenging for them particularly, in assessing the level of knowledge they had successfully transferred to their learners. And, through assessment testing where the teachers assess their student's progress and keep track. As stated by teacher respondent, T08, mentioned, "it is hard to assess students' progress and performance online, but teachers may assign homework/classwork to students we also have a system for tests, in the IstartArabic app we also have a collaboration space which helped tremendously." Related to that, 90% of teachers and 100% of students agreed that making the learning process interesting for the students widens the scope of learning and increased the possibility of applying what the learners have learned in the class environment. As teacher T03 respondent explained, "or games, a student creates a game based on their topic, or a student chooses a role to play pre-designed by the teacher. For example, the student can play a role as a company consultant to solve case studies."

Making the most of experiences, 70% of teachers and 80% of students claimed that open discussions are an engaging way that allows every learner to actively participate in the process of learning and make the most out of their experience. As stated by one teacher, the respondent (T08) described the importance of discussion by saying, "Interactions: profiles, informal groups, teacher groups, blogs, comments, discussion forums, replies, learning groups, and portfolios." Besides, 60% of teachers reported that self-assessment is the best way to evaluate the success rate of the medium of instruction that is being used by the teachers. As teacher T02 respondent transpired that "To evaluate the success, performance, and progress of online learners of ASL during the global COVID-19 pandemic is by giving out surveys about how people feel about their performance or progress during the online schooling."

Lastly, all teachers and students agreed that Microsoft Team is the best free tool that all stakeholders could use it online effectively for assessing students and monitoring them, and they stated the following tools illustrated in figure 4.11.
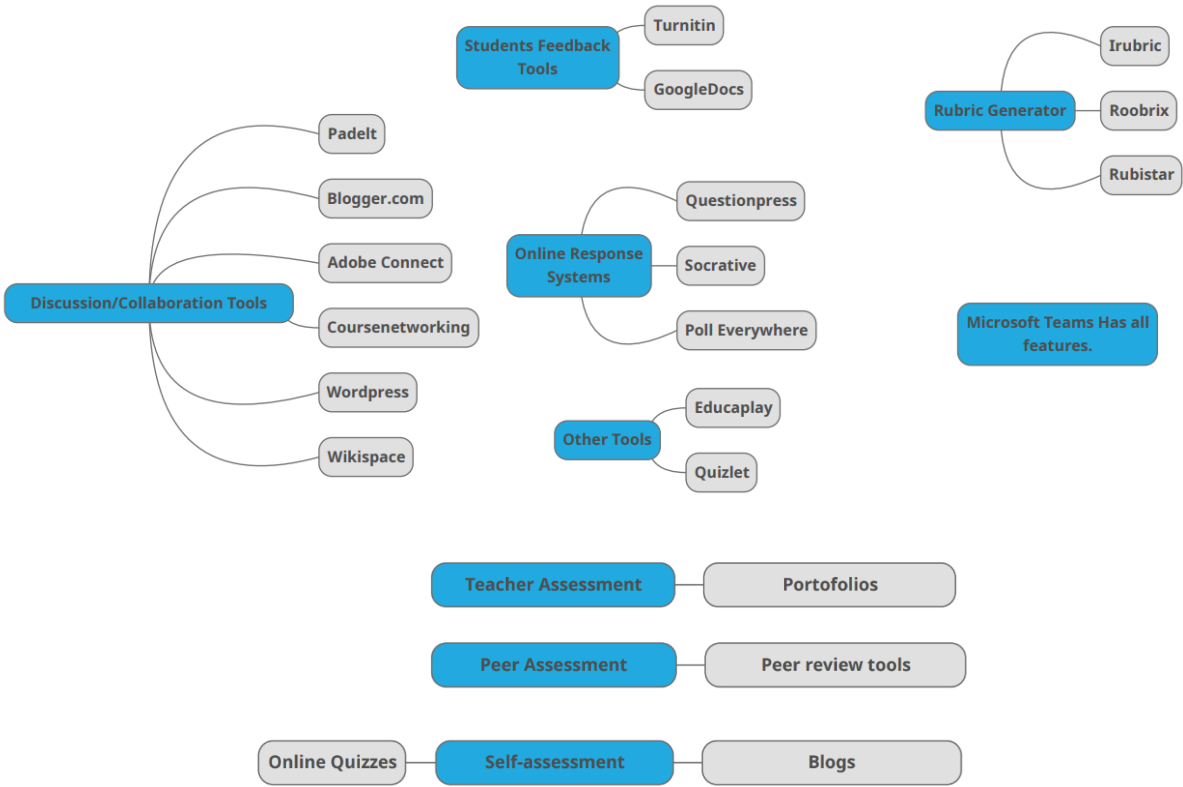
Figure 4.11. Tools for monitoring and assessing students online

Chapter 5: Conclusions and Recommendations

Overview

This chapter focuses on the discussion based upon the results of the previous chapter. The study had the objectives which were articulated after a thorough review of the literature and understanding the problem of this study in a certain context. This study addressed the following research questions: 1. How does digital online technology influence the learning and instruction of ASL during the COVID 19 pandemic?, 2. How can teachers and other education stakeholders motivate ASL learners to adopt digital online technologies to foster ASL's learning comprehension during the COVID-19 pandemic?, and 3. What opportunities/techniques of digital online technology exist to evaluate the success, performance, and progress of online learners of ASL during the global COVID-19 pandemic? Furthermore, the practical implications and recommendations for future research studies are also provided at the end of this chapter.

Conclusion

When reviewing the DSIB inspection reports and not one outstanding department was found in all outstanding Dubai schools, an issue was clearly apparent. When looking at Arabic teachers in the classes, they teach and try to do their bests. So, looking at students, they are learning and trying to do their bests as well. Parents, KHDA, school leaders, and all stakeholders are doing their best to develop Arabic learning and teaching online and on-campus. Moreover, the experience of teaching and learning Arabic online was a baby growing phase, started in the march as a newborn, and started to grow up step by step until July. The KHDA, MOE, and Dubai government did all their best to give birth to online learning in the future. The experience was positive and exciting for all stakeholders because of the festive spirit between stakeholders, expatriates, and Emiratis. All Dubai and UAE were one hand, and they applied the hashtag

#inthistogether to give a great example in cooperation for all the world. As shown in figure 5.1, the final result of evaluating Dubai private schools online learning was great as 67% of schools has been offered an excellent online which has been rated "developed," 32% of schools has been offered good online learning but with recommendations which have been rated "partially developed," and only 1% of schools has been rated as "not developed."
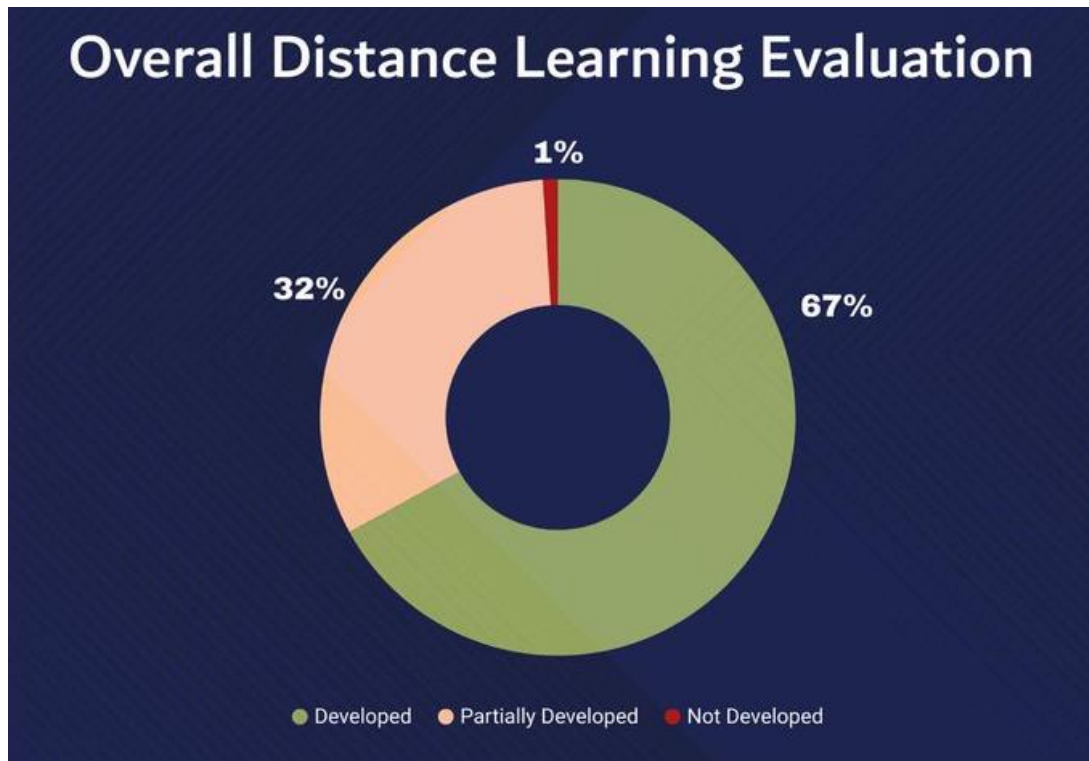
Figure 5.1. Overall distance learning evaluation in Dubai private schools (Dubai Knowledge, 2020)

On the other side, there were some challenges students and teachers were facing when learning and teaching ASL online during the COVID-19 Pandemic, as shown in figure 5.2 Furthermore, the qualitative thematic analysis of the data provided the analytical findings in the form of three emerging themes - the influence of digital online technology on teaching and learning of ASL during COVID-19, the motivation of ASL learners by teachers to adopt digital online technologies during COVID-19, and opportunities of digital online technology for

evaluation of online ASL learners during COVID-19- which are analyzed and interpreted in the previous chapter. The emerging themes are addressing the three research questions of the study. Hence, the emerging themes are relevantly significant to answer the research questions of the study. The research questions of the study noted below, are answered through analysis of the findings.
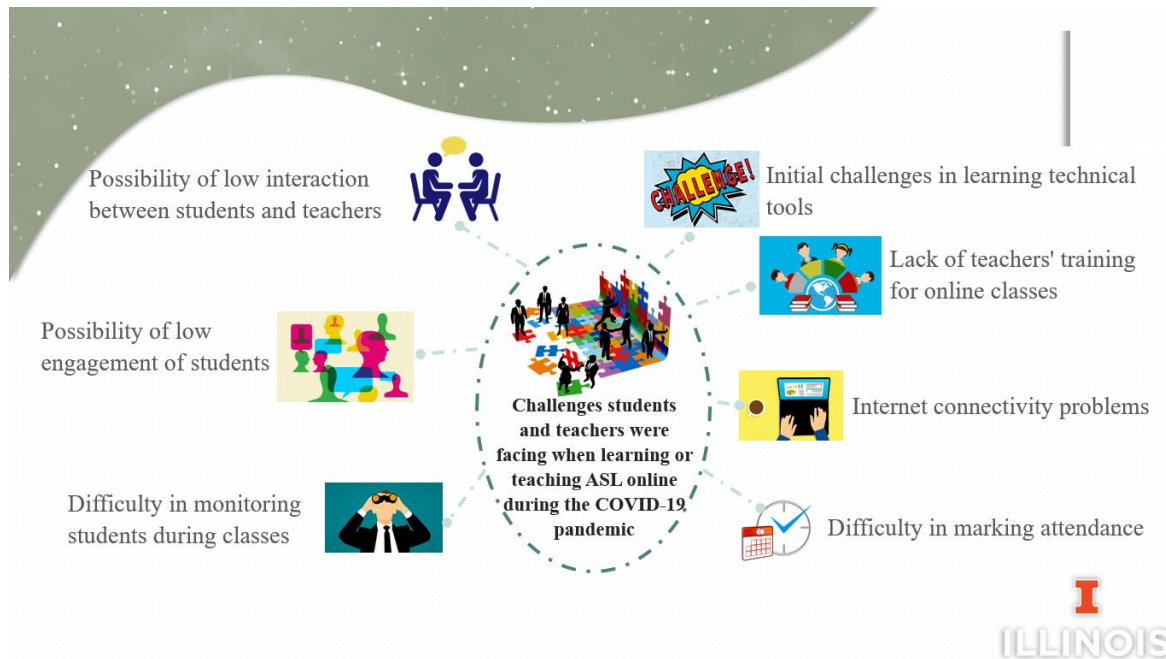
Figure 5.2. Challenges students and teachers encountered when learning and teaching ASL online during the COVID-19 Pandemic

Research Question 1

The first research question of the study was: How does digital online technology influence the learning and instruction of ASL during the COVID 19 pandemic? The qualitative study examined the influence of digital online technology on teaching and learning of ASL during COVID-19 through the views and opinions of students and teachers who have been engaged in online schooling. It can be concluded in the light of analytical findings that the use of digital online technologies has greatly influenced the teaching and learning of ASL in Dubai. The major findings are many and include the influence of online teaching and learning is positive

(Abedalla, 2015a; Gharawi & Bidin, 2016; Ando & Setianas, 2017; Bao, 2020; Bin-Samah et al., 2016; Gewin, 2020; Gulzar, 2020; Ilter, 2015; Kessler, 2018; Muflikhah, 2019; Nasir, 2020; Omari, 2015; Sari & Hasibuan, 2019; Shehab & Zeki, 2015). A secondary, minority finding was that online teaching and learning had a negative impact on different aspects and contexts (Alkahtani, 2019; Ghounane, 2019; Guo & Li, 2020; Hadi, 2019; Jung, 2018; Mosa & Kakehi, 2015; Mustaffa et al., 2019; Nell et al., 2020).
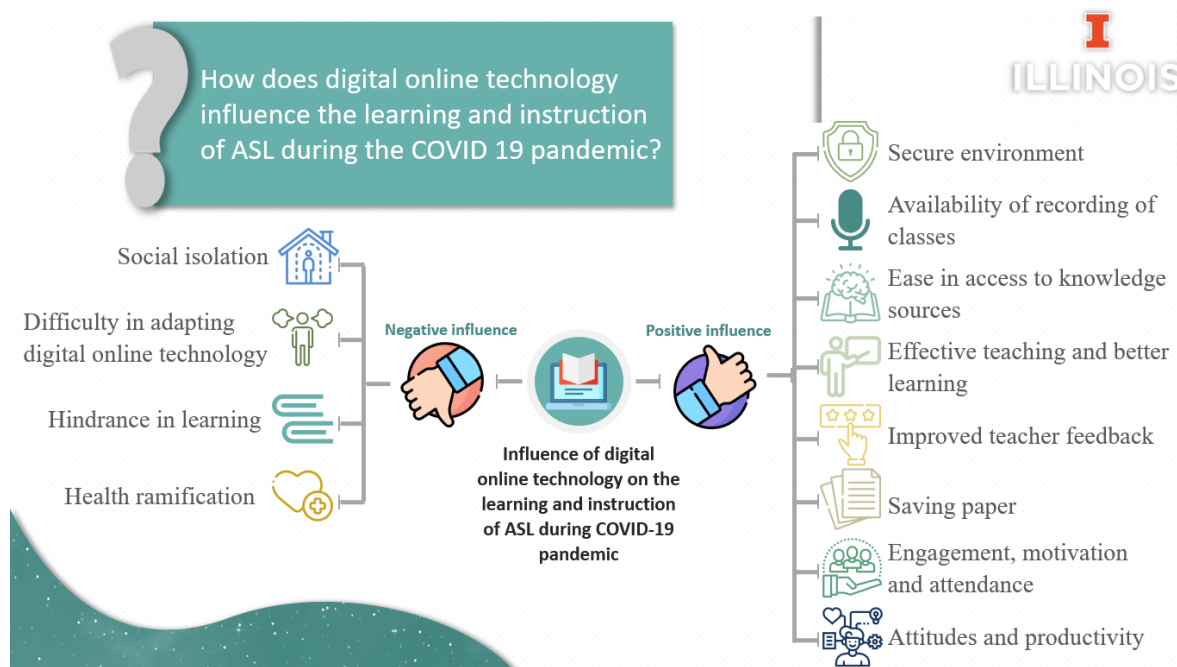
Figure 5.3. Pictorial diagram about the influence of online technology

The influence's positivity is more dominant because it was regarded that online teaching and learning facilitated self-motivation, self-confidence, self-study skills, and time management by the students. Most of the findings indicated that the utilization of digital online technologies polished students' research skills and self-regulatory skills to have a better understanding of their capabilities and potentials. It has also been observed that teachers have been making tremendous efforts to make online schooling more effective and productive for ASL learners in Dubai.

However, the teachers were not familiar with online digital technologies and online teaching techniques before the COVID-19 pandemic.

Furthermore, saving papers and the environment, improved teacher feedback, effective teaching, better learning, ease in access to knowledge sources, and recording classes are available. First, saving papers and the environment positively impacts the COVID-19 contactless, saving teachers and students from stopping the spread of COVID-19. Second, with digital tools such as Microsoft Teams, teachers could write their feedback or record it using the feedback audio feature on Microsoft Teams, saving Arabic teachers' time and effort. They have too many students on their lists. Third, effective teaching is more accessible using the technology, so Arabic teachers could use technology as a major source to teach the four components (reading, writing, speaking, and listening) virtually by visualizing their content and delivering standards to all students' needs. Hence, if there is effective teaching, so the learning will be better as an impact of teaching. Fourth, using technology will develop self-learning skills for both teachers and students. For instance, now teachers do not need to go to the IT department to help them figure out how to use Microsoft Teams, but they could use the technology to search and find videos to watch or articles to read based on their interest to learn how to use the app. Moreover, students do not need to ask the help of the Arabic teacher to translate each word. Still, they could use the electronic dictionary to help them find the meaning of the word, which will positively impact students' learning skills as they are involved in the learning process. Besides, students could evaluate and monitor their progress by using technology from the beginning of the lesson to the end. They could compare their work to classmates and give and get feedback quickly without direct contact.

Lastly, class management is more reliable during online lessons because of recordings. Students watched their own actions during the lesson, and teachers could focus more on assisting each student. It is also a more secure environment for teachers and students because there is no chance of bullying. Students could also review the lesson if they could not attend the live sessions, so there is no more pressure on students if they missed the school day because of sickness or emergency reasons. Students could also come back and review the lesson if they could not understand some standards or objectives that will positively impact students' learning skills to develop their own skills and lead learning. Furthermore, teachers could develop their teaching skills by going back and watching the lesson to improve their teaching approaches to meet their students' needs. Teachers could also use recording lessons to evaluate their students' learning, positively impacting the grading system and avoiding the teachers' bias in evaluating students.

Moreover, the teachers faced some challenges and struggles in making the online schooling format fully operational and effective for the online ASL learners. With time, hard work, support of the Dubai government, KHDA, MOE, parents, students, and efforts have paid off where online learning and teaching Arabic as a second language online in Dubai are considered the most effective and result-oriented in the world. The utilization of online digital technology has influenced individuals' social and mental well-being because of isolation during COVID-19 (Nell, et al., 2020). The findings associated with the opposing views of the influence of online digital technologies in teaching and learning of ASL included non-familiarization with online schooling scenario, maximum usage of gadgets instead of physical activities, uncomfortable feel in an online class where neither the teacher nor the classmates are physically around a student and time waste because of connectivity issues, hardware malfunctioning, or loss

of interest – related to that, hindrance in learning because students could not get enough support from their teachers to respond to their questions. For instance, in writing, students could not use the keyboard effectively to write online because they are not familiar with Arabic letters on the keyboard or do not have Arabic letters on their keyboards. Also, teachers preferred to use paper and pen in writing tasks because the digital keyboard will have a negative impact on students' writing skills in Arabic as they need to learn how to write the shape of each Arabic letter based on its position in the world. Still, the digital keyboard will not offer students how to write shapes of Arabic correctly as it is offering only one shape, and technology will manage the rest. Besides, entertainment and online distractors pop up during the online lesson has a negative impact on the teaching and learning process as teachers cannot monitor and control students' screens, so some students are attending only by their names. Still, they are not active or engaging in-class activity. Also, using technology for long hours has a negative impact on students' and teachers' health.

Research Question 2

Figure 5.4. Pictorial diagram about Motivate Learners of ASL to adopt digital online technologies

The second research question of the study was: How can teachers and other education stakeholders motivate ASL learners to adopt digital online technologies to foster ASL's learning comprehension during the COVID-19 pandemic?

The major findings indicated that students needed extra motivation to adopt the online learning methodologies, especially at the time of uncertainty, risk, and fear during the COVID-19 pandemic. It can be observed that most respondents claimed to be self-motivated to have a high level of intrinsic motivation. However, a minority of responded seemed to need higher extrinsic motivation to adopt or give up any specific behavior or action. Besides, teachers and stakeholders need to motivate students by motivational statements and hope, encourage personal learning, use collaborative activities, make activities time-bound, give rewards and positive feedback, provide guidance, do not push hard, use interactive technologies to make learning fun, and encourage personalized learning (Akbari et al., 2016; Alshenqeeti, 2018; Bambirra, 2017; Escobar-Fandiño et al., 2019; Garcia & Jurado, 2019; Guillén-Gámez et al., 2019; Ivleva & Fibikh, 2015; Kopinska, 2017; Olesova & de Oliveira, 2018; Panagiotidis, 2018; Shadiev & Yang, 2020; Zhang & Lin, 2019). It has been indicated in the responses that teachers and parents have the responsibility to motivate the students for online learning of ASL. Parents are responsible for making their children understand that extraordinary situations need extraordinary measures to cope and manage the best possible results. It is the safest option for the children to continue their studies and to learn through online schooling while staying at home in front of their parents safely and securely.

Furthermore, uncertainty, by its very definition, is where no one can predict the future or estimate things to become normal. In such uncertainty, students were required to focus on their studies as a diversion from the fear, which could be a helpful tool for the mental health of

children of young age. The data reveal that teachers were also reluctant for online schooling at first, but they gradually adopted the "new normal" with full determination and readiness. It has also been indicated that online schooling can be made more fun for the younger students to build their confidence and make learning more enjoyable. All the motivational techniques normally applicable in a traditional teaching-learning scenario were adopted and applied by the teachers during the online schooling sessions as well as some extra motivational techniques were adopted such as students were encouraged for the research work, leniency in the grading of assignments, and tests, less strictness in attendance and dress code, flexible routine, and activity-based assignments rather than lengthy theoretical write-ups. Similarly, flexibility was also shown during the tests where MCQs and short answers were used more than the subjective questions. Additionally, it was reported that the marking and grading system was also made flexible and lenient to encourage and motivate the students for better performance and interest in online learning; that is, greater risk taking with less regard for a higher grade.

Furthermore, teachers, students, and parents need to adopt the new learning method and not compare online learning and on-campus classes. So, all of them need not push hard each other because it will negatively impact students' motivation, teachers' motivation, and parents' motivation. The majority of students lose their motivation when teachers or parents push them hard to study after school day online. Also, the majority of teachers are losing their motivation when their leaders are pushing them hard to do many tasks besides teaching, such as meeting. Besides, the majority of students are motivated when they get personalized learning because they feel that teachers are working for them individually and caring about each of them, which leads to the relationship as a major aspect to motivate learners online as expressed by all students. Giving rewards and positive feedback is a great method to motivate students, and it will create a

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positive environment online. It will make all students feel secure and optimistic when they hear their teachers talking positively to each student and avoiding talking about the challenges outside because of the pandemic, which will negatively impact students' motivation. Teachers need to design collaborative activities with interactive and exciting content to motivate students online. All activities and tasks should be timed logically to keep students engaged in the activity and motivated to complete the task effectively. On the other side, sharing the same content in the face to face lessons such as PowerPoint, worksheets, PDF books, and to print materials at home all have a negative impact on the majority of students. Also, the steps have been followed in online Arabic lesson from the first minute to the last minute should be prepared well before the lesson by using attractive tools online to illustrate your lesson positively to students, and all instructions and objectives should be documented and posted for all students to be a guidance for them during the lesson. Organized lessons and clear instructions have a positive impact on the majority of students' motivation. Also, oral, or undocumented instructions, un well-prepared lessons, overwhelming tasks, and too many challenges questions have a negative impact on the majority of students. Also, the majority of participants expressed that Synchronous is motivating learning to learn online because there are interaction and engagement in the learning process. Asynchronous sessions do not motivate learners to learn because they lose their interest as it is only one-way learning. Furthermore, the majority agreed that the combination between synchronous and asynchronous are more beneficial because it will allow learners to have the content to review at any time, additional to interaction with learners and teachers in the learning process, which has a positive impact on students' motivation. Lastly, the majority of students expressed that teaching and learning Arabic for academic purposes is motivating learners to learn

Arabic and not for religious purposes as most learners are not Muslims, and teaching Islamic

texts in the Arabic lessons has a negative impact on non-Muslims students' motivation.

Research Question 3
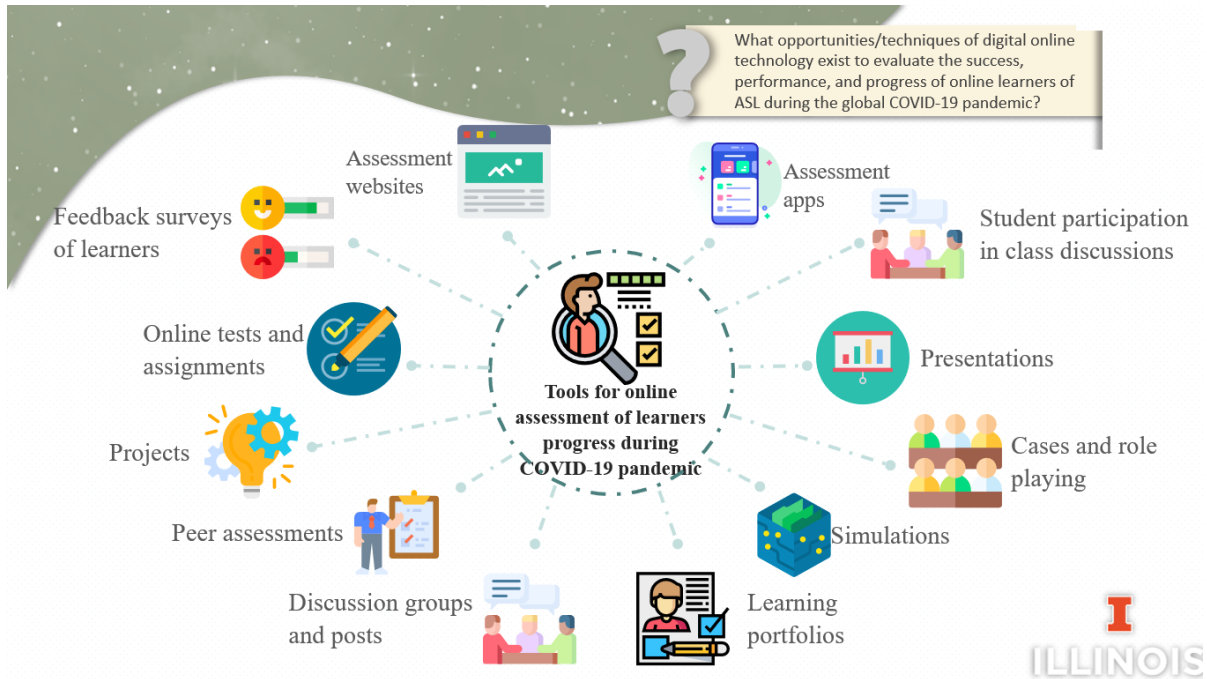
Figure 5.5. Pictorial diagram of tools for online assessment

The third research question of the study is: What opportunities/techniques of digital

online technology exist to evaluate the success, performance, and progress of online learners of

ASL during the global COVID-19 pandemic? The major findings are many and include several

evaluation techniques were adopted in the online teaching-learning scenario to assess the

success, performance, and progress of online learners of ASL during the COVID-19 pandemic.

The study's teachers have stated that the evaluation and assessment in an online teaching-

learning scenario cannot be summarized as summative. Still, it was claimed, rather it is of

formative nature were teachers or instructors assess and evaluate the students' progress daily or

weekly based on the students' performance of tasks (Martin & Ndoye, 2016).

In a traditional teaching-learning situation, formative as well as summative assessment techniques, are adopted. During the COVID-19 pandemic, schools were closed, and students were learning solely through online platforms. Hence, it was reported that the summative assessment, including the end of term exams or final exams, was out of the question to ensure the students' safety and security. New topics were introduced and taught to the students during the online schooling and practical implications through projects or assignments. The teachers evaluated students for each topic by giving them specific tasks, projects, assignments, or responses during the class in a question-answer session. The teachers claimed they used the evaluation techniques of question-answer sessions, projects, collaborative groups, discussion board, audio and video response, assignments, and short tests to assess the students' progress and understanding level for a certain topic. It has also been indicated that various online learning websites are well equipped with the evaluation techniques that provided teachers and learners opportunities to assess their understanding level and progress. Nevertheless, it is to be noted that the evaluation techniques and opportunities adopted during online teaching and learning should be considered formative assessments rather than summative assessments.

All the students were promoted in the next grades based on their teachers and coordinators' formative assessment during their online learning sessions. The majority of students and teachers reported too many useful tools such as assessment apps, assessment websites, cases, role-playing, discussion groups and posts, feedback surveys of learners, learning portfolios, online tests and assignments, peer assessments, presentations, projects, simulations, and student participation in class discussions. The majority of teachers agreed that all online assessments available in Dubai for ASL are not reliable and relevant to the KHDA standards

because there is a massive gap between the curriculum, standards, students' levels, and online assessments.

All participants expressed no external assessment for ASL to measure all Dubai students' performance and progress, which forces all schools to buy online assessments or design their own assessments that are not sufficient to measure students' progress and performance in ASL. Hence, ASL students' data are not meeting the KHDA's inspectors' criteria, which explain why there is no Arabic department was rated as outstanding in outstanding schools in Dubai or at any other school. The majority of teachers and students struggled to figure out the starting point for all students as all Arabic online assessments based on how many years students have been studying Arabic and not based on their actual levels, which has a negative impact on students' assessment, progress, and performance. Students are making progress, but the assessment does not show that the assessment does not meet the students' abilities and levels.

Furthermore, the majority of teachers and students reported that assessing speaking is the most interesting and relevant for both teachers and students. Teachers could use the online sessions to discuss based on clear rubrics to evaluate students' speaking skills. Besides, the majority of teachers and students expressed that the listening and reading skills were interesting and fun to be evaluated online through role-plays and watching videos. On the other side, the majority of teachers expressed that writing was the only skill. Teachers were challenged to evaluate it because of open sources to students, and they could copy from online sources. Hence, the majority of teachers used online dictation to measure writing and listening at the same time by asking students on their cameras and video based assessments was the only solution to eliminate the cheating aspect (Ramsin & Mayall, 2019; James, 2020; Sun, 2020). Still, it was a critical solution to observe students online (Au et al. (2015) because it has a negative impact on

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students' privacy. The minority of teachers used simulation apps to assess students online. Still, it is costly for almost all schools to purchase, so the majority of teachers used recording videos in daily life situations instead.

Limitations

As with all research there are limitations, and this study is no different. This student dealt with only 20 private schools in Dubai. However, the Arabic programs are offered in all Dubai private schools with the same standards and criteria of KHDA and MOE. Additionally, the sample size was not extremely large. Though there were a fair number of qualitative interviews, 20 were between teachers and students in total. This adds up to limiting the generalizability to a larger population. Additionally, it would be more useful to involve more stakeholders such as foreign languages teachers, parents, schools' leaders, KHDA inspectors, curriculum developers, and technology developers. That would have aided in a broader perspective. Also, students of determination were not included in the study, so it would be helpful for future research to consider students of determination as they need assistance in learning Arabic as a second language.

Finally, the whole study was done on the timeframe of just a few months during the worldwide pandemic of COVID-19. Perhaps this would not have impacted a study not under such constraints, but time was clearly a factor when a virus with an unknown duration was a key variable in the student. Without COVID-19, it would be interesting to conduct the interviews under normal circumstances, and to have had the ability to walk through these private schools, visit the classrooms, and introduce the researcher himself to the teachers and students. Per the interviews, the Zoom platform and the Microsoft Teams were fully functional, provided a face-

to-face atmosphere, and a high-quality recording of the session. However, there is nothing quite like a face-to-face interview to create ambiance and free information flow.

Implications: Recommendations for Action and Future Research

It has been assumed that the current qualitative case study to explore the role of online technologies on online instruction and learning of Arabic as a second language during the COVID- 19 pandemic in Dubai would be significantly helpful in devising the best strategies to adopt online learning techniques. The analytical findings would also be relevant in assessing the techniques to motivate the learners for online teaching mode and learning specifically for ASL online. The study's findings are also considered helpful and significant for Dubai and the overall UAE's educational stakeholders to develop and adopt the best practices for effective online learning during the time of the pandemic.
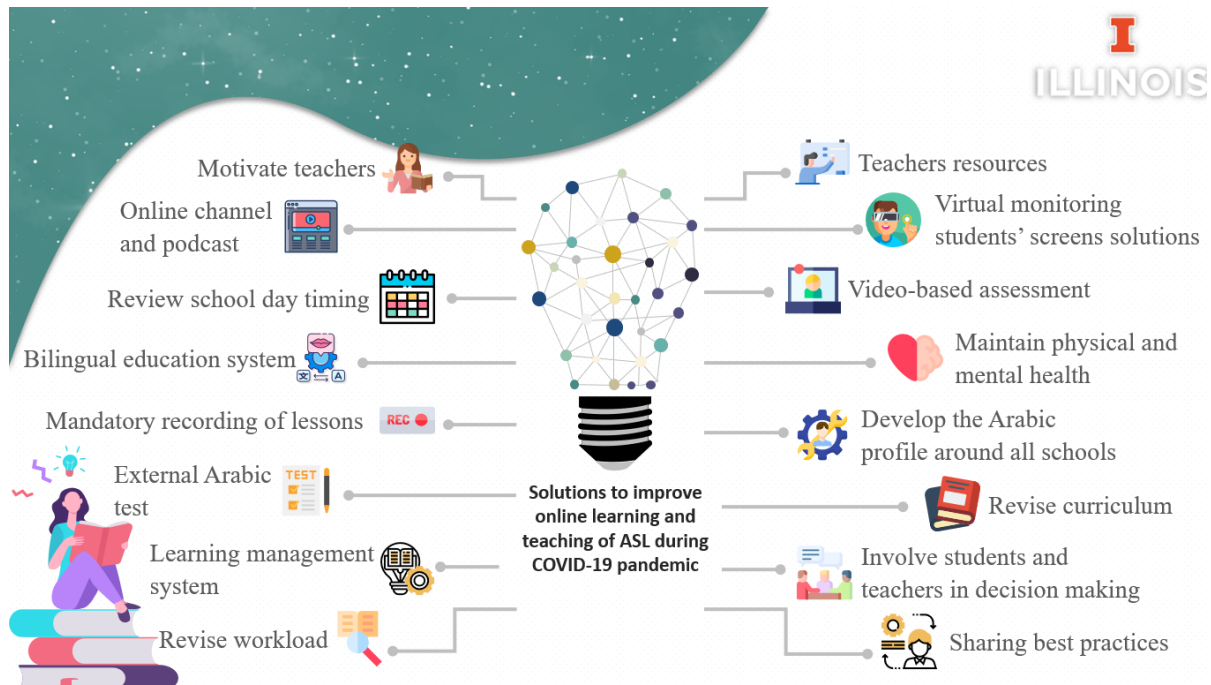
Figure 5.6. Solutions to improve online learning and teaching of ASL

As it is a case study of the Dubai education system and the findings are in the context of Dubai, therefore, the results are more reliable and have more practical applicability in Dubai. It is now a universal truth that COVID-19 has impacted the educational sector significantly. The traditional teaching-learning technique, such as lecture-based teaching or classroom activities, is totally canceled until the normalization of the COVID-19 situation. Hence, schools have moved towards the e-learning mode of instruction, which requires capacity and adequate infrastructure to support online technological adaptation. Based on the analytical findings, it is recommended that reliable and robust infrastructure and funding be made available to the schools so that the shifting from traditional methods to online methods can be done timely and efficiently. In this regard, the MOE and KHDA in Dubai have taken some remarkable and much-appreciated steps by providing free internet facilities, robust infrastructure, and extra funding for the e-learning classes or televised classes during the COVID-19 pandemic. Findings of the study are also considered helpful for the educational practitioners, policymakers, and leaders in devising the best strategy for the gradual adaptation of e-learning mode where the curriculum should also be modified as per the needs of online teaching. The findings have also indicated that proper training and modification of teaching methodologies are needed for the teachers to make them better equipped and suitable for the e-learning scenario.

It is recommended that training is needed not only for the teachers and students but also for the leaders so that the needs of online learning can be understood and appropriately met by all the stakeholders involved in the online teaching/learning. It has also been observed that Arabic as a second language is not an easy subject to be shifted on online learning, and extra assistance in understanding the pronunciation or context is needed by the students, which is sometimes missing during online sessions. The policymakers and curriculum developers are

recommended to modify the curriculum as per the context of online learning, and versatile opportunities should be provided to the students to learn and understand Arabic as their second language.

The study's findings also revealed that the testing process applicable in Dubai lacks the insight to evaluate the actual potential and progress of ASL students. The testing process is mainly linked with memorizing Arabic phrases, but students lack the capacity and ability to communicate effectively in the Arabic language. Hence, the policymakers at the MOE and KHDA should consider revising and modify the testing process techniques so that the students' actual progress can be measured and evaluated for the learning of Arabic as their second language.

Furthermore, the researcher recommended a curriculum review to ensure that the challenges identified in this study are addressed. Hence the curriculum should be based on standards to meet Dubai schools' environment and culture. Standards should not be translated from ACTFL or CEFR and to be applied in Dubai's schools. The curriculum should also be revised to be digitalized, and the meaning of digitalization is not to be working on a web browser. Still, students and teachers could use it easily on their devices and not PDF version.

Further, the content should be revised to motivate students to love and learn Arabic. Four different major curriculums should be for the following: one for kindergarten, one for elementary, one for middle school, and one for secondary. And each curriculum for a group year should have a pace for other sources from teachers and students to be added during the learning process. Also, standards should not be based on years of studying Arabic but based on students' actual level. KHDA should open the door for all Dubai schools and create a website for all teachers to log in and share their ideas and thoughts. Also, all Dubai teachers, students, parents,

and stakeholders participate in designing the curriculums. It will cost money as a project, but schools should pay with the KHDA to complete a strong curriculum and assessment. Also, it is recommended to hire qualified teachers to teach beginners in all schools, such as ELL support teams, so any beginner students will be enrolled in an intensive program with qualified teachers to meet his/her classmates' levels same happening in English class. Also, the idea of teacher assistance (TA) to do this role and pull out beginners' students to teach them is not sufficient because the TA is not qualified teachers. They have less salary than teachers, so they will be used to help and assist in covering classes, and by the end, his/her role will be as a substitute teacher and to support Arabic teachers and not Arabic students.

The solutions suggested in this study should be scrutinized on a regular basis to ensure they continue to positively affect training and learning ASL for decades. Parents, teachers, and other stakeholders should be enlightened on the impacts of motivating learners and teachers in fostering achievement of ASL learning and teaching outcomes. Motivation is beneficial for teaching practice. The researcher also recommends that the government and private institutions increase the technology infusion in ASL learning. However, caution should be taken to ensure that the infused technology is appropriate and infusion in line with the curriculum goals and provisions. Also, the KHDA and private schools should work with educational technology consultants or companies to develop a tool to be set up on all students' devices, so during learning mode, so students can not use their devices or browse other websites, or received any notifications. Also, the KHDA needs to revise the inspection criteria with their inspectors to ensure all inspectors are applying the criteria in all schools that they are visiting, not every year; the Arabic departments will have different evaluations based on the inspector. KHDA needs to review with the ministry of labor that all Arabic teachers are equal in their contracts with other

teachers, and all private schools should have a scale for all their teachers. The education colleges in Dubai need to do more research on Dubai schools and motivate Arabic teachers to enroll in master programs with scholarships to develop and improve Arabic learning and teaching in Dubai.

Based on the analytical findings, it is also recommended that online learning be made more flexible and manageable by teachers and students. The timing of online classes is recommended to be revised along with the duration of the session. Simultaneously, the amount of assignments or homework is also recommended to be reduced to become manageable for students to submit their home tasks timely with good quality work. On the other hand, the lesser amount of assignment will also ease teachers' burden who must evaluate and grade large amounts of assignments and prepare online lectures or supportive videos as supportive material. It is believed that the study and its findings will be instrumental for future research studies on this topic. It is also recommended for future studies to investigate methods or techniques to monitor summative assessment or large-scale assessments without breaking students' privacy, such as opening cameras or monitoring their screens.

Finally, the KHDA and MOE need to revise and digitalize the curriculum's content to meet online learning environments (Bin-Samah et al., 2016; Thurlow & Mroczek, 2011). Establish a teacher guide with lesson plans templates to apply the same teaching standards in all Dubai schools. Also, KHDA and MOE should be established dual language 50:50 program, which is literacy instruction is provided in the two program languages at all grade levels and for its duration (Goby, Nickerson & David, 2015). Living Arabic needs to give all Dubai schools more opportunities, rated unsatisfactory to outstanding as we need to learn from others' mistakes. It should also be one hour or a daily program to teach Arabic as a second language on

Dubai TV and linked to social media channels to motivate non-Arabs parents and students to learn Arabic in Dubai. Also, it could be a YouTube channel at the beginning (Albantani & Madkur, 2017). Additional to an online podcast is that all learners' Arabic as a second language is missing to listen to the language at slow speed and touch their daily life in Dubai (Rosell-Aguilar, 2015). A learning management system is required for Arabic as a second language because the future of education will not be the same. Hence, stakeholders need to work together to establish an online LMS to help teachers and students similar to Madrasa.org, and thedigitalschool.org but non-Arabs to have a strong infrastructure for online learning (MacLeod, 2019). The Dubai government also needs to use the high percentage of tourism in Dubai to motivate tourists and residents to learn Arabic by enrolling in enjoying Dubai and learning Arabic tourism programs. For instance, to offer to live with a native family to learn the Arabic language, it will spread the language and the culture. Also, stakeholders in KHDA and MOE need to look and read all researchers has been done and to try to implement the researchers' findings.

Dubai private schools need to review their Arabic and other subjects' timetables and balance days and classes between Arabic lessons. It is hard for students to study two Arabic periods back-to-back or two foreign languages lessons back-to-back. It is not impossible, but it is extremely difficult. Online timetable needs to be flexible, and periods should be short and should be between 30 to 40 minutes. For instance, the online school should start at 8:30 and should be 15 minutes break between the first two periods and 20 minutes break between every two periods, so will be 6 periods in total daily. The exit ticket should also be essential in all online lessons in the last 10 minutes to allow all students to talk about what they learn today and rest their bodies from writing and their eyes from focusing on screens. Also, art, physical education, or music

should not be canceled because they are needed daily to maintain students physical and mental health. Using artificial intelligence technology to take attendance instead of teachers, it saves time and motivates learners to engage in the learning process from the first minute. Also, schools need not isolate the Arabic department in one area, but the Arabic department needs to be closer to other subjects. Motivate Arabic teachers and create a secure environment for all teachers by justice and logical criteria. Also, planning periods time is recommended to motivate teachers to have daily one hour for planning and it does not mean teachers at home so they could work more than regular hours. Hence, if there is no lockdown in the city it is recommended to ask teachers to come and teach from the school to avoid all challenges teachers will face at home. But if there is a lockdown so teachers should stay home and teach from home with recording all sessions to make sure all teachers are meeting the criteria. Schools need to raise and develop the Arabic profile around all schools by labeling and translating all signs in Arabic along with the English, but you need to use external translation service not by Arabic teachers because they are not translators; hence there will be mistakes in translation and will be workload for Arabic teachers as well.

Arabic teachers should keep working hard as they are doing but try to develop their technology skills and teaching methods because teaching online is not the same as face-to-face (Riasati, Allahyar, & Tan, 2011; Velea, 2011). Hence, these teachers need to digitalize and visualize all their content, activities, assessments, and teaching approaches (Al-Mohsen, 2016; Aramă, 2019). Slow Their speaking and always remember that students are learning Arabic as a second language. Avoid using Arabic dialects and English because as teachers it is necessary to show Arabic skills in MSA and not in English (Husein, 2017). It would be helpful if Arabic teachers used paper and pencils instead of digital keyboards as students need to learn how to

write with a paper and pen how to write Arabic letters and connect all of them correctly. But using a digital keyboard will not maintain the writing skills in students' writing ability, and it will drawback their writing skills in Arabic. The solution is to ask students to write in Arabic notebooks, scan their work, and upload it online for peer-assessment and teacher assessment. Also, they could use a digital screen with a digital pen that is not expensive. Students could use it and share their writing outcomes with the teacher online on the assignments or on the discussion board to let all students evaluate each other. Moreover, teachers need to record their writing on a good quality video, and the zoom should be on the text and how it is the teacher who is connecting all letters and upload it to students, and it will be their rubric. In online writing, make the writing rubric is a video and not a paper. It would help if teachers had a passion for the Arabic language to motivate their learners to and how is Arabic language is important (Wilson et al., 2016; Maskor, et al., 2016).

مخطط توزيعي لفونيمات اللغة العربية
(الأصوات الصامتة)

هيــــــأة المخــــــارج النطقيــــة

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×				×				×							×				×	×	×						×	الانفجارية
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Figure 5.7. Arabic Phonemes (Consonants). (Abdul Jaleel, 1998)

Learn to share with other Arabic teachers their best practices for free. In online learning, teachers need to focus on what students can do instead of how much they are getting. Also, it would be better if teachers have more reading on Arabic phonetics and teach Arabic letters based on their sounds and not in order as shown in figure 5.7.

Lastly, all the previous recommendations and implications are not limited only to Arabic learning and teaching online or at the time of pandemic or epidemic, but it would be beneficial for all teaching and learning subjects such as English, math, science, physics, social studies, physical education, music, all foreign languages. Hence, any school or program that is willing to shift to online learning could apply all these program recommendations. Besides, all motivational and assessment methods apply to all subjects in general and foreign languages in particular. Moreover, the use of digital or the influence of digital implications needs to be reviewed carefully according to each subject need before the application. For example, using SIRI[4] to ask for a word meaning has a positive impact on students' acquiring new vocabulary in language education, but using the same tool to find the answer for a mathematical problem such as 8 multiply 4 has a negative impact on mathematics learning skills. Additionally, such as writing skills in Arabic have been affected negatively by using the digital keyboard.

It is hoped that future research studies will follow in the footsteps of the current study. This study's discoveries will significantly help devise a generalized approach for the successful and productive adoption and application of online learning and teaching.

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[4] SIRI is a virtual assistant who uses voice queries, gesture-based control, focus-tracking, and a natural-language user interface to answer questions, make recommendations, and perform actions by delegating requests to a set of Internet services (Wikipedia, 2020).

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Appendix A: IRB Approval

I ILLINOIS

July 24, 2020

Notice of Approval: New Submission

Principal Investigator	William Cope
Protocol Title	*Teaching and learning Arabic as a second language online: A case study of Dubai during COVID-19 pandemic*
Protocol Number	21034
Funding Source	Unfunded
Review Type	Expedited 6, 7
Approved Subparts	D
Status	Active
Risk Determination	No more than minimal risk
Approval Date	July 24, 2020
Closure Date	July 23, 2025

This letter authorizes the use of human subjects in the above protocol. The University of Illinois at Urbana-Champaign Institutional Review Board (IRB) has reviewed and approved the research study as described.

The Principal Investigator of this study is responsible for:

- Conducting research in a manner consistent with the requirements of the University and federal regulations found at 45 CFR 46.
- Using the approved consent documents, with the footer, from this approved package.
- Requesting approval from the IRB prior to implementing modifications.
- Notifying OPRS of any problems involving human subjects, including unanticipated events, participant complaints, or protocol deviations.
- Notifying OPRS of the completion of the study.

Appendix B: Samples of Letter Formation in the Initial, Medial, and Final Positions

Initial Position	Medial Position	Final Position	Separate
عـ عنب	ـعـ ملعقة	ـع ضبع	ع ذراع
غـ غزال	ـغـ ببغاء	ـغ صمغ	غ دماغ
صـ صقر	ـصـ عصفور	ـص مقص	ص غواص
ضـ ضفدع	ـضـ خضار	ـض بيض	ض أغراض
سـ ساق	ـسـ غسالة	ـس خميس	س جرس
شـ شمس	ـشـ عشب	ـش فراشة	ش عرش
طـ طائر	ـطـ عطر	ـط حائط	ط خياط
ظـ ظلام	ـظـ نظارة	ـظ يستيقظ	ظ محفوظ
بـ باب	ـبـ طبيب	ـب أرنب	ب سنجاب
تـ تاجر	ـتـ مكتب	ـت زيت	ت صوت
ثـ ثمرة	ـثـ مثلث	ـث ليث	ث تلوث
جـ جمل	ـجـ نجمة	ـج ثلج	ج دجاج
حـ حصان	ـحـ لحم	ـح قمح	ح جرح