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Improving Motivation in Arabic Language Arts Classrooms Through Technology Integration

Rima Chamout
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Rima Chamout

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Walden University

2020

Abstract

Improving Motivation in Arabic Language Arts Classrooms Through Technology

Integration

by

Rima Chamout

MA, American University of Beirut, 2007

BS, American University of Beirut, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

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Abstract

Many Lebanese teachers struggle to make the Arabic language enjoyable for their students to learn, therefore many Lebanese children use either French or English in their daily lives. Students' dislike of Arabic affects the way they relate to their society, which causes problems of belonging and identity—an important issue in Lebanese society. The purpose of this qualitative study was to understand how technology can motivate teachers' creativity in their teaching practices and explore student perceptions of learning the Arabic language with the support of technology. Rogers's diffusion of innovation theory and Dörnyei's L2 motivational self-system were used to understand how technology plays a role in the motivation of both teachers and the students as well as how the innovative teaching practices are diffused throughout the school system. Twenty-one students, 9 teachers, 2 coordinators, 1 principal, and 1 acting director participated in this exploratory case study. Classroom observations and interviews were the main data collection tools in addition to follow-up interviews. Open coding was used to create categories and themes, which were later narrowed via axial coding. Analysis of observations was done by the International Society for Technology in Education Classroom Observation Tool and field notes. Findings showed that teachers use technology creatively if they were given appropriate training. Further, students enjoyed the lessons more when technology was used, which led to positive learning outcomes. These results may increase the awareness of school administration, staff, and faculty on the best practices to enjoy teaching and learning Arabic.

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Dedication

I dedicate this dissertation to my father's soul. I wish you were here to see me become a doctor, like you wanted me to be. I also dedicate this dissertation to my mother, my husband, and sons. Thank you for your patience and support during my doctoral journey.

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Chapter 1: Introduction to the Study

Technology can increase the motivation of both teachers, to teach in creative ways, and students, to learn in an enjoyable setting, which improves learning outcomes. Technologies are evolving quickly and affect the educational field, which can allow students to have access to technological opportunities with creative learning strategies (Aşıksoy & Özdamlı, 2016). If schools adopt innovation acceptance culture, students may experience deep learning experiences (Freeman, Adams Becker, Cummins, Davis, & Hall Giesinger, 2017). Deep learning stimulates the development of advanced skills that children need for constructing complex understanding and meaning from the lessons, which can transfer to their future careers, as more jobs require continual learning (Seif, 2018). Students achieve deep learning when they engage in their learning process, find meaning in what they are learning, and connect their previous knowledge to the new (Danker, 2015). However, in third world countries, such as Lebanon, teachers are still teaching Arabic in a traditional or didactic manner that does not encourage deep learning or innovations, leading to a lack of motivation to learn (Bahou, 2016). But technology has been used to motivate students to learn English as a foreign language in Sudan (Mostafa, 2017), for example. Thus, the purpose of this study was to understand how technology motivates students to want to learn Arabic in Lebanon.

Furthermore, the use of the Arabic language is deteriorating due to the changing perception of Lebanese Arabic speakers have of their language (Mahmassani, 2016). Although learning more than one language offers new opportunities and helps in communicating cross culturally (Bacha, 2019), Arabic is also important to learn as

students' native language. However, many parents and teachers prefer to speak and teach children in French or English because French is a prestigious language, and English is a language of utility (Bahous, Bacha, & Nabhani, as cited in Baladi, 2018). This has resulted in students viewing Arabic as an unnecessary and difficult language to learn, which is causing a problem of identity and belonging (Hamzaoui, 2019). Additionally, like in the United Arab Emirates, Arabs feel that their mother tongue is inferior to the Western languages, so they are shifting away from it (Raddawi & Meslem, 2015). This negative view of the Arabic language affects the motivation of students to learn their mother tongue (El-Omari & Bataineh, 2018). The reluctance of some students to learn and use Arabic in their daily lives becomes emphasized in the classrooms because of the diglossic nature of the Arabic language (Gherwash, 2017), as there are two varieties of the same language—academic and vernacular—depending on the setting and the speaker (Asadi, Khateb, Ibrahim, & Taha, 2017; Hamzaoui, 2019).

In this study, the aim was to explore the perceptions of Arabic language arts teachers about the benefits or the disadvantages of using technology in their classrooms as well as the perceptions of students on the use of technology by their Arabic language arts teachers. In this chapter, the following sections are presented: background of the Arabic language, the problem statement, the purpose statement, research questions, theoretical frameworks, nature of the study, definitions, assumptions, scope and delimitations, limitations, and significance. The chapter ends with a summary.

Background

Lebanon is a small country located on the shores of the Mediterranean Sea in Western Asia. More than 4 million people live in Lebanon in addition to the many refugees who came from different parts of the world. The Situation Syria Regional Refugee Response (2018) estimated that the number of Syrian refugees is as high as 991,917, and the number of Palestinian refugees is estimated to be 449, 957 (Lebanon, UNRWA, 2018). This total brings the number of Syrian refugees to equal about a quarter of the 4 million Lebanese population who live in Lebanon (The Government of Lebanon and the United Nations, 2017). The refugee situation has placed more pressure on the Lebanese school system because more than half of the Syrian refugees are women and children (The Government of Lebanon and the United Nations, 2017).

Lebanon has been through many significant changes throughout its history from the Ottoman Empire to French mandate, to declaring independence in 1946. Additionally, there have been many conflicts and wars that have contributed to the emergence of a sectarian society (Baytiyeh, 2016). Though from 750 until 158, Arabic was the language of academia that recorded many scientific advancements in fields such as astronomy, mathematics, and medicine (Alshhre, 2016; Renima, Tiliouine, & Estes, 2016; Simonton, 2018; World Government Summit, 2016), many people learned to read and write it but not to speak it (Alshhre, 2016; Renima et al., 2016). Then came the colonization of the Middle East by the British and French in the 19th century, which treated Arabic as an inferior language that should be replaced by English or French (Aksu Kargin, 2018; Alshhre, 2016). As a result of the French imperialism, bilingualism and multilingualism

were introduced to many of the colonized countries by marginalizing traditional languages (Feldmann, 2016). Additionally, the many missionaries, such as the Jesuits, Maronites, and Catholics, who created their schools in the 19th and early 20th centuries allowed Lebanon to become a trilingual country where English, French, and Arabic are spoken and taught at schools (Aksu Kargin, 2018; Baladi, 2018).

Lebanon has two formal languages that are used in governmental and official interactions—Arabic and French—although English is widely used as well in the Lebanese society. The use of French, Arabic, and English in everyday communications has allowed Lebanon to become a multilingual and multicultural country (Akar & Albrecht, 2017; Baladi, 2018). Code-switching accompanies multilingualism, or polyglotism, and it is characterized by the speaker using two or more languages in the same conversation and sometimes in the same sentence (Baladi, 2018). Code-switching between Arabic, English, and French is affecting the way people communicate, especially those who belong to an upper and middle socioeconomic status because these children have more access to better learning experiences (Baladi, 2018). These people may code-switch due to the inability to speak using the Arabic language solely, which is especially evidence with the younger generation (Albirini & Chakrani, 2017; Altakhaineh & Rahrouh, 2017).

Arabic is a challenging language to learn (Ryding, 2018). The fact that there are three forms of Arabic, Classical, modern standard Arabic, and spoken, makes this language complex in the way the Arabic letters are written (Asadi & Khateb, 2017; Brosh, 2015; Tibi & Kirby, 2017). Modern Standard Arabic is usually found in books,

newspapers, presentations, and other official and formal documents, while the spoken Arabic is used for everyday communication (Horn, 2015), which also varies in dialect depending on the location. This variation in dialect provides many challenges for Arabs and non-Arabs who might not understand other dialects (Al-Sobh, Abu-Melhim, & Bani-Hani, 2015). The chasm, or diglossia, that exists between the Classical form of Arabic (the language of the Quran), Modern Standard Arabic, and spoken Arabic makes it hard for even Arabs to learn the Classical and Modern Standard Arabic languages (Carroll, Al Kahwaji, & Litz, 2017). It is like learning a second language because they do not naturally learn them; however, they have to learn them, formally, at schools (Hamzaoui, 2019). What further complicates this issue is the way Arabic is being taught in schools and universities, which causes students to disengage and become passive (Bahou, 2016). Despite the many studies that encourage teachers to use technology as a motivational tool and make the learning process enjoyable for their students (Gabsi, Patel, & Hamad, 2015; Harris, Al-Bataineh, & Al-Bataineh, 2016; Lai, Luo, Zhang, Huang, & Rozelle, 2015; Nikou & Economides, 2016), many teachers such as Arabic teachers struggle in using technology. This problem arises because their training focuses on theoretical rather than practical elements (Al-Zahrani, 2015). Teachers may also have negative perceptions about the benefit of integrating technology because they thought that it was useless and a source of distraction (Al-Busaidi, Al Hashmi, Al Musawi, & Kazem, 2016). Thus, there is a lack of Arabic teachers who use modern technology and innovative teaching strategies in the Arabic classrooms in Malaysia (Sahrir, 2015) and the same holds true for Lebanon. Therefore, Arabic teachers might need more training to allow them to have an

in-depth understanding of how technology can improve learning and motivate their students to learn (Al-Busaidi et al., 2016), as motivation increases the level of engagement and the cognitive processes during learning (Parong & Mayer, 2018).

Many researchers have investigated how different languages are being taught, but they were not specific to Arabic (Gabsi et al., 2015). Moreover, research has been unclear on the effects of incorporating technology in early literacy classrooms (Flewitt, Messer, & Kucirkova, 2015). Additionally, there is a lack of knowledge of the educational advantages of mobile devices as learning tools in the Middle East (Khan, Al-Shihi, Al-Khanjari, & Sarrab, 2015). One of the obstacles is the lack of motivation of teachers and students to use them for learning (Khan et al., 2015). Therefore, this study may fill the gap of the knowledge of how Arabic language arts teachers perceive the use of technology on their motivation to teach and on the motivation of their students to learn Arabic in Lebanon.

Problem Statement

In Lebanon, as is the case in many other countries, learners are not motivated to learn Arabic (Gabsi et al., 2015; Hamizul & Rahimi, 2015). This demotivation might be a result of the teaching of Arabic, which is based on grammatical translations and form and not on communication skills (Gabsi et al., 2015). Technology, when coupled with the knowledge of how students learn best, may impact the motivation of learners in a positive way (Lawlor, Marshall, & Tangney, 2015; Solak & Cakir, 2015). However, Lebanese teachers, who teach in public schools, are not confident in their ability to use technology in their classrooms, which might be caused by a lack of appropriate professional

development in addition to many other barriers that stand in the way of training future teachers within teacher education programs on how best to use technology in their classrooms (Nour El-Daou, 2016). Therefore, this study can address the factors that allow the teachers to use creative teaching practices via technology and how these practices allow the students to enjoy acquiring Arabic.

Purpose Statement

The purpose of this exploratory case study was to understand how technology motivated creative teaching practices within an Arabic language literacy classroom and explore student perceptions on learning of the Arabic language with the support of technology such as tablets, mobile phones, computers, different software, apps, and interactive whiteboards, or SmartBoards. Despite the controversy on the benefit of using technology in language arts classrooms (Spector, 2016), many studies have documented the positive effect of integrating different technologies within the teaching practices of the teachers (Gabsi et al., 2015; Morris, Lambe, Ciccone, & Swinnerton, 2016; Petko, Cantieni, & Prasse, 2017). Research has also suggested that technology improved the motivation of students to learn, which enhanced the students' learning outcomes (Haßler, Major, & Hennessy, 2015; Flewitt et al., 2015; Morris et al., 2016; Sawang, O'Connor, & Ali, 2017). Better learning outcomes affect the morale, perceptions, and teaching skills of the teachers who became more excited and open to using technology in their classrooms, creating a synergistic relationship (Uluyol & Şahin, 2016). Therefore, I explored the perceptions of teachers and their students about the benefits or disadvantages of using technology in their Arabic language arts classrooms. Future research could benefit from

this study, as it might provide suggestions for making the Arabic language enjoyable to teach and study.

Research Questions

1. How do Arabic language arts teachers perceive the influence of technology on their creative teaching practices?
2. How do Arabic language arts teachers perceive the influence of creative teaching practices on the motivation of students to learn Arabic?
3. How do Arabic language arts students perceive the influence of technological tools and creative teaching practices on their motivation to learn Arabic?

Conceptual Framework

The two theoretical frameworks that were used in this dissertation were Rogers's (2003) diffusion of innovation theory and Dörnyei's (2009b) L2 motivational self-system. Rogers's theory helped in exploring how technology was being diffused in the Arabic language arts classrooms and in exploring teachers' perceptions of technology as it related to their students' attainment. Dörnyei's theory informed this study about the motivation of some students to learn a language such as Arabic despite its difficulty, which can lead to ideas on how to help other students raise their motivation and engagement while learning Arabic.

Rogers's Diffusion of Innovation Theory

The central construct that made up Rogers's (2003) diffusion of innovation theory consisted of four elements. First, there was the actual innovation that goes through the many communication channels. These channels allow many people to create mutual

knowledge about the technology being considered. Time is needed to consider, categorize, and adopt the innovation, which is then diffused to or rejected by the larger social system, or the targeted population.

Further, Rogers (2003) suggested that individuals and organizations have to pass through the five stages of the innovation-decision process before they accept a new idea or innovation. The first stage is knowledge where the individual or organization is aware of the existence of the innovation or idea and tries to gain more understanding about it (Rogers, 2003). The second stage is when the individual or organization is persuaded to take a favorable or unfavorable attitude toward the new idea or innovation (Rogers, 2003). Decision is the third stage in which the individual or organization decides to adopt or reject the new idea or innovation (Rogers, 2003). The fourth stage is when the individual or organization chooses to adopt or accept to implement the innovation. Finally, the fifth stage is when the individual or organization confirms the benefits of the innovation or disconfirms them if benefits were found to be lacking (Rogers, 2003).

This theory provided an understanding of the reasons behind the refusal or adoption of technological tools within the Arabic classrooms. This theory also provided an understanding of potential reasons behind the hesitation of Arabic language arts teachers to adopt technology in their classrooms. It also allowed an in-depth understanding of the needs of the different schools and their teachers and the various ways in which they could address those needs.

Dörnyei's L2 Motivational Self-system

The construct that underlay Dörnyei's L2 motivational self-system (2009b) is the motivation that allows some students to persevere through the process of learning a second language. Motivation, according to Dörnyei, is a complex phenomenon where motivated students are actively engaged in their learning process. Although motivation may be used in different ways to describe the success or failure of learning a language, Dörnyei (2012) defined it as why people do what they do, which suggests that people choose a specific behavior, persevere through it, and spend the necessary effort to achieve their goal. According to Dörnyei, there are two types of motivation: external motivation such as getting good grades, threats, and punishment such as failing a course, and internal motivation, which might include self-satisfaction and the joy of learning something new (Dörnyei, 1994). Thus, it is important to examine multiple factors and patterns of motivation (Dörnyei, 2007, 2012).

Learning a new language involves complex cognitive processes that influence the mental activities, which in turn impact the identity of the learner (Dörnyei, 1994). Several motivational factors might influence a person to learn another language such as being interested in a particular culture, broadening mental horizons, challenging one's self, or being accepted by a new community (Dörnyei, 1994). However, the classroom environment, as set by the teacher, influences the level of motivation the students feel during a lesson, especially when the goal is sustainable learning experiences (Dörnyei, 1994). Because learning a new language takes many years, teachers need to help their students keep their motivational levels high to reach their goals (Dörnyei, 2007). To

maintain the motivation of L2 learners, which might take many years, Dörnyei (2012) advised teachers to aid their students to visualize their future ideal selves.

Because many Arabic language learners feel frustrated and bored in the Arabic language classroom (Bahou, 2016), Dörnyei's theory (2012) shed light on ways that Arabic teachers can use to enhance the motivation of the Arabic language learners. Furthermore, Dörnyei's theory (2001) helped show how motivation can help students learn better and enjoy the process. Teachers need to work at creating a motivating classroom environment to help the students enjoy and persist in their learning (Dörnyei, 2001). This theory worked well with this study, as it suggested ways in which the teachers could increase the motivation of their students to continue learning Arabic.

Nature of the Study

This study was an exploratory multiple case study. Nine elementary Arabic language arts teachers, 21 students, two coordinators, 1 principals, and 1 acting director from three schools were observed and interviewed about their teaching practices and how technology motivated or did not motivate them to be more creative in their teaching practices. Some of their students were observed and interviewed to understand how technology motivated or did not motivate them to learn Arabic. Interviews yielded transcripts that were coded and analyzed using Atlas.ti: The Qualitative Data Analysis & Research Software.

I did not consider other qualitative research approaches as valid for this study because of the following reasons. The narrative approach is used to examine the story of one person across time (Creswell, 2009), but I wanted to explore the way many

participants view the use of technology in the Arabic language arts classrooms. Grounded theory would not work for this study either because I did not want to generate a theory (Creswell, 2009). Furthermore, I did not use phenomenology because the rationale behind this approach is to describe the lived experiences of the participants for prolonged periods of time (Creswell, 2009), and this was not the purpose of this study. Finally, I did not consider ethnography because it focuses on untouched and whole experiences also through prolonged periods of time (Creswell, 2009), and this was beyond the purpose of this study.

A case study is a research strategy and does not imply a specific method to collect data (Yin, 1981). What distinguishes a case study from other research techniques is that it is used to examine a current phenomenon in real-life context, especially when the limits between the phenomenon and the setting are not visible (Yin, 1981). In this study, the aim was to explore and describe how technology was being used in Arabic language arts classrooms, which were natural contexts. Because case studies methods are usually used when the researcher tries to explain, explore, or describe a phenomenon in a natural setting, this technique worked for this study.

Definitions

Diglossia: A term that was first introduced by Ferguson (1959) to suggest that “in many speech communities two or more varieties of the same language are used by some speakers under different conditions” (p. 325).

Educational technology: “Educational technology is the study and ethical application of theory, research, and best practices to advance knowledge as well as

mediate and improve learning and performance through the strategic design, management and implementation of learning and instructional processes and resources”

(<https://aect.org/>).

Motivation: “Researchers seem to agree that motivation is responsible for determining human behavior by energizing it and giving it direction” (Dörnyei, 1998, p. 117).

Assumptions

Several assumptions were made about Arabic and technology. One was that the responses to the interview questions reflected, as accurately as possible, the way the Arabic teachers and their students felt about technology integration. The observations helped in reporting a clear picture of the proceedings of Arabic language arts classrooms while using or not using technology. Another assumption was that children would be more motivated to learn Arabic when technology was used as a part of their learning experiences. A final assumption concerned the importance of learning Arabic to the development of a healthy identity and an increased pride in the heritage of Lebanese school children.

Scope and Delimitations

This study was limited to three types of Lebanese schools (one private school that was tuition-based, one private school that was free, and one public school) that used technology as a part of their teaching practices. Public schools in Lebanon are usually underfunded, so they usually do not have innovative teaching tools such as tablets or SmartBoards. Private schools are generally better funded, so they might include

technology in their classrooms. For this reason, this study was focused on three different types of schools that were scattered across Lebanon. Some high-end private schools did not allow researchers to use their facilities for any projects or studies; therefore, I studied the classrooms to which access was granted by the administration. In addition, this study concentrated on two elementary (Grade 1-5) and one high school (Grades 7-12) Arabic language arts teachers who taught in these three schools and some of their students. The study excluded teachers and students who were in middle school and teachers who did not teach Arabic language arts in addition to those who did not use technology in their classrooms.

There has been little research done on young students, which led to an interest in how technology motivated Arabic language arts teachers to use innovative teaching methods, how teachers viewed the influence of technology on the motivation of their students to learn Arabic, and how students perceived the impact of technology on their motivation to learn Arabic. Due to the qualitative study with small sample size, the results could not be transferred to a larger population. To minimize the effect of this limitation on the findings of this study, a detailed and rich description of all the steps of the research were noted. This process generated thick data or information which facilitated the work of other researchers who wish to use the same process. Through rich and thick description of the case, other schools with similar samples might be able to make applications of the findings on how to effectively use technology in their Arabic language arts classrooms and how to motivate their teachers and their students to use innovative teaching and learning processes.

Limitations

The first limitation of this study was that the sample was small (nine teachers), so the findings cannot be generalizable to a larger population. A second limitation was that the findings might not transfer well to populations beyond the boundaries of Lebanon. A third limitation was that the findings might not represent all elementary or high school Arabic language arts teachers who worked within the boundaries of Lebanon. A fourth limitation was that the findings might be specific to the elementary and high school level of education and hence might not be generalizable to other levels of education. A final limitation was that the data were collected through interviews with teachers who might have limited knowledge of English, so the interviews were held in Arabic. However, I translated the information into English, and a sworn translator translated the interviews back into Arabic to ensure the validity, credibility, and trustworthiness of the information in both languages. To ensure accurate reports of the observations and so I did not infuse any of my biases into the data analysis, I used an field notes where a detailed description of what happened in the classroom during the observations was recorded (Berger, 2015).

Research bias is a well-known phenomenon with qualitative studies because the researcher interprets the data in an objective way (Fusch & Ness, 2015). However, all researchers have some background biases that might influence the interpretation of the data (Patton, 2015). To guard against any unconscious biases, I used an already developed instrument with permission (see Appendix B). Entering the study with neutrality, where the researcher did not have to prove that their theory was authentic and valid, also might inhibit the effect of bias on a study (Patton, 2015). Furthermore, keeping

a reflexive journal and detailed memos about the decisions made throughout the research process can bring into awareness any biases (Patton, 2015). Finally, I had a bias toward technology, because I believed in its benefit to the Lebanese educational system; however, this bias would not dictate the findings of this study. Findings are reported with transparency, honesty, and objectivity. Triangulation of the results and member checking also helped keep biases at bay (Johnson, Adkins, & Chauvin, 2019).

Significance

This study might add to the limited research on the motivation of elementary and high school Arabic language teachers to use technology in their classrooms and on the motivation of their students to learn Arabic. By exploring the way technology motivated or did not motivate students to learn their mother tongue, Arabic teachers can try to overcome the barriers to using it in their teaching practices. In addition, observing these teachers and their students provides a clearer picture of how technology is helping the teachers to motivate their students to learn Arabic. The findings of this study might help the teachers who are still reluctant to use technology in their classrooms to become convinced or not convinced of its benefit. The potential social change of the results of this study might help Arabic language arts teachers to use new teaching methods that motivate their students to enjoy learning Arabic and feel proud of their mother tongue, their culture, and their identity of being Arabs.

Summary

The depreciation of the Arabic language had led to Lebanese children thinking that Arabic is not essential to learn. Traditional, teacher-centered teaching practices have

also averted Lebanese students from learning Arabic (Bahou, 2016). Despite the research on the positive link between technology and motivation to learn (Flewitt et al., 2015; Gabsi et al., 2015; Morris et al., 2016; Nour El-Daou, 2016), only a few private schools have used technology in their classrooms due to many barriers.

Chapter 2 includes a discussion of the two theories upon which this study is based. The way that Arabic has been taught in schools, how teachers have been prepared, and the barriers that have stopped teachers from integrating technology in their classrooms are also described. Furthermore, an argument about the importance of people learning their native language to their identity and cultural belonging is addressed.

In Chapter 3, the research method is explained. Moreover, a detailed description is provided about the role of the researcher, the methodology, the instrumentation, the ethical issues, the participant recruitment process, the data collection measures, and the research analysis procedure. Finally, the chapter includes how I upheld trustworthiness and rigor during the whole research study.

Chapter 2: Literature Review

Introduction

Technology has taken over many aspects of everyday life, including how teachers deliver instruction (Zhang, 2017). Though some teachers have been convinced that technology is needed to motivate children to learn, others have been resistant (Tondeur, Scherer, Siddiq, & Baran, 2017). Many Arabic language arts teachers have been among those resistant to technology. Additionally, most Arabic teachers have limited computer literacy and training (Sahrir, 2017). Further, many school teachers have not used technology effectively in their classrooms because of their pedagogical beliefs (Tondeur, Van Braak, Ertmer, & Ottenbreit-Leftwich, 2016). However, motivation is important for increasing learner engagement, which can be done with multimedia such as images, graphics, and text with attractive colors and shapes (Mayer, 2014) as well as technology like iPads (Flewitt et al., 2015), interactive whiteboards (Uluyol & Şahin, 2016), videos (Long, Logan, & Waugh, 2016), digital storytelling devices (Chan, Churchill, & Chiu, 2017), and web-based applications (Fatimah & Santiana, 2017). Multimedia also allows students to access multiple information sources, which may promote deep learning (Amadiou, Lemarié, & Tricot, 2017) and better learning outcomes.

In addition to issues with using technology for motivation, students learning Arabic, even at the university level, have experienced frustration due to teacher-centered and didactic teaching practices (Bahou, 2016), which has reduced motivation to learn Arabic (Siregar, Febrian, Fajri, Al-Anshory, & Faizuddin, 2016). Another related problem highlighted in the research is students' dislike of learning Arabic (Bahou, 2016).

Many researchers have suggested that spoken Arabic used for everyday communication is different from the formal Arabic taught at schools and used in formal settings (Bahou, 2016; Gabsi et al., 2015; Gherwash, 2017), which has caused problems for Arabic language learners such as demotivation to learn the language (Che Haron, Ahmed, Mamat, Wan Ahmad, &, Rawash, 2016; Gabsi et al., 2015). Hence, the purpose of this exploratory case study was to investigate how technology, such as tablets, mobile phones, computers, different software, apps, and interactive whiteboards, was integrated in Arabic language literacy classrooms to improve motivation of school-aged students to learn Arabic and for their teachers to use creative teaching strategies.

This chapter presents the literature focused on topics to frame the effect of technology on the teachers' teaching practices and the students' learning experiences as well as the motivation of teachers and students as affected by technology. The section starts with the two conceptual frameworks that were the foundation of this study. In addition, it includes an investigation of how Arabic was taught in Lebanese schools, the effect of self-efficacy on the learning process, the effect of technology on the teaching practices, the teacher preparation programs in Lebanon, the relationship between motivation and technology, and the relationship between language and identity.

Literature Search Strategy

For this study, the literature search was conducted using databases such as ERIC, Education Research Complete, SAGE, that were accessed through the Walden University Library. The list of keywords used to conduct this research included, but are not exclusive to, *language acquisition, Arabic language acquisition, early childhood*

learning, technology in the classrooms, multimedia learning, videos in the classrooms, and technology and teaching. The articles used for this literature review were from peer-reviewed professional journals in addition to some books and conference proceedings.

Conceptual Framework

This study was focused on two theoretical frameworks: Rogers's (2003) diffusion of innovations theory and Dörnyei's (2009a) L2 motivational self-system. As research has shown, many teachers have been resistant to new ideas and teaching strategies, preferring the methods they knew best that had worked for them throughout the years (Che Haron et al., 2016). But these traditional, teacher-centered methods have caused students to feel frustrated and demotivated to learn Arabic (Bahou, 2016; Che Haron et al., 2016). However, Rogers's theory can help guide the process of diffusing innovations, minimizing resistance from stakeholders toward the innovation.

In addition, motivation has been linked to better learning outcomes (Al Rababah & Rababah, 2017; Haßler et al., 2015) and may be fundamental in facilitating the learning process (Lawlor et al., 2015). Thus, Dörnyei (2009a) proposed a theory to help teachers in motivating their students to learn a second language. By using Dörnyei's L2 motivational self-system for this study, a better understanding of the role of motivation in helping young students learn their native language was achieved. Arabic is one of the "super hard" languages, and it is the mother tongue of students and teachers in 23 countries (Mills & Belnap, 2018, p. 135). Dörnyei's theory shed light on the motivation of some students to learn Arabic despite its complexities.

Rogers's Diffusion of Innovation Theory

Rogers (2003) believed that people usually resist adopting new technologies because new ideas cause uncertainty and skepticism among the adopters. For this reason, change agents, who seek to make a change in a specific context, have to provide enough information to calm these anxieties. Therefore, diffusion requires communication of new ideas to a target group, which requires change agents to understand the group in-depth (Rogers, 2003). Rogers proposed four main elements in the diffusion process: the innovation, communication of the innovation, time, and members of the social system. In addition, Rogers identified five characteristics related to the innovation that could explain the reason behind the different adoption rates of individuals: relative change, compatibility, complexity, trialability, and observability. Relative change describes the degree by which an innovation is believed to be better than the previous one. Compatibility is when an innovation is perceived as meeting the current values, past experiences, and the requirements of the probable adopters. Complexity explains the degree to which an innovation is challenging to use. Trialability refers to the ability of the users to try the innovation without any negative consequences. Finally, observability explains the degree to which the users are able to see the results caused by the innovation (Rogers, 2003).

Rogers's diffusion of innovation theory (2003) helped in exploring the use of technology in Arabic language arts classrooms. Many researchers have used Rogers's diffusion of innovation theory as they explored the ways and the extent to which language instructors were open to use technology in their classrooms (Shah, Raza, &

Qazi, 2018; Yuksel, 2015). Rogers's theory has also been used to explore how diffusion of innovation took place in different contexts. For example, Jwaifell and Gasaymeh (2013) conducted a study in a Jordanian middle school about the perceptions of four female English language teachers who were using interactive whiteboards to learn how they used the interactive whiteboards. The findings showed that the five characteristics Rogers described were important in motivating the teachers to integrate interactive whiteboards in their teaching practices. Further, Dutta and Omolayole (2016) used the theory to examine the way men and women behave toward technology innovation adoption, finding that women were more likely to use technology if it helped them build a social support network, which aided them in understanding the complexities of that technology. Men, on the other hand, were found to be more inclined to use technology if it was practical and informational. Thus, differences like these may be taken into consideration when trying to diffuse an innovation (Dutta & Omolayole, 2016).

Rogers's stages of diffusion of innovation. Usually, the adoption process starts with a small group of people, whom Rogers (2003) called the innovators. This group consists of only 2.5% of the targeted population. The second group to adopt an innovation, according to Rogers, is the early adopters who make up 13.5% of the social system. As the innovation becomes well known and people see that it meets the five characteristics suggested by Rogers, the percentage of adopters, who are called early majority, rises to 34%. This group's percentage is the same as the late majority group, which also makes up 34% of the society. Finally, it is time for the laggards, or the late

adopters, who make up 16% of the population to adopt the innovation. These groups and their percentages are shown in Figure 1.

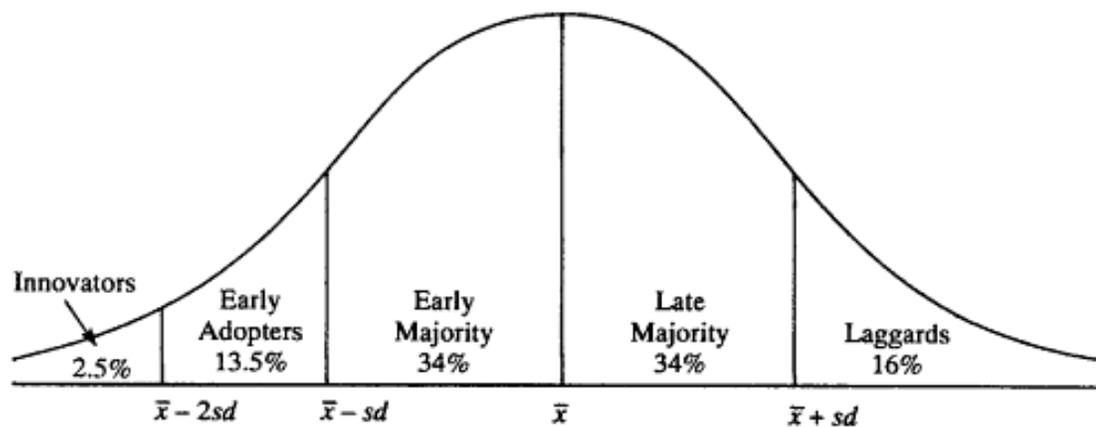


Figure 1. Different adopter groups. From *Diffusion of innovations*, by E. Rogers, 2003, p. 281. Copyright by Free Press.

Furthermore, Rogers (2003) argued that there were six stages that innovations generally go through before they are accepted. First, innovations might emerge because of a problem or a need in a specific society. Sometimes these are preventative measures or solutions to a problem that the society is suffering from (Rogers, 2003). The second stage is the research stage, where the innovation undergoes basic research, which is the initial examination of the innovation and then moves to the applied research, where scientists explore it to confirm that it can solve a problem (Rogers, 2003).

The innovation becomes noticeable when members of a social system discuss its benefits in helping them solve a problem (Rogers, 2003). When a new idea is deemed worthy by the target population, the innovation moves into the third stage, development (Rogers, 2003). Once the new idea passes the development stage, then the fourth stage, commercialization, is initiated (Rogers, 2003). Commercialization is the process where

the innovation is produced, manufactured, packed, marketed, and distributed in a social system (Rogers, 2003). In the fifth stage, diffusion and adoption is accepted or rejected, usually by gatekeepers. Lastly, the innovation has to withstand the consequences because of its diffusion within the target population (Rogers, 2003).

There are also five levels that the members of a social system go through to decide on whether they will adopt the innovation (Rogers, 2003). The first level is knowledge where a person is introduced to a new idea and the ways in which it functions (Rogers, 2003). The second level is persuasion, in which an individual develops either a positive or a negative attitude toward the new idea (Rogers, 2003). The third level is decision in which the person participates in activities to help in either adoption or rejection of the innovation (Rogers, 2003). The fourth level is implementation, which starts when the new idea is used by members of a social system (Rogers, 2003). The final level is the confirmation level, where the innovation either confirms its benefits or negates them (Rogers, 2003).

According to Rogers (2003), diffusion networks play an important role in communicating the advantages or disadvantages of an innovation. Rogers emphasized “opinion leaders,” who impact the rate of innovation adoption in a specific population. Opinion leaders can have a varying degree of similarity, homophily, or difference, heterophily to the targeted population. Rogers argued that the more homophilous an opinion leader is to the social system network, the more chance the innovation has to be adopted and achieving “critical mass”—the phase where enough people in a social system have adopted the innovation for it to become self-sufficient. The opinion leader

has to be similar to the average person in the network on most aspects except on technical knowledge and competence (Rogers & Bhowmik, 1970). Problems occur when change agents are too heterophilous to the network with which they do not communicate effectively to share the benefits of the innovation and the consequences that will happen if the innovation is or is not adopted (Rogers, 2003).

The diffusion of innovation theory is applicable to this study because it is important to understand how technology is disseminated throughout the work environment. Rogers (2003) suggested that innovation can be adopted in an organization based on the way in which an innovation is communicated through time in a social system. Because this study was aimed at understanding how technology is used in the schools and how it was diffused throughout the different schools, this theory was relevant.

Dörnyei's L2 Motivational Self-System

Dörnyei (2009a) suggested that motivation plays a fundamental role in helping learners learn a second language. Motivation, as defined by Dörnyei (2012) and many researchers, is the reason behind peoples' behaviors, the perseverance with this behavior, and the effort spent on learning new skills or languages (Henry & Cliffordson, 2015; Flewitt et al., 2015; Sawang et al., 2017). Motivation has also been linked to the cognition process and can have an impact on the emotions of a person (Dörnyei, 2012). For this reason, Dörnyei proposed that educators should understand the motivations of their students and how they affect the degree to which these students are working on their learning. Motivating and engaging students in their learning experiences result in

generative processing, or deep engagement, which leads to richer and more meaningful learning (Mayer, 2014; Parrilla, 2016). Motivation affects the learner's concentration and the efficacy of reading, which affects the amount of learned information (Parrilla, 2016).

Dörnyei's theory (2009a) provided a structure to explore the reasons behind the learners' dislike of learning the Arabic language, which aided in finding ways to motivate and engage students of Arabic in their learning process. According to Dörnyei, language is a complex system that has to be studied while considering the interaction between three factors: the language, the agent who is learning the language, and the environment in which the language is being taught or learned. Dörnyei emphasized the role of an agent-based framework, which highlights the importance of the interaction between the speaker or learner and his or her environment. For this reason, Dörnyei discussed four important factors that need to be considered when teaching or learning a language because learning any new skill requires complex higher-order cognitive processes.

The first factor is "conceptualizing the agent" in which individual differences of learners can be understood more concretely when they are seen as an interaction between a learner or speaker and a particular environment at a certain point in time. For instance, individual differences are the differences in the extent to which L2 learners can master the language they are studying (Csizér & Dörnyei, 2005). Additionally, motivational tactics may result from the interaction between the learner, his or her environment, and the time he or she spends on learning the new skill (Dörnyei, 2009a). These motivational tactics involve continuous evaluation and response operation on the progress of the learner, which are then amended to suit the new context (Dörnyei, 2009a). The second

factor is “conceptualizing the environment and its relationship with the agent,” which involves two opposing views: the individualistic perspective in which the social environment is important only as it is seen by the speaker or learner and the societal perspective that focuses on how society impacts the behavior of the speaker or learner (Dörnyei, 2009a). The third factor, “operationalizing the dynamic relationship among language, agent and environment” impacts the teaching or learning of a new language. It also influences the learner’s or the speaker’s environmental factors, such as age, motive to learn the new language, and the amount of time spent on learning it (Dörnyei, 2009a). The fourth and final factor, is “researching dynamic systems,” which involves the interplay of the language-agent-environment factors that are nonlinear and complex (Dörnyei, 2009a).

Dörnyei’s theory also describes a self-system, which pertains to a system of what motivates a learner to learn a second language. For example, Csizér and Dörnyei (2005) explored the different factors that combine to create different learner types of second language acquisition among teenagers (between the ages of 13 and 14). They found similar cognitive and motivational patterns between the population that help the learners in sustaining the effort and motivation to learn a new language. Among the common L2 learner traits, Csizér and Dörnyei suggested that the “ideal L2 self” influences how a person sees him or herself and whether they view themselves as proficient in the second language (p. 617). This dimension of Dörnyei’s L2 motivational self-system is usually intrinsic and can be fortified by using mental imagery and keeping the image of success alive (Csizér & Dörnyei, 2005). The second dimension of the self-system is more

extrinsic—the “ought-to L2 self,” which is composed of the beliefs a person has about what they ought to possess, which might not necessarily correspond to their desires or wishes (Csizér & Dörnyei, 2005, p. 617). The last dimension in Dörnyei’s L2 motivational self-system is the L2 learning experience, which relates to the direct learning environment and experience of the learner, such as the effect of the teacher or the curriculum (Dörnyei, 2009b).

Many studies followed Dörnyei’s theory to explore the motivation of the students while learning languages. One such study was done by Rosheen Khan (2015) in an all-female university in Saudi Arabia. The aim of this mixed methods study was to explore the presence of a relationship between L2 motivational self and L2 achievement self among the students. Data were collected from 100 students by using a structured questionnaire and a semi-structured interview. The researcher found that L2 ideal self does influence the motivation level of the students to learn English as a second language as well as their actual achievement in learning the language.

A second study was conducted by Rasool and Winke (2019), who conducted a mixed-methods study to explore the motivation and attitudes of Pakistani undergraduate students of three public universities to learn English as a second language. The researchers used Dörnyei’s L2 motivational self-system as the theoretical framework for this study. Both a questionnaire and semi-structured interviews were used to collect data from students. Two hundred and twenty-nine students participated in the questionnaire, and 11 were interviewed. The results showed that Dörnyei’s L2 motivational self-system

was well-founded in the Pakistani context and that this theory could be used to investigate the motivation and attitudes of English learners in Pakistan.

Literature Review Related to Key Concepts

Arabic Language Arts in Lebanon

Lebanon is a trilingual country where Arabic, English, and French are taught in schools. Most major subject matters, such as mathematics, science, history, geography, and the like, are taught using either French or English with only a handful of subject matters taught in Arabic, such as Lebanese history, Lebanese geography, and civics. In addition, despite the fact that Arabic is one of the formal languages of Lebanon, most private universities have English as their language of instruction (Bacha, 2019). For this reason, students of all educational levels feel that Arabic is useless for them even though it is their native language (Bacha, 2019). Furthermore, Lebanese students preferred to learn in either French or English as they are the prestigious Western languages that will boost their futures (Orr & Annous, 2018).

According to the Central Intelligence Agency (2019), almost 23% of the Lebanese population consists of children who are 15 years of age or younger in 2018. Furthermore, with reference to the statistical publication by the Center for Educational Research and Development (2016), 68.2% of Lebanese students are either in preschool or in elementary school. More than fifty-three percent of elementary students are enrolled in Grade One in schools that teach primarily in French, while 46.5% attend schools that use English as its language of instruction (Center for Educational Research and Development, 2016). Most of the students (85.2%) are Lebanese, with 8.9% being Syrian refugees, and 4.2% are

Palestinian refugees (Center for Educational Research and Development, 2016). Around forty-three percent of all students are enrolled in public schools, and only 26% are enrolled in private schools (Center for Educational Research and Development, 2016).

With all the statistical data that was read on the educational issues in Lebanon, few related to the Arabic language arts in either the private or the public schools. As Mahfoudhi and Abdalla (2017) proposed, there is scant research on the challenges of learning and teaching Arabic in the Arab world as well as teaching Arabic in Lebanon (Mahmassani, 2016). This observation made me wonder about the importance of Arabic in Lebanon as a whole. Orr and Annous (2018) corroborated the proposition put forward in this study that Arabic is not considered an important subject in Lebanon when they suggested that most Lebanese students are being marginalized by the way Arabic language is taught at schools. Further, Brosh (2019) agreed with this conclusion by stating that there existed many factors that hindered the Arabic language learning process. Diglossia was the first but not the only reason for this phenomenon (Brosh, 2019). Some of the other reasons were the importance that was given to English or French when compared to the Arabic curriculum, the unattractive quality of the instructional material, in addition to the inclination of the parents to teach their children English or French which harms the Arabic language (Mahmassani, 2016).

For this reason, Lebanese children graduate from high school without having sufficient literacy skills in the Arabic language (Darwiche Fedda & Oweini, 2012; Nassir El-Dine, 2014). Al-Masri (2014) agreed with this point of view, and she further suggested that Lebanese students viewed Arabic as being difficult because of the way it was being

taught in schools. Arabic teachers focus on grammar, hoping that their students become proficient in literacy skills, such as writing and reading, but this traditional way of teaching is not reaping its planned benefits (Mahmassani, 2016). On the contrary, students make many grammatical mistakes, and they are bored and frustrated during their Arabic lessons because they do not understand the reasons behind what they are being taught and why (Bahou, 2016). Furthermore, according to Bahou (2016), most teachers focus on finishing the curriculum and on testing grades without any regard to the students' needs or interests. This focus brings into question how to better teach Arabic language arts to motivate the students to enjoy learning Arabic and using it in their daily lives.

Moreover, researchers should not only focus on the motivation of the students to learn, but also on the motivation of their teachers to learn new ideas, such as integrating technology in their classrooms (Al-Busaidi et al., 2016). For this reason, several researchers (Flewitt et al., 2015; Rizvi, Gulzar, Nicholas, & Nkoroi, 2017) have suggested that teachers' perception about this integration is crucial in motivating them to learn efficient and effective ways that help them integrate technology in their classrooms successfully.

This literature review focuses on three themes. The first theme is how teachers perceive the effect of technology on their motivation to teach Arabic in their classrooms. The second theme focuses on how Arabic language arts teachers perceive the influence of technology on the motivation of their students to learn Arabic. Finally, the third theme

explores the relationship between technological tools and innovative teaching practices and the motivation of students to learn.

Self-Efficacy in Learning Arabic

According to Mills and Belnap (2018), self-efficacy, which is the belief of an individual about his or her ability to perform a task or finish an activity, is the most consistent indicator of academic performance across many research studies. Mills and Belnap suggested four factors that affect self-efficacy in foreign language learning. Mills and Belnap (2018) cited Bandura (1997) when he discussed the social cognitive theory and self-efficacy, which emphasized the role of the individual's beliefs about him or herself in learning a language. These beliefs are comparable in importance to the curriculum design and the teaching methods. According to Mills and Belnap, the social cognitive theory was first discussed by Bandura (1997) as a human functioning theory, which argued that there is a connection between the behavior, personal, and environmental factors, that affect the self-reflection of experiences, evaluations of an individual's own thoughts, feelings, and actions. If the language learner does not perform well in a certain learning environment, he or she might feel anxious, as a failure, develop negative self-beliefs about his or her experience and internalize them, and finally become doubtful about the whole worthwhileness of the whole experience (Mills & Belnap, 2018). Usually, prior experiences, personal characteristics, and social influences determine the level of engagement in learning a language (Mills & Belnap, 2018).

Self-efficacy and language learning are also important as they affect how students feel about language learning tasks (Mills & Belnap, 2018). Here, the students who have

higher self-efficacy feelings become more competent at using the metacognitive strategies that allow them to learn a language (Mills & Belnap, 2018). These feelings of competency evolve as the learner progresses into the curriculum that either reinforces or weakens self-efficacy beliefs (Mills & Belnap, 2018).

Mills and Belnap (2018) cited Bandura (1997) when he proposed that there are four sources of self-efficacy. The first one is the “mastery of the experience,” where the learner perceives the outcome of prior experiences (Mills & Belnap, 2018, p. 139). So, if the learners had previous successful experiences in their language learning class, they will be more open to positive self-efficacy beliefs that impact their future performance (Mills & Belnap, 2018). The second source of self-efficacy is the “vicarious experiences” of the language learner’s peers (Mills & Belnap, 2018, p. 141). If peers model competence and enthusiasm in a positive learning environment where the teacher provides guided practice and follow-up with corrective feedback, the language learner might become more engaged to reach their language learning goals (Mills & Belnap, 2018).

The third source of self-efficacy is the “verbal persuasion,” which is the performance feedback about the student’s ability to finish a task (Mills & Belnap, 2018, 143). Here, positive and constructive feedback and encouragement may reinforce self-efficacy beliefs that the student has about him or herself and hence enhance the performance, drive, and innovation while learning a language (Mills & Belnap, 2018). Finally, “emotional indicators” involve the emotional standing of the individual (Mills & Belnap, 2018). If the learner has positive feelings, or “emotional indicators,” about

finishing a language learning task, by having a learning environment that is student-centered, and by allowing students to experiment freely without negative consequences, then their achievement and motivation to learn will be boosted (Mills & Belnap, 2018, p. 147).

Mills and Belnap (2018) suggested many ways in which Arabic language teachers can enhance the self-efficacy of their students, which will, in turn, improve their performance and learning outcomes. Some of the suggestions are that teachers should provide several opportunities for the student to experience success, while working on a task, by offering scaffolding, guidance, and showing support (Mills & Belnap, 2018), which helps in the mastery of experiences (Mills & Belnap, 2018). A second suggestion concerns the credibility of the teacher to influence the motivation of the students by sending them the “you can do it” message, which enhances the vicarious experiences of the students (Mills & Belnap, 2018, p. 141). To use verbal persuasion in a classroom means that the teacher should encourage students while holding them accountable for realistic expectations (Mills & Belnap, 2018). Lastly, giving the students the necessary skills to become independent life-long learners, as inspired by Dörnyei (2009b), helps the learners become self-regulatory and more intrinsically proactive in their learning experiences (Mills & Belnap, 2018).

Technology Impact on Teaching Practices

Many research studies explored how teachers’ perceptions influenced their use of technology in their teaching practices (Flewitt et al., 2015; Jwaifell, & Gasaymeh, 2013; Rizvi et al., 2017; Sawang et al., 2017). These researchers proposed that the technology

being used is as good as its user. Yet, and despite the many research studies that encourage teachers to use technology in their classrooms (Al-Busaidi et al., 2016; Rizvi et al., 2017), some teachers are still hesitant to integrate technology in their classrooms (Al-Busaidi et al., 2016; Flewitt et al., 2015). This is due to many factors, as suggested by Rogers's diffusion of innovation theory (2003) which stated that for an innovation to be positively accepted by users, innovators have to take into consideration five attributes of successfully diffused innovations: Relative advantage, compatibility, complexity, trialability, and observability. These attributes are described as follows:

1. Relative Advantage: Level of perception of the users that the new innovation is superior to the previous one.
2. Compatibility: Level of perception of the users that the new innovation aligns with their prevailing values, previous experiences, and current needs.
3. Complexity: Level of perception of the users that the new innovation is simple or complex to use.
4. Trialability: Level of perception of the users that the new innovation can be used on a trial basis.
5. Observability: Level of observable benefits and advantages of the new innovation. (Rogers, 2003, pp. 15-16)

Rogers also included many necessary steps that help the innovation to diffuse successfully among the target population. One of these steps suggests that an innovation is best diffused if a network of heterophilous peers was present to support the different stages of the adoption process that individuals pass through (Rogers, 2003).

It is important to understand how technology impacts the teachers' willingness and openness to integrate technology in their classrooms. Some researchers have studied the barriers that affect, negatively, the teachers' perception of technology (Rizvi et al., 2017; Sawang et al., 2017). These barriers hinder the motivation and engagement of teachers to try new ideas in their classrooms, such as using technology. These impediments are categorized in one of two categories internal factors and external factors (Hur, Shannon, & Wolf, 2016). The external confines do not encourage the teachers to use technology in their classrooms. These include budgeting cuts in time and resources, (Tuzlukova & Hall, 2016), social influences (Sawang et al., 2017), absence of professional development training sessions (Rizvi et al., 2017), and a shortage of contextualized resources and professional development programs (Gabsi et al., 2015). The internal constraints to adopting technology in teaching practices are: low self-confidence in their ability to use technological tools (Flewitt et al., 2015), low motivation to learn new practices (Prasad, Lalitha, & Srikar, 2015), stress, lack of awareness of the benefits of technology, and age (Tuzlukova & Hall, 2016). Rizvi et al. (2017) added a third barrier, which keeps teachers from using technology in their teaching practices—teachers' inability to develop contextualized learning experiences that take into consideration the learners' needs.

Hur et al. (2016) advocated that schools and educational coaches should focus their efforts on modifying and updating the external barriers so that teachers change their pedagogical beliefs to promote successful integration of technology in their classrooms. Once the external confines have been marginalized, teachers will be more motivated to

include new and creative teaching practices, especially when they see how this is affecting their students' motivation to learn (Flewitt et al., 2015).

Teacher Preparation Programs in Lebanon

According to Darwiche Fedda and Oweini (2012), teachers of Kindergarteners do not expose their students to a sufficient amount of Modern Standard Arabic, or the more formal variety of Arabic, because the teachers think that the students will not understand it and that they will have to translate words from the Modern Standard Arabic into the colloquial, or spoken variety of Arabic, for example. In addition, these teachers, and the students' parents presume that young children do not like being read to in Modern Standard Arabic (Darwiche Fedda & Oweini, 2012). The overemphasis on English or French in schools and at home is causing the children to have mixed feelings about their native language, which is a symbol of their cultural identity (Darwiche Fedda & Oweini, 2012).

The teachers are poorly prepared for the challenges that face them, not only in Lebanon, but across many other countries such as Nigeria (Ajape, Mamat, & Azeez, 2015), Japan (Sumi & Sumi, 2018), and USA (Ryding, 2018). Usually, the teacher training programs focus on transliteration and grammar to the disadvantage of more current and innovative teaching practices, as for example, using technology and learning spaces (such as virtual spaces) in a way that will engage the students (Wahba, England, & Taha, 2018). Gass and Mohamed (2018), Ryding (2018), Sumi and Sumi (2018), and Wahba et al., (2018), along with many other researchers agree on the need to update the teacher preparation programs to allow future teachers to benefit from the new and

innovative teaching methods. In fact, Berbeco (2018) proposed that the teaching methods and materials are the same as they were ten years ago with little progress.

Research has suggested many strategies to help in minimizing the negative image that students have about Arabic. The first is that teachers should focus on communicative skills of the students that draw on integrated language skills (listening, speaking, reading, and writing). This strategy may benefit the would-be teachers who will have hands-on experiences on how Arabic language arts is best taught to their students (Gass & Mohamed, 2018; Ryding, 2018; Sumi & Sumi, 2018; Wahba et al., 2018). Furthermore, Bahou (2016) encouraged teachers to adopt the learner-centered classroom, which helps the students and their needs to be the focus of the teaching strategies. Moreover, Esseesy (2018) proposed that instructional materials should be created with the needs, motivation, and objectives of the learners taken into account and not what the author believes should be taught as is the case now. In addition, Ibrahim, Papadopoulos, and Karatsolis (2018) purported the necessity of integrating technology to motivate students and to allow them to enjoy learning Arabic.

Özdemir (2016) proposed that it is important for teacher training programs to go beyond what is offered during the courses to help the teachers become more confident with their ability to integrate technology in their classrooms. The teachers have to be able to practice using technology in practicum courses (Özdemir, 2016). By doing this, the teacher training programs may help the teachers become more skilled, knowledgeable, and confident in their ability to integrate technology in their classrooms, which is one of the barriers that hinder teachers from doing so (Özdemir, 2016). This, in turn, will reflect

on these teachers' teaching practices where their students will enjoy the benefits of using technology in their classrooms (Özdemir, 2016). Teachers will be able to foster, in their students, skills that are necessary for future careers such as solving problems, dealing with complex issues, and working cooperatively and collaboratively (Chaudhary, Agrawal, & Sureka, 2016).

Technology and Motivation

In the 21st century, technology is being viewed as an important tool to help motivate students with their learning experiences. This view includes subject matters such as Arabic language (Gharawi & Bidin, 2016), English literacy skills (Flewitt et al., 2015), History (Sumantri & Rachmadtullah, 2016), Sciences, such as chemistry, (Olakanmi, Gambari, Gbodi, & Abalaka, 2016), and mathematics (Arbain & Shukor, 2015) for school-aged students. In addition, many different soft skills such as collaborative learning (Martins, 2015), cooperative learning (Foldnes, 2016), and problem-solving (Howard & Howard, 2017) are important for students to be considered as educated and to allow them to make meaningful contributions to their society in general and their personal lives in particular (Jones, Barnes, Bailey, & Doolittle, 2017).

Motivation, as suggested earlier, is paramount in allowing students of all ages to become more engaged, persistent, creative, and take control of their learning experiences by making them meaningful to the students (Al-Busaidi et al., 2016; Dörnyei, 1998; Lai et al., 2015). Technology has been shown repeatedly to help motivate the students (Lawlor et al., 2015). Despite these frequent findings, many other researchers found limited benefits of technology as it relates to improving instruction. Rodríguez-Gómez,

Castro, and Meneses (2018), for example, suggested that there should be more studies that focus on the inappropriate and unethical ways in which some young people use technology these days. In addition, Pollock and Al-Bataineh (2018) proposed that additional research is needed to understand the perceptions of students on the benefits of the use of technology. By thoroughly investigating these issues, decision-makers can make educated decisions on the types of technology that work best with the target population and how to use it to reap its forecasted benefits (Pollock & Al-Bataineh, 2018).

Language and Identity

Many researchers cited the importance of learning one's native language since this influences the development of identity and the sense of belonging to one's society (Akar & Albrecht, 2017; Chhim & Bélanger, 2017; Cummins, 2001; Mahmood & Hassan, 2018). Since Lebanon does not emphasize Arabic in its schools, as has been presented in an earlier section, students do not feel the need to learn their native language, which harms the social unity and cohesion of the Lebanese society (Bacha, 2019). As presented by Akar and Albrecht (2017), some students in Lebanon face challenges when trying to study in Arabic, which causes them a feeling of incompatibility between their identities and the language in which they have to study, whether it be French or English. These students have to memorize information from civics or geography courses, which are taught in Arabic because they do not have enough confidence to trust that they will express themselves well during their exams (Akar & Albrecht, 2017). This issue is not one that is being faced in Lebanon only. The United

Arab Emirates suffers from a loss of identity, which is caused by the dominance of the English language over Arabic (Raddawi & Meslem, 2015).

One of the problems that face the integration of technology in developing countries, such as Lebanon, is the lack of contextualized information communication technology resources that cater to the needs of each culture (Çapuk & Kara, 2015). Since developing countries cannot produce their own technologies, they have to rely on the technologies that were produced in the Western world (Çapuk & Kara, 2015). This issue affects the cultural values that are being transferred from the Western Eurocentric society to other societies (Çapuk & Kara, 2015). Therefore, Çapuk and Kara (2015) advised non-Western countries to develop their own reliable and credible materials and software in their own language that can be accessed by all members of society. This problem is a sensitive issue since the primary purpose of language is to communicate, having the software and the information and communication technology resources mainly in English is forcing non-Western countries to be affected by the Western countries culture and language (Çapuk & Kara, 2015).

Summary and Conclusions

In this chapter, I discussed the two conceptual frameworks that were the foundation upon which this research was built. Furthermore, the author discussed how Arabic was taught in Lebanese schools, the role of self-efficacy in the learning process of Arabic, how technology impacted teaching practices, the teacher preparation programs in Lebanese universities, the role of technology on the enhancement on motivation of the

learners, and finally how language, identity, and feelings of belongings were linked together.

Several themes were discussed in Chapter Two. The first one was that the teachers' self-efficacy about their knowledge of technology impacted whether or not they integrated technology in their classrooms. The second theme concerned the importance of the teachers' attendance of contextualized workshops that would help them cater to the needs of their students and enjoy the learning process. The third and final theme focused on the efficacy of technology, coupled with the innovative teaching methods, to help students become motivated to learn Arabic, and the importance of this process in fortifying their identities and their sense of belonging to their community. As mentioned before, very few studies were done on school-aged children and technology, and even fewer tried to investigate how technology affected the learning experiences of elementary and high school students as they learn Arabic. In the next chapter, the research method is discussed in detail.

Chapter 3: Research Method

Introduction

The purpose of this exploratory case study was to understand how technology motivated creative teaching practices within an Arabic language literacy classroom and explore student perceptions on learning Arabic with the support of technology such as tablets, mobile phones, computers, different software, apps, and interactive whiteboards, or SmartBoards. There is a gap in how Arabic is being taught, especially with students who are surrounded by technology except in their Arabic language arts classrooms. To understand the effect of this gap, I explored the ways in which Arabic teachers used technology in their classrooms, any barriers that prevented them from doing so, the ways in which the students reacted to the use of technology, and whether the motivation of both teachers and students was augmented by technology.

This chapter addresses the research design and the rationale of the study, followed by my role as the researcher of this study, which includes my relationship with the prospective participants and the methods to minimize bias. I also discuss the methodology of this study: the participant selection process, the instruments used to gather the data, and data analysis. Finally, I address the credibility, transferability, dependability, and confirmability of the study in addition to the ways in which the personal information of the participants would be protected and ethical procedures respected.

Research Design and Rationale

The research questions that this study investigated were:

1. How do Arabic language arts teachers perceive the influence of technology on their creative teaching practices?
2. How do Arabic language arts teachers perceive the influence of creative teaching practices on the motivation of students to learn Arabic?
3. How do Arabic language arts students perceive the influence of technological tools and creative teaching practices on their motivation to learn Arabic?

This study focused on the phenomenon of teaching and learning Arabic in Lebanese schools. I aimed to understand the different ways in which Arabic language arts teachers use technology in their classrooms in addition to understanding the barriers that deter some from doing so. Furthermore, I explored how using technology in the classroom might motivate the teacher to use more creative teaching practices and whether technology could motivate their students to enjoy learning Arabic.

I chose a multiple case study approach because it fit with my criteria and purpose. I did not consider phenomenology for this research because its purpose is not to examine the lived-in experiences of the participants for a prolonged period (Stake, 1995; Yin, 2004, 2013). Additionally, because of time frame limits and my purpose, I did not use the narrative approach as it requires a focus on one individual for an extended period (Creswell, 2009). Further, though I considered grounded theory, I did not choose this approach because it should be used when the researcher's purpose is to discover or generate a theory, which was beyond the aim of this study (Creswell, 2009). Finally, ethnography aims to examine in-depth individuals' cultures and environments, which did not align with this study (Creswell, 2009).

Because I wanted to explore the perceptions of teachers and their students when technology was integrated into the Arabic language arts classroom, a case study approach fit my study. Case studies are used to examine a phenomenon in a real-life context, especially when the boundary between a phenomenon and its context are unclear (Stake, 1995; Yin, 2004, 2013). In this study, my objective was to examine how technology (a contemporary phenomenon) affected the perceptions of the teachers and the students in Arabic language arts classroom (real-life context). Additionally, the boundaries between teaching and learning are not evident (Yin, 1981). Furthermore, the purpose of this study was to answer *how* and *why* questions, which can be achieved through a case study approach (Yin, 1981). Finally, my study involved three schools, and each was a case. Therefore, I used the multiple-case study design.

A multiple exploratory case study helped me understand how technology and creative teaching practices affect the motivation of school-aged students to learn Arabic in three different schools. This design allowed me to explore and describe how technology and updated teaching practices with technology influence the motivation of students and teachers. Case studies allow the researcher to explore, explain, and fully understand the phenomenon of interest in its natural setting (Yin, 1981). Observations took place in the natural setting of the classroom without any interference from me in addition to interviews as part of data collection. I approached three schools to have a more comprehensive picture of how technology was being adopted or not adopted in different contexts. Each school was treated as a different case in this multiple case study, which helped me in building a complete picture of technology integration in Lebanon.

The data helped answer *how* questions (Yin, 1981)—specifically, how technology can motivate teachers to be creative in their teaching methods and how technology and the innovative teaching practices affect the motivation of students to learn Arabic.

Role of the Researcher

My role in this study was that of an interviewer and observer. I did not have any relationship with any of the participants or any other party at sample schools. Therefore, there was no conflict of interest or power relationship that might threaten the teachers. Because I was the main instrument for data collection, it was important to be aware of my biases, negative or positive (see Rubin & Rubin, 2012). It was also important to make them clear in the study (see Chenail, 2011). Minimizing my biases was accomplished by keeping a journal in which every detail of the research was noted (see Patton, 2015). Journaling also helped for reflexivity, being transparent while writing down the decision-making process and its effects on the study (see Chenail, 2011). I have worked as an Arabic language arts teacher before, and I am passionate about technology use in classrooms; however, I aimed to be as objective as possible. Additionally, interviews helped me see patterns that aided me in developing the themes. This inductive process ensured that any biases were controlled.

Furthermore, it was important for the interview questions not to be misleading in any way (Chenail, 2011). Because I used an already tested instrument that was adapted from Jwaifell and Gasaymeh (2013) for the teacher interviews, there was no need for a pilot study. Using this instrument ensured that the questions were clear, asked about the phenomenon of interest, and were not misleading in any way (Chenail, 2011). Thus, the

study helped me in finding patterns in the integration of technology by Arabic teachers in their teaching practices and how their students reacted to this phenomenon (Harling, 2012).

One of the ethical considerations that might have undermined this study was the interviews with students. Because these children are underage, I asked them if they would be willing to answer some interview questions. After they accepted, I sent the consent letter to their parents with an explanation about the study, and I waited for them to sign the form and return it to me. Interviews with a few students were conducted to explore how technology in their classrooms affected their motivation to learn Arabic. All participants, whether they were teachers or students, were assured of the confidentiality of all information given by them. Furthermore, I had asked a panel of three experts to read my student interview questions to make sure that they aligned with the purposes of this study.

Methodology

Participant Selection Logic

Participants who fit the criteria for inclusion in the sample were selected from schools that integrate technology in their Arabic language arts preschool, elementary, and high school classrooms. In Lebanon, most schools are still following the traditional teaching method, but I inquired about those that use technology. Eight schools were approached, and the first three who agreed to participate were selected. The schools that integrate technology were information-rich cases because they align with my criteria to answer the research questions.

To begin the participant selection process, I contacted the secretary of the school and asked for an appointment with the principal or director. In Lebanon, usually, the principal or director has the right to accept or refuse any request to participate in similar projects. After the principal approved participation in this study, I asked to interview and observe Arabic language arts teachers in the school. Depending on the preferences of the school administration, the principal or director facilitated the meetings with the teachers and the observations that were required for the study. They also provided me with a means to announce that I needed participants.

The criteria that I had for recruiting participants were: being a principal or coordinator, being a teacher of Arabic language arts who were using technology in their classrooms daily as part of their teaching practices, and being a student learning Arabic. All participation was voluntary, and consent was obtained from the parents of students who agreed to participate. The number of participants depended on how many volunteers I was able to recruit.

Although there is no exact number for how many interviewees a researcher should have, it is usually left to the preference of the researcher as long as saturation is met (Guest, Bunce, & Johnson, 2006). I also needed to interview students whose teachers were using technology in their classrooms to get an overview of the effect of technology as it applied to Arabic language arts classrooms. Therefore, I used purposeful homogenous sampling (Creswell, 2009). Purposeful sampling helped me choose the sample that best answered the research questions. Having three different schools as case studies allowed me to view the problem of integrating technology in Arabic language arts

classrooms from three different perspectives, as I approached different types of schools (tuition-based private, free private, and a model public high school). This diversity of settings aided me in reaching thematic saturation.

To reach this sample, I asked the principal to allow me access to only teachers who fit within my criteria of using technology in the classroom. Across the three schools, approximately eight-10 Arabic language arts teachers and at least one student from each class were invited to participate in the study. Including a combined 16 to 20 participants across three settings supported saturation where repetitive themes were generated from interview questions. Interviewing between two to four teachers from each setting and some of their students was also sufficient to yield thematic saturation. However, if saturation had not been reached, then more teachers and students would have been approached and requested to participate. Additionally, triangulation was achieved through multiple settings while I played a different role at the different settings (i.e., researcher, interviewer, observer of both teachers and students) as well as obtaining some artifacts that helped me in understanding how technology was being integrated into the classrooms.

Instrumentation

For this study, I used interviews, class observations, and artifacts. I employed responsive semi-structured interviews, which allowed the interviewees to become conversational partners (Rubin & Rubin, 2012). This process helped the interviewees feel more at ease because the interview was more casual despite the additional responsibilities that the researcher had to bear, such as ethical considerations beyond what the

institutional review board (IRB) might ask for (Rubin & Rubin, 2012). For the teachers' interviews (see Appendix A), an already developed instrument was used. The author granted permission to use this instrument (see Appendix B). For the student interview questions (see Appendix C), I developed general questions that asked only about the students' perceptions of the use of technology in the Arabic language arts classroom. To ensure the validity and the reliability of this instrument, a panel of three research experts were asked to review the questions and give their feedback: my chair, my committee member, and a PhD holder who worked at a reputable university in Lebanon.

Furthermore, my committee members advised me on content validity issues by providing their feedback throughout the process. This panel of experts read the questions and made sure that they were not misleading in any way and that they asked about the information I wanted to gather and relayed this information back to me.

In addition, my initial plan was to include some video recordings and pictures that would be taken during the interviews and the observations to ensure that all the details were included in the data collection section of this study. I would have recorded only those participants who provided the consent forms. These tools would have helped me catch many nuances, subtle gestures, or voice tones that might be missed during the observations and the interviews. The artifacts, lesson plans, and physical products of technology that would have been collected would show whether technology integration was planned as a part of the curriculum or whether it was just an irrelevant addition to the lessons without a clear plan. However, the schools did not allow me to videotape the

observations in the classrooms, and hence some changes to the proposal had to occur.

More details about the changes are shared in Chapter 4.

Interviews

The teacher interview questions were adapted from Jwaifell and Gasaymeh's (2013) study that focused on the use of interactive whiteboards in English language arts classrooms in Jordan (see Appendix A), though there were differences between their study and the current one. In these questions the acronym "IWB," or interactive whiteboards, was changed to "technology" because the aim of this study was to explore how teachers used any technology in their classrooms and not just interactive whiteboards. I also added a few questions about the backgrounds of the different teachers to help with the transferability criteria. Some additional teacher interview prompts helped me explore how the diffusion of innovation theory applied to these teachers: how the technology became adopted (communication channels) and how long it took the teacher to adopt it (time). At the end of the initial interview, I asked the teachers' permission to contact them for shorter follow-up interviews. Teachers were contacted again to answer further questions and to do follow-up interviews and member checking.

The Jwaifell and Gasaymeh (2013) study developed the interview questions to investigate the extent to which four female middle school English teachers adopted the use of IWBs, as it related to their perception of the technology, in their classrooms in Jordan. This study was conducted to align with Rogers's diffusion of innovation theory (2003). Jwaifell and Gasaymeh also used document reviews and observations to conclude that with regular use of the IWB, teacher's perceptions shifted from the traditional

teaching methods to include more dialogues, open sources, and group work. The findings of this study encouraged more focus to be placed on teacher training workshops to include practical ways in which they can integrate technology in their classrooms. The interview questions were examined for content validity, consistency, predictability, accuracy, and stability by being refereed by four instructors from Al-Hussein University. The researchers also tested the instrument by using a pre-interview with one teacher from the same school.

The Jwaifell and Gasaymeh (2013) study had some differences to my study. First of all, Jwaifell and Gasaymeh's study was conducted in Jordan, while my study was conducted in Lebanon. Secondly, their study was done with four teachers from the same school. I interviewed nine teachers from three different schools. Thirdly, the teachers that were interviewed in the Jwaifell and Gasaymeh study taught grades six to eight. My study, on the other hand, focused on teachers who taught grades one to six (elementary) and from 7 to 12 (high school). The fourth difference between the two studies was that the teachers in the Jwaifell and Gasaymeh study taught English, while my focus was on Arabic language arts teachers. Finally, the Jwaifell and Gasaymeh study's concentration was on the use of IWBs, but my study asked the teachers about the use of all technological tools that they have at their disposal.

I also conducted student interviews with 21 children who were observed, who accepted to be part of this study, and who returned the assent form and the parent consent form. The questions were in a straightforward language to ensure their full understanding of the questions (see Appendix C). The aim of the interview questions was to understand

what affect technology integration has on the students' learning experiences. The students were not asked any sensitive information such as personal information, and their privacy was upheld so that no harm can come to any of them. The student interview questions, as mentioned earlier, were reviewed by three research experts whose feedback helped edit the questions to match the aim of this study.

Observations

Observations were also important technique to see what was happening in the classroom. For example, some teachers might suggest during the interview that they do not need technology to engage and motivate the students to learn, which observations could confirm or disconfirm. I notified the teachers that I was there just to observe and not to judge. I was as nondisruptive as possible during the observation process. I used the International Society for Technology in Education Classroom Observation Tool (ICOT; see Appendix D) to measure how technology was being used in the Arabic language arts classrooms (ISTE, 2011). The ICOT was created by Hewlett-Packard Company and ISTE in 2008 to help observe both pedagogy and technology use in the classroom, and it is one of the few tools that provide this kind of information (Elmendorf & Song, 2015). By using this tool, the researcher can collect data on classroom setting, how the students are grouped, the types of learning activities that are taking place in the classroom, the role of the teacher, in addition to how frequently and what type of technology was used (Elmendorf & Song, 2015). Thus, this tool helped me evaluate and observe how teachers use technology as well as their pedagogy.

Artifacts

The artifacts that would have been collected in this study were copies of some lesson plans to check how technology was being integrated in the lessons. In addition, to the products that the students created and whether they were meaningful and paralleled what was found in the lesson plans. Usually, schools require teachers to create a lesson plan, which included the activities that would take place in the classroom during a specific period or a group of periods to make sure that the students were exposed to all the required skills and information. Although some teachers might have some technological tools at their disposal, they might not include how they would be used in their lesson plans. The lesson plans would have been analyzed for how intentional the use of technology was in the classrooms, whether technology was used to teach certain skills and information or just as a pastime. However, I could not gather any of the artifacts because the teachers did not provide me with any lesson plans, despite my insistence. Furthermore, I was not allowed to gather any of the students' productions.

Examining these artifacts would have allowed me to have a broader outlook on the use of technology in the Arabic language arts classrooms and how this use impacted the motivation of the teachers to employ new teaching strategies and of the students to be active in their learning experiences. Both sets of artifacts would have been analyzed using the lens of Rogers's diffusion of innovation theory. This theory would have answered the following questions, as inspired by Rogers: how is the technology being used (Innovation) and who are the teachers or the students who are using it (Social Systems).

Procedures for Recruitment, Participation and Data Collection

Recruitment. I approached eight schools in the hope that they would agree to take part in the study. The first three schools that agreed to participate were included in the study. A letter from Walden University was necessary as proof of my enrollment. I asked the secretary of the school for an appointment with the principal or director of each school, showed them the letter of enrolment, told them about my study, and answered any questions they had. Besides, I explained to these principals or directors the role they had in the data collection process. For the public high school, I had to get a permission from the Ministry of Education and Higher Education. The principals or directors suggested the names of some teachers who might be interested in my study and who best fit my criteria, in addition to offering to inform the teachers of my study. I waited to see who would volunteer. A few teachers did volunteer.

Teacher participants. I approached the teachers that volunteered and asked them for a short meeting to explain my study and my data collection process. In this meeting I explained the aim of this project and assured the teachers that I was there to observe and ask questions, not to judge them. In addition, assurances were given that all information and identities would be confidential and that no one would know who said what. The teachers were asked to sign a teacher consent form.

Student participants. I used a slightly different technique to recruit student volunteers from the different settings. For the first school, I sent out the parent consent forms with all of the students from all the classes that I was observing (four classes) and waited until I got back a few signed forms before I began my interviews. I then asked the

students if they would like to sit with me so that I can ask them some questions about technology in their Arabic classes. I interviewed only the students who agreed. For the second and third settings, I asked the teacher to allow me to stand in front of the class for a minute to ask students who would like to volunteer. I asked them not to raise their hands or show their consent but to see me after class so that I could give them the parent consent form. I arranged for the interview with a few of the students who returned the signed parent consent form and who were randomly chosen. The student interviews usually took place during their lunch breaks. The students signed the student consent forms before we began the interview. The students who did not return the parent consent form were automatically excluded from the study. None of the students were the focus of my observations, and hence all of their identities would remain anonymous. All of the participants' identities were further protected by giving them all code names.

Data Collection

The procedures for data collection occurred at three schools in different locations in Lebanon, where technology was used in the classrooms by different Arabic language arts teachers. The data collection methods included interviews with the Arabic language arts teachers in addition to some of their students. Additionally, I observed the Arabic language arts classrooms to see how technology was used by the teachers and how their students reacted to it. The duration of the data collection was two weeks at each school. As mentioned above, I faced some challenges that forced me to change a few sections of my data collection plan. One of these changes was that I was not granted permission to record my observations via video. So I had to suffice with recording the happenings of

the classroom via field notes and ICOT. I was granted permission to audio record the interviews via my smartphone. In Chapter 4, a more detailed report is discussed on these changes.

Teacher interviews. I interviewed each teacher in a face-to-face environment at the school. Each interview was done on an individual basis. I deleted all identifiable data from the interview transcripts to protect the teacher's anonymity; a code was given to each teacher to protect his or her confidentiality and privacy. After the initial interview was transcribed, I gave each participant the opportunity for member checking and follow-up interview. The teacher and I went over the transcript to clear any misunderstandings or to ask further questions. A voice recorder was used to record the interviews. The participants were informed that they could leave the study any time they wished, and a closing script was read to them at the end of the interview (see Appendix A).

The duration of the primary teacher interview was set for 30 minutes with permission to take a few minutes longer if needed. I asked all participants' permission to contact them again for a follow-up and member checking interview. In case of not finding enough participants, I would have followed the advice of O'Reilly and Parker (2012) when they suggested that the quality of data gathered is more important than the quantity. When the data collected was analyzed in-depth, and when the participants represented the best group who could answer the research questions, by being experts in their fields, then a researcher was allowed to have a small sample size (O'Reilly & Parker, 2012).

Observations. I conducted the data collection with the use of ICOT (see Appendix D). I observed the teacher's and the students' use of technology in the classroom over a two-week period. Each observation depended on whether the students had one or two periods of Arabic language arts per day. I observed the teachers and their students, at each site, for a minimum of 5 class periods and maximum of 10 classes. The ICOT allowed me to gather data on the setting, teacher role, the activities that were done in class, the technological tools used, and how they were used, i.e., to show creativity, to communicate and collaborate, to show the thinking process of the students, and so on. The teacher observations began before the initial teacher interviews, and the information gathered from the teacher observations either confirmed or contradicted the perceptions of the teachers on how they used technology in their classrooms and how this teaching practice influenced their students. On the other hand, student observations were held either before or after the teachers' interviews, depending on time constraints. These observations were done during the school day and included the class as a whole without focusing on one particular student but on the teachers' teaching practices.

Student interviews. Student interviews followed the protocol that the IRB provided in the student assent form, which they advise to be used as the opening script to the interviews. I also provided the closing script that was used, and that included simple terms so that the students could understand what I was saying. As suggested earlier, the interviews were done in parallel with the observations. Furthermore, the interview questions were worded in simple terms so that the students comprehended them easily. The interview questions were scrutinized by a panel of three research experts who have

many years of experience with qualitative research. The interviews took about 15-20 minutes for each student, and they were done in a private room if it was available. Otherwise, they were conducted in the library or the classroom. The students were informed that they could choose not to participate in the study or leave at any time without any negative consequences.

Using multiple data collection techniques, such as observations and interviews, allowed for triangulation of the data, which solidified the findings of this study. Teacher interview questions were adapted from a previously created study (Jwaifell & Gasaymeh, 2013), while student interviews were reviewed by a panel of research experts for content validity, as was mentioned previously. Furthermore, the ICOT was used for classroom observations. Themes were generated, inductively, from the interviews, while the ICOT data were analyzed with Excel. The ICOT allowed me to observe, in a natural setting, how technology was being used in the Arabic classrooms. As mentioned previously, my plan for the data collection did not go as intended, and a more detailed description of the changes are mentioned in Chapter 4.

Data Analysis Plan

Data analysis focused on inductively finding patterns on how technology was being used in Arabic language arts classrooms. Also, the analysis investigated how technology could motivate these teachers to be creative in their teaching practices, in addition to how their students reacted to this technology and whether it helped them enjoy learning Arabic. To help in the organization of the data, I used Word to create a table with all personal information while giving each interviewee a unique number to

hide his or her identity. To analyze the data that were generated from the multiple case studies that were used for this study, I followed the recommendations of Yin (2009) who suggested that in case studies, the most crucial function of documents is to use the cross-case analysis as I had three schools with each one being one case. Specifically, I used a case-comparison technique where “The entire explanation from each case is taken and compared with the explanation from another case.” (Yin, 2009, p. 108). The more similar the explanations are, the more general themes can be reached (Yin, 2009).

Teacher and student interviews. Individual face-to-face interviews were a significant part of this study. I conducted interviews with nine teachers and 21 of their students from three different schools that integrate technology in their Arabic language arts classrooms. For each interview, I used a summary form, unless a unique event manifested itself during the process. Halcomb and Davidson (2006) and Rubin and Rubin (2012) proposed that verbatim transcription is not a criterion if the researcher can have some distance from what the interviewee was saying. Therefore, not every utterance is important as long as the researcher delves deep into the collected data to gain an in-depth understanding of what the interviewee was trying to say, and is able to relay to the reader the general atmosphere of the interview. A member check interview ensured that this process was accurate. Hence, each interviewed teacher received a copy of the summarized transcript so that they could corroborate my understanding of what they said. Some of the students were too young to read the summary of the interviews. To resolve this situation, I asked administration permission to accompany these students to a private room where I could read the summary of the interviews for them. The older students,

who could read, received a copy of the transcript and they reviewed it for member checking.

To analyze the data, I used Atlas.ti (2018) as it enabled researchers to analyze text and multimedia, which might be a great asset for this study. Atlas.ti (2018) software was used to inductively detect the most reoccurring themes from both teachers' and students' interviews. One of the very useful features of Atlas.ti (2018) was that it supported Arabic, which was useful when I conduct my interviews with teachers who did not speak English by allowing me to find themes in Arabic as well as in English. Although Atlas.ti (2018) offered a transcript service, I transcribed the interviews myself.

The teachers' and students' interviews were done in English, if possible. If not, a sworn translator was hired to ensure the proper transfer of language between Arabic and English. A confidentiality agreement was signed by the translator to make sure that whatever was said by the teachers and students stayed in confidence. Furthermore, each school, teacher, and student was assigned a code so that their identities were protected.

Member checking and Follow-up interviews were requested with the participants. The teachers' interview questions were adapted from Jwaifell and Gasaymeh (2013) because it was an instrument that had proven reliability and validity (see Appendix A). For the analysis of the transcribed interviews, initial coding (open coding) was used to infer, from the transcripts, information that was not necessarily and openly said by the interviewees. Saldaña (2016) proposed that this coding process should be done in the first coding cycle where initial codes can emerge. Axial coding was used for the second

coding cycle, which helped in finding connections between the different categories or themes that were found with the open coding approach.

Observations. Classroom observations were also essential to the soundness of this study. From previous experience, I found that teachers sometimes were inaccurate when they described the ambiance of their classrooms. Using the ICOT while observing the teachers and their students allowed me to see the extent of the corroboration of the observations with the interview answers. To analyze the data gathered by observing the teachers and their students in their naturalistic setting, I first had a soft copy of the ICOT and filled all the necessary information during class time. Next, I found the most frequently mentioned activities. These activities were then categorized in groups to create codes that would then aid in finding themes. Memoing was used to record questions, insights, or other important issues that arose during the observation sessions. Some of these issues were discussed with the teachers during follow-up interviews to clear up any misconceptions or misunderstandings that I might have developed. In addition, I kept a journal where I wrote all the concerns, comments, questions, and any additional information or notes that might help me become immersed in the data. I took five minutes after each observation to quickly write down any relevant and important information or notes.

Issues of Trustworthiness

The issues of trustworthiness had been discussed by many qualitative researchers who encourage novice researchers to be emphatic, objective, mindful, holistic, sensitive to the context they are in, and reflexive (Patton, 2015). Additionally, Rubin and Rubin

(2012) advised researchers on ways to motivate their prospectus participants to take part in the study. Some of the suggested methods were to make personal contact with them, build trust by being honest, transparent, fair, non-judgmental, respectful, and keep promises (Rubin & Rubin, 2012).

Furthermore, the participants should know that they would not be harmed in any way by taking part in the study (Rubin & Rubin, 2012). Moreover, loyalty to the participants was a must for person-centered interviews, where the focus should be on the participant's experiences and not on the actual study or the data that would be generated (Ravitch & Carl, 2016). By doing so, I showed the interviewees that their opinions, beliefs, and feelings were respected (Ravitch & Carl, 2016). To ensure the trustworthiness of this study, four problems, had to be avoided in the interviews, that were listed by Patton (2015) and which consist of misinformation, evasions, lies, and fronts that might mislead my research.

Using these different data collection methods helped triangulate the findings and reach saturation. This process enhanced the rigor, and trustworthiness of this study by considering credibility, transferability, dependability, and confirmability (Guba & Lincoln, 1982). This research study also followed a sound inquiry process with firm interview protocols to ensure rigor (Harling, 2012).

Credibility

Anney (2014) defined credibility as the soundness of the information that was gathered from the participants of a qualitative research study and the accurateness of the researcher's interpretation. Credibility requires the researcher to be familiar with the

participants' culture and the different data collection and analysis methods. It also needs to ensure participants' honesty, use iterative questions, analyze negative cases as well as confirming ones, hold recurrent debriefing meetings between researcher and supervisors as well as participants, and finally conduct member checks (Shenton, 2004).

I am familiar with the educational system in Lebanon since my children, and I went to school there, in addition to my teaching experience in Beirut. I triangulated the data by using different data collection methods, such as interviews and observations. I ensured the participants' honesty by establishing a personal connection that was built on trust (Shenton, 2004). In addition, I assured the participants that they would not be judged according to what they knew or how they taught (Shenton, 2004). Furthermore, I ensured that they knew that I merely wanted to understand how technology, or lack of, impacted the teaching and learning experiences of both the teachers and their students. Iterative questioning requires that the researcher uses probes to explore information that has been given by another interviewee to ensure the strength of the collected data (Shenton, 2004). To ensure credibility, Anney (2014) suggested that the researcher should report negative case analysis where the data collected disconfirm or is discrepant with the initial assumption.

Debriefing sessions were another way to strengthen the credibility of this research study as the participants ensured that the study was going in the right direction and that the information gathered was accurate (Shenton, 2004). Finally, member checks were important for credibility as they ensured that the participants agreed with the interpretation of the researcher about the collected data (Shenton, 2004).

To ensure the content validity and credibility of this study, I followed the advice of Tracy (2010), who suggested that excellent qualitative research had to have eight criteria: worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, ethics, and meaningful coherence. To account for these criteria, Tracey advised researchers to make sure that the data collected were relevant and meaningful by asking the appropriate questions and that thick rich descriptions were produced by writing all the details of the research process as field notes. In addition, self-reflexivity, honesty, and transparency were practiced by having a detailed research journal. Ensuring that findings were trustworthy and plausible by correctly and consistently interpreting what the participants shared was another essential factor to contribute to the credibility of this study. Furthermore, data should be triangulated via various methods such as interviews, journals, field notes, observations, and collected artifacts (crystallization). Credibility also includes contributing new knowledge to the field of education; procedural, relational, and exiting ethics were abided with by making sure to adhere to the IRB ethics guidelines; finally ensuring that the different sections of my dissertation aligned and were well connected by using the Historical Alignment Tool (Center for Research Quality, 2017).

Transferability

Anney (2014) described transferability as the extent to which the findings of the study can be transferred to different contexts by different individuals. To ensure that this study adheres to the ‘transferability’ criterion of qualitative research, as was discussed by Shenton (2004), I collected some background information on the teachers and the schools

that took part in this study. Also, addressing the limitations of this study might help the different readers to transfer the knowledge gained to their contexts. The limitations of this study were, as reported in Chapter 1, having a small sample, as is the case with qualitative studies, this study was bound to the Lebanese context, and finally, the focus of this study was on elementary and high school Arabic language arts teachers and their students. Therefore, I explained in thick descriptions all the steps that I took, in addition to all the information that I gathered, and this helped me reach the conclusion that I did. I continued gathering appropriate data via interviews and observations until thematic saturation was reached.

Using purposeful sampling added to the transferability of this study by ensuring the selection of a suitable sample and by listing the reasons behind choosing this particular sample (Anney, 2014). Hence, having all the details added into the different sections of this study ensured its transferability by interested researchers in the future.

Dependability

Dependability was defined by Shenton (2004) as the exactness of the findings if the research was repeated in a precise way as the original study. This process allows different researchers to undergo the same study in different contexts, which might result in getting similar findings (Shenton, 2004). To do this, I explained, in detail, the research design and implementation, the data gathering methods, evaluated the effectiveness of the whole process, and relayed this information to others (Shenton, 2004). For this study, and after I got permission from the targeted schools, I gathered data through observations and interviews. These data were triangulated to ensure dependable results. By being reflexive,

I minimized any biases that I might have. Moreover, member checking and the audio recordings provided accurate and rich data that can withstand the dependability criteria.

Confirmability

Finally, confirmability is considered when the researcher keeps an audit trail, which describes the methodology he or she underwent in detail to the reader (Shenton, 2004) and evaluates the truthfulness of the research findings (Anney, 2014). To do this, I used many data collection methods, such as interviews and observations to ensure the triangulation of data. Field notes and interviews yielded rich and thick information. Finally, contradictory findings, where technology did not motivate the teachers nor the students to teach and learn Arabic, was discussed in detail.

Ethical Procedures

Many steps were taken to ensure the wellbeing of the participants. The first step was finishing the on-line training course of human participant protection. Another step was having the approval of Walden University's IRB to conduct the study with the approval number 09-28-18-0564581. After obtaining IRB approval, I contacted the eight schools that met my criteria via email or phone call. Then I asked the first three schools that were willing to participate in my study to allow me to meet with the principal to explain to him or her the specifics of my study and its requirements. The principals or coordinators of the participating schools were asked to read and sign the letter of cooperation from a research partner, which permitted me to enter the premises, and to conduct my study there. This Letter of Cooperation also informed the participating

schools about my role at their site and what were their responsibilities in making this study a success.

The principals or coordinators helped me recruit some teachers to be interviewed and observed. The participants were briefed on the purpose of this study and they were informed that they could stop their participation any time they liked. Moreover, a discussion of the privacy and informed content took place to ensure that the participants understand well the implications of their participation. If the participants agreed to take part in the study, a consent form was signed.

The participants' names were coded to protect their privacy. The interviews were audio but not video recorded, depending on the permission I received from the school, while ICOT was used for observations. No mention of any identifying information was shared with anyone, and the collected interviews and the observations were stored at my home in a locked cabinet. Furthermore, the sworn translator, who translated the interviews from English to Arabic, signed a confidentiality form to ensure that the information would stay confidential. Data gathered from interviews and observations were stored on an external hard drive that was locked by a password and stored in a locked cabinet at my home.

One of the ethical issues that might have compromised this research study would have been interviewing students who are attending the Arabic classrooms to explore their perception of using technology in the classroom. The IRB considers children to be a vulnerable group and so precautions were made to ensure that the consent of the principal or the coordinator of the school, as well as the parents and students, were available.

Furthermore, I made sure that each gatekeeper, i.e., the principal, the coordinator, and parents, had a copy of the interview questions, if they wished, so they know what is expected from the children. The interview questions were general and dealt with only the use of technology in the classroom. Hence, this researcher made sure to exercise the three main principles of the IRB: justice, beneficence, and respect for all the people who took part in my study. Doing this minimized the ethical misconduct that might threaten this study.

Likewise, ethical considerations were accounted for during the whole process of writing my dissertation from protecting the privacy and anonymity of the participants, to being sensitive to the vulnerability of the children who were interviewed and observed. In addition, I also made sure that no harm affected the participants as a result of my study, as was suggested by Patton (2015). Since participation for this study was voluntary, the participants had the freedom to accept or decline to be part of this study, as well as the freedom to leave at any time they wished, and the researcher had to accept and honor their decisions. Furthermore, the participants were assured that all information related to this study would be destroyed and deleted from all data collection tools after five years from the publication of the dissertation.

Summary

In this chapter, many sections were discussed in detail. The chapter began with an introduction to the chapter and a restatement of the research questions. Then the researcher moved on to discuss the research design and rationale, the role of the researcher, the participants' inclusion criteria, and instrumentation. Furthermore, I

described the recruitment, participation, and data collection plan, in addition to issues of trustworthiness, credibility, transferability, dependability, and confirmability. The chapter ended with the ethical consideration that might compromise this study, which was interviewing children.

For this study, a multiple case study was used to explore the use of technology in Arabic language arts classrooms in Lebanon. The main focus was on how teachers and students perceive the effect of technology integration on their lessons. The principal data collection methods were observations and interviews that provided rich data. Journaling, memoing, and taking field notes helped alleviate the effect of any biases I might have had. All possible measures were taken to ensure the safety, privacy, and confidentiality of all the participants. In Chapter 4, I share the results found in this study and discuss them in detail.

Chapter 4: Results

Introduction

The purpose of this exploratory case study was to understand how technology was used in teaching practices within an Arabic language literacy classroom and explore the students' perceptions on learning with the support of technology. Because Arabic is a diglossic language, students have to learn the Modern Standard Arabic formally in schools while they speak a different version of the language during their daily interactions. Interviews were conducted with guidance from Rogers's (2003) diffusion of innovation theory regarding the acceptance or resistance of the stakeholders to accept new technologies, and Dörnyei's (2009b) L2 motivational self-system helped evaluate the role of motivation in the educational settings. Recording class observations with ICOT and field notes added to the information gathered from interviews. I investigated whether the motivation of the students increased as their teachers used technology and whether the teachers were motivated to use technology. To address this purpose, the following research questions were used:

1. How do Arabic language arts teachers perceive the influence of technology on their creative teaching practices?
2. How do Arabic language arts teachers perceive the influence of creative teaching practices on the motivation of students to learn Arabic?
3. How do Arabic language arts students perceive the influence of technological tools and creative teaching practices on their motivation to learn Arabic?

I start this chapter by describing the settings at which my study took place. I then discuss the background information of the participants and how the data were collected. I also present the data taking into consideration the trustworthiness issues of credibility, transferability, dependability, and confirmability as examples of rigor in my study. Further, the results are presented and connected to each of the research questions.

Settings

For this qualitative study, I had three settings all in different mountainous areas of Lebanon. The first school (Setting A), where I began my research, was a private but free institution that aimed to give underprivileged students the best educational experience. My second setting (Setting B) was a private tuition-based school that catered for the needs of students from different countries and with those who had special needs. The third school (Setting C) that was part of my study was a public high school, which was free to all Lebanese and other students from different nationalities. Table 1 contains a list of participants from each of my settings. I discuss in detail the interview protocol for each of the three schools after I explain the backgrounds of the different settings.

Table 1

List of Interview Participants

	Setting A	Setting B	Setting C	Total
Number of Students	10	3	8	21
Number of Teachers	2	4	3	9
Number of Coordinators	0	1	1	2
Number of Principals/Directors	1	0	1	2

Note. The total number of participants was 34.

Setting A

This school was part of a global network with over 70,000 students and 8,000 employees in 20 countries spread over the five continents. Because this school was part of a network, it must work in parallel with all the other branches worldwide. This meant that the same lessons should be taught in the same manner and at the same time so that all the students are in the same place in their learning. Private schools did not have to adhere to the curriculum that was designed by the Lebanese Ministry of Education and Higher Education, unlike the public schools. Although this school was part of a network, it was the only one that was private but free. All the other branches across the world were private and tuition-based. This particular school was home to 333 students, the majority of whom were Lebanese (90% of the students) with some Syrian refugees (8% of the students), in addition to some other nationalities (2% of the students). This free school was founded in 2012 to help underprivileged children get the best educational experiences. The purpose of building this school, according to the director, was to show

the Lebanese government that excellent education did not have to be expensive, and so it was built to be a model school for the Lebanese government to copy.

This school had high expectations of its students, even the younger ones. It was test-oriented, requiring weekly tests for students from Grade 1 until Grade 8 to check on their academic standing in English, math, and sciences. If most of the students in one class got a score below 80%, the teacher retaught the lesson to ensure that they got better grades when they were retested. If only a few students got below 80%, then one of their peers tutored them and helped them pass the retest.

This school believed that students should learn to be responsible. One of the tasks that the teachers had was to determine which student was good enough at her or his subject to train him or her to be a shadow teacher. In case the teacher was absent, this shadow teacher taught their classmates, which took place even in Grades 1 and 2. Thus, there were no substitute teachers. In addition, there were no adults to ensure that discipline was maintained in the school. It was the responsibility of designated students to make sure that all the students were out of the class and into the playground during recess. Usually, the older students were responsible for the younger ones. The students also had the responsibility to make sure that the classrooms were clean before they left to go home at the end of the school day. The selected student had to turn all the chairs upside down on the tables and they must sweep the floor to keep it clean. Another responsibility that the students had was to reteach their peers to help them pass the weekly exams.

Furthermore, each class was divided into several groups of three or four students, and one student was the chosen prefect for that subject matter. When the teacher was solving exercises with the students, they asked the prefect to check their groupmates' work and raise their fingers to show them the number of correct answers in the group. This exercise gave the teacher, at a glance, an idea of how the students were performing in class. This school believed that by giving students tasks to do, they learned to be more responsible citizens in society.

Like many others in Lebanon, this school taught all the subject matters mainly in English, with a few subjects that taught in Arabic, especially with the older students. English, philosophy, math, the various sciences, physical education, music, and art were all taught in English. However, Lebanese history, geography, civics, philosophy, and Arabic were taught in Arabic at the middle and high schools because the students had to sit for formal government exams.

At this school, technology was used in a meaningful way. There were SmartBoards in all classrooms, and all students had tablets onto which their books were downloaded. The teachers were also issued laptops to do their lesson plans, worksheets, or any other resource they might need. Teachers also had access to three computers on the school premises that were connected to the school's network. Each teacher had a file on the main desktop, located in the teachers' room, where they could download different resources that they might need and had access to in the classrooms on the SmartBoards. The students used their tablets to read their books, but they wrote the answers to the questions found in the workbooks on their notebooks. The school believed that this was

important to keep the students proficient in writing and not just in typing. The coordinator, at the main branch of the school, created Flip-Charts or PowerPoint presentations for all the lessons. These Flip-Charts ensured that all the students across all the schools were learning the same information and skills. Some of the slides for the lessons were hyperlinked to others for easy access to more information about a lesson or to the exercises in the workbook.

Although there was no explicit mention of how teachers were going to use technology in the classroom, it was apparent to the teachers and coordinators that when a teacher wrote in the lesson plan that a lesson would be explained, that this would be done on the SmartBoard, for example. Additionally, when a teacher's lesson plan stated that he or she would explain a vocabulary lesson, it implied that Flip-Charts would be used for that lesson. This setting had its own school management system where teachers posted grades and announcements in addition to any useful information for the parents and the students.

Setting A had class sizes that vary. At the kindergarten level, there could be as many as 40 students in one class. Class sizes decreased as the class levels became higher until there were about four students in the 12th grade. Because this school had been operational for 7 years, it was expected that the number of Grade 12 students increase as lower-level students get promoted to the next class level. Tables 2 and 3 show the information for the participants interviewed and observed from Setting A.

Table 2

Principal, Coordinator, and Teacher Participants from Site A

	Gender	Years of Experience	Classes Taught
Teacher 1	F	2	KG2, G1-G3
Teacher 2	F	1	G4-G7
Acting Director	F	7	

Table 3

Student Participants from Setting A

	Gender	Class level
Student 1	F	G5
Student 2	M	G2
Student 3	M	G4
Student 4	F	G2
Student 5	M	G4
Student 6	F	G5
Student 7	M	G3
Student 8	F	G3
Student 9	F	G4
Student 10	F	G2

Setting B

This private, tuition-based school was founded in 1973, as their website advertises, to give all learners equitable education. The founder of this school attended a traditional school, which he did not enjoy, and wanted to create a school that took into consideration the child as a whole. This school had two campuses in Lebanon, and it prided itself on giving its 1,000 students a choice between more than one educational program. It offered the Reggio Emilia program for the preschool class levels, the Primary

Years Program, which was part of the international baccalaureate program for the elementary class levels, in addition to programs such as the international baccalaureate diplomas, American High School, and the Lebanese baccalaureate for the older students. These programs were adopted to allow the school to cater to the needs of its Lebanese and international student body. Usually, the international students study in the international baccalaureate or the American High School programs, while the Lebanese students can choose which program to follow. The instruction language was primarily in English at this school, but it did start a French section in 2016, where the main language of instruction is French.

Awareness of the different learners' educational needs was prominent at this school. For example, if a student was in Grade 10 but had the Arabic language proficiency of a student in Grade 5, they were pulled out of the Grade 10 class to attend a special Arabic class with other similar students. Because this school's student body comprised of students from different countries that did not all speak Arabic, it was essential to have these special Arabic language arts classes. The consideration of learners' individual needs was also reflected in the class sizes where a teacher had a maximum of 15 students in the class. Teachers and administrators believed that small class sizes were best to personalize the learning experiences of each student.

The technologies used at this school were projectors, teacher laptops, and student tablets. At this school, the administration and the teachers did not like the SmartBoard, because, as one of the teachers told me, they tended to freeze and break down frequently. For this reason, the teachers used their laptops to download or create the resources that

they needed for their classes, which were then plugged into the projector, where the lesson was projected on a whiteboard. The teachers mainly used whiteboards during class time. They used Google Sheets and Google Drive to submit lesson plans and the resources that they would use during their lessons to the coordinator for review and approval.

Like the previous setting, this school had its own school management system where teachers posted grades and assignments. The teachers felt that this system was beneficial because the students and their parents were always kept up to date on the latest happenings that took place at school. Arabic teachers used mainly two websites to motivate their students to want to learn Arabic: (a) Ashabouna.com, which had stories, games, and quizzes, and (b) Quizezz.com, where the students read and answered questions on their own. The students used both of these websites on their tablets.

Table 4

Principal, Coordinator, and Teacher Participants from Setting B

	Gender	Years of Experience	Classes Taught
Teacher 3	F	6	G2-G5, G7-G9
Teacher 4	F	10	G3-G4
Teacher 5	F	13	G2, G5-G7
Teacher 6	F	10	Nursery, KG1, G1, G3
Coordinator 1	M	3 (Coordinator) 11(Teaching)	G7, 9, 12

Table 5

Student Participants from Setting B

	Gender	Class Level
Student 11	M	G4
Student 12	F	G4
Student 13	M	G3

Setting C

Although the first two settings were focused on elementary schools, I decided to change my setting for this school and asked the permission of the Lebanese Ministry of Education and Higher Education to use this public high school to collect part of my data. This public high school catered to 541 students who came from underprivileged backgrounds. Usually, public schools in Lebanon follow the traditional way of teaching and learning due to modest resources and budgets, but this public high school was different. This difference was the reason behind my insistence on including it in my study.

According to the principal, the Ministry of Education and Higher Education partnered with Microsoft, who was looking for a school to adopt during the academic year of 2010-2011. The Ministry held a meeting that several principals from public schools across Lebanon attended. Microsoft had one condition—that the adopted class had to be ready in 1 week. The principal of my third setting was the only one who took on the challenge. Although it was in the middle of the year, she had the class ready for Microsoft in 1 week. In this class, a SmartBoard with a computer connected to it was

installed, and a Wi-Fi network was established. The students of the eighth class level were given tablets, and their teachers were issued computers. Then in 2013, USAid was looking for schools to adopt, and four schools were chosen, including this public high school. During the following years, USAid gave all the students of the four schools tablets, the teachers' laptops, and the school's wireless Internet connections.

According to the principal, she decided to take the opportunity to turn the school around and make it one of the best public schools in Lebanon. She and her team were worried that students would not have access to the Internet. So, they surveyed the students to check how many were able to be connected to the Internet. To their surprise, they found out that 80% of the students had access to the Internet at their homes, while others used Internet cafés or their neighbor's Internet connections. This connectivity made the transition to using technology at the school more accessible.

This school catered to students who were mainly Lebanese, with some Syrian and Iraqis refugees. All students came from underprivileged backgrounds and they had to follow the only program available to them, which was the Lebanese baccalaureate. This school began with 50 students only because parents did not trust public schools to give their children an excellent education that could pave the way for them to have a good future. But this school grew to have 541 students. Although this school was in a mountainous town, it catered to students from Grades 7 through 12 and from other towns and villages. It had earned a reputation for being a school with a very solid educational curriculum, and so parents wanted their children to attend it. It had also become one of the top schools in Lebanon. This school had continued to grow with donations from

different Lebanese people. New classrooms were built to accommodate the growing student body; all the students had tablets, all the teachers had laptops, all of the classrooms had SmartBoards, and the whole school had Wi-Fi and Internet connection. A school management system was also used at this school for announcements, assignments, and other useful information. The teachers and students communicated with each other via Microsoft Educator tools, such as groups that were called “Teachers,” “Students,” and “Teachers and Students.” Teachers used these tools to send the students material, and the students used them to send teachers projects, assignments, or questions they might have about a lesson.

I had some issues trying to set a time for my observations and interviews at this setting. This was a public high school, and many teachers worked on an hourly contract basis. These teachers were not paid well, and their union called for many strikes where all the public schools closed, or they were open only to the students who had to take formal exams at the end of the academic year. Therefore, it was a challenge finding the time slot where I could observe and interview the teachers for two weeks. With some effort and tenacity, I was able to do it.

Table 6

Principal, Coordinator, and Teacher Participants from Setting C

	Gender	Years of Experience	Classes Taught
Teacher 7	M	5	G10-12 (French)
Teacher 8	F	3	G10-G12
Teacher 9	F	16	G11-12
Coordinator 2	F		
Principal	F	17	

Table 7

Student Participants from Setting C

	Gender	Class Level
Student 14	M	G12 (French)
Student 15	F	G10 (English)
Student 16	M	G12 (English)
Student 17	F	G9 (English)
Student 18	M	G11 (French)
Student 19	M	G11 (French)
Student 20	F	G12 (French)
Student 21	F	G12 (French)

Demographics

The participants in this study were Arabic language arts teachers of three schools—two elementary schools and one public high school. Coordinators, principals, and directors took part in this study as well as students from the three settings. All of the teachers and the coordinators, principals, and directors were Lebanese with varying ages and experience levels. All the teachers graduated from the Lebanese University, which is the Lebanese public university where students pay symbolic tuition fees. Eight of the teachers were females, and only one male teacher and one male coordinator. The students of the two free schools, Settings A and C, came from economically disadvantaged backgrounds. The students from Setting B were more economically advantaged as it was an international tuition-based school. The students also varied in age. I focused, in the first two schools, Settings A and B, on the elementary level, while Setting C was a high school that had classes from Grade 7 until Grade 12. Students who followed the Lebanese baccalaureate program in all of the schools and who were in Grades 8 and 12 had to sit

for official government exams that determined their academic standing and which universities they were eligible to join.

Data Collection

I researched the names of the possible schools that might be interested in my study by asking people around me and by Googling the terms “Lebanese schools and technology.” In Lebanon, most private schools were shut to researchers and did not allow them to do any studies on their premises, and so it was a challenge to find schools that were open to research. After I had a few names, I began calling the schools asking the secretaries for appointments with the principals or directors. I approached Setting A at the end of the previous academic year (2017-2018) to find potential candidates for this study. Although this school was not one that encouraged researchers to enter its premises, I received permission to conduct my research there. I approached Setting B, also during 2017-2018. According to the administrative person I spoke with, Setting B encouraged researchers to come and do their studies there for they reported that they “have nothing to hide.” But, still, I decided to make all my settings anonymous so that they could all be regarded equally. I could not start my study during that academic year since I still did not have IRB approval, but I had two potential participants. After I received IRB approval, I went to the Ministry of Education and Higher Education to ask permission to do my study at Setting C, which was granted.

My study began with Setting A, which was a free but private school. This meant that it did not have to follow the Lebanese curriculum as was the case with public schools. I observed and interviewed teachers and students during the two weeks that I

asked for upon the recommendation of my chair. The director of this school told me that there were only two teachers who taught Arabic at the elementary level, so I waited for them to contact me after the acting director gave them my phone number. I then asked them if they would volunteer to be interviewed, and they both agreed. They signed the teacher consent form. The students' interview protocols were different. I sent home a copy of the parent consent form with each student in all of the classes that I observed (four classes, Grades 2, 3, 4, and 5). I waited until I got some of the consent forms back, and I asked the students, whose parents signed the consent forms, if they would do an interview with me. I chose some of the students who agreed to do the interviews. The interviews with the teachers were done in a private room. Some of the student interviews were done in a private room, and others were done in the students' classrooms because the private room was not available. I finished the observations and interviews before the Christmas break of 2018-2019 but had to wait until the break was over to do the follow-up and member checking interviews. All the stakeholders signed the appropriate forms: parent consent form, student assent form, and teacher consent form.

For my next setting, Setting B, the school gave me permission to interview and observe four teachers in addition to the coordinator, but I was permitted to interview only four students. I sent with these students the parent consent form and waited until they returned them, signed, before doing the interviews. I was given the schedule for the student interviews, which had two student interviews in each 20 minutes time slot, which was the duration of their lunch break. I asked if I could interview one student in each 20-minute slot, but I was denied my request. One additional difficulty I faced at this setting

was that the students were not given notice about the appointment they had with me for the interview. So I ended up interviewing only three students. The students signed the student assent form, their parents signed the parent consent form, and the teachers signed their consent form. Most of the teacher interviews were done in the coordinator's office, and some in a private office upon availability. The student interviews were done in the school's library.

In my last setting, I was permitted to choose the teachers I wanted to interview. I chose three teachers whose timetables did not overlap much so that I could observe as many classes as I could during two weeks. The principal gave them my phone number and asked them to contact me if they wanted to know more about the study and if they were interested in volunteering for it. The three teachers were willing to volunteer to take part in my study. During the first two days of my observations, I approached some of the students from different class levels and who attended these teachers' classes and asked them if they would do an interview with me. Some agreed, so I gave them the parent consent form, and they signed the student assent form when they came to do the interview. The interviews were done in the library of the school. Some students declined doing the interview, and their wish was respected. The interviews were recorded via the voice recorder feature on my smartphone, while the observations were recorded via field notes and ICOT.

In the three settings, the teachers had some training to help them understand and work with the technology that the school decided to adopt. The training sessions ranged from one day to two weeks, depending on the setting and the circumstances of how and

when the teacher joined the school. At Setting A, for example, both teachers took over from another teacher after the academic school year had begun, and they had only one day of training, which did not include all the information that they needed. In Settings B and C, the teachers had more training sessions because they joined the school before the academic year started. The training included both practical and theoretical sessions, both of which the teachers found to be useful. Despite this, all the teachers admitted to having difficulty at first as they started to use technology, and they had to work on themselves to become more proficient. At Setting B, teachers talked about people from the Apple company who came to train them on how to use the iPads. The training sessions were held in English, even though the teachers were not fluent in English, but they had a translator to help them communicate with the presenter. At Setting C, people from Microsoft did the initial training for the teachers, but now, the IT manager conducted the training sessions.

Changes from the proposal. Although, in my proposal, I was initially determined to focus my study on teachers and students from elementary school, I deemed the change in settings to be necessary. I had heard from many different people about the innovative teaching strategies that Setting C used, and I grew curious to see for myself how this school used technology. I wanted to understand how the Arabic teachers used technology in their classrooms and how a sample of their students perceived these innovative teaching methods. Therefore, I applied for a change in IRB, and I received approval from Walden University. This change helped me get a more in-depth insight into how teachers, students, and administrators viewed technology and gave me a first-hand experience at

how the teachers used technology in their classrooms at Setting C. Because of this, I had to remove the word “elementary” from my research questions and all subsequent sections throughout this document.

Another modification was that in my proposal, I intended to collect artifacts from different settings. These artifacts included lesson plans and student productions. I wanted to see how intentionally the teachers used technology in their classrooms. Unfortunately, this was not feasible. Although I repeatedly asked for lesson plans, I was granted a few from Setting A only. To have an idea of the lesson plans, I asked some of the teachers and the administrators questions about them during the interview. I was told that the teachers did not add, explicitly, what technological tool they would use or what was the purpose of this use in the lesson plans. The teachers wrote that they would read a text from the board, for example, and this implied that they would use the SmartBoard or the projector. It was also implied, in the lesson plans, that when the teachers wrote that the students would do specific exercises, that the students would use their tablets since they have eBooks and not physical books.

I have also added prompt questions to the original student interview questions. Initially, the panel of three experts approved a list that included fewer interview questions. Unfortunately, the questions were not eliciting an in-depth insight into the perceptions of the students. Therefore, my chair advised me to discuss these interview questions with another professor who was an expert in research methods. With her help, I was able to expand my questions to get a fuller understanding of students’ perceptions.

One final modification from the proposal was that I intended to use a summary of the interviews. Instead, I used quotes from what the participants said in the interviews, in addition to the summary format. Most of the participants used Arabic in the interviews, and I translated what the participants said into English. When a quote was too long, I quoted some of it and summarized the rest. I then sent a third of the English transcripts to a sworn translator, after a confidentiality agreement was signed, to ensure that the English translation was accurate and that it reflected what the participants said. I deemed this change to be necessary since I wanted to convey the voices of the different participants without any interpretation from my part, and I was concerned that I would infuse some of my biases into the summaries.

Table 8

Summary of Participants from the Three Settings

Site	Type of School	Teachers Interviewed	Students Interviewed
Site A	Private Free	2	10
Site B	Private Tuition-based	4	3
Site C	Public High School, Free	3	8

Data Analysis

To analyze the data, I used several methods. I audio recorded the interviews and transcribed them within two days of the interview so that I could conduct follow-up and member checking interviews within the 2-week period I had for each setting. For the teacher interviews, I used the questions detailed in Appendix A, and that were based on a previously used instrument after I received permission from the author (see Appendix B).

I had to modify the instrument to suit my study, and I added some prompt questions to get a more in-depth insight into what the teachers thought and believed. I also conducted interviews with the principals and the coordinators, but without having a set of predetermined questions because it was not my initial intention to interview them. As I talked with the teachers, it became apparent that there was some necessary information that only the principal, director, or coordinator might provide and so I decided to interview them. I asked them general questions about the curriculum in general, their decision to adopt the use of technology in their schools, the effect of technology on the teaching of Arabic teachers and their students, and how they motivated the teachers to use technology at the schools. For the student interviews, three research experts reviewed the interview questions.

To begin the coding process, I used Atlas.ti to open code the transcripts of the interviews. I set a code for each sentence or each paragraph, depending on the context. I also used ICOT (see Appendix D) to record the classroom observations. The number of observations varied from setting to setting, depending on the administration's permission. In addition, I kept a diary to record my impressions of each setting and each participant, in addition to field notes to help me capture all the necessary details that took place during class time. These different tools, as well as the various settings, helped me in triangulating my data to make sure that it had proof of trustworthiness (Shenton, 2004).

My initial set of codes included 18 codes from teacher interviews and eight codes from student interviews, which were then grouped, depending on the topic, to create themes. Since my study focused on motivation, I decided to use the data that described

the motivators and demotivators of teachers and students to use technology in the classrooms. I reported these themes in the results section of this chapter. Tables 9 and 10 describe the themes that were generated from teacher and student interviews.

Table 9

Codes that were Inductively Generated from Teacher Interviews

	Initial Codes	Used Codes
Code 1	“I teach KG1, Grade 1, 2, 3”	Class levels taught
Code 2	“I have a BA in Journalism from the Lebanese University”	Educational background
Code 3	“This is my second year teaching”	Years of teaching experience
Code 4	“So far, we have 333 students, the majority are Lebanese, etc.”	School background info.
Code 5	“I didn’t have any.”	Training/professional development
Code 6	“Ok. For example, the Smart TV, because they don’t use books, it helps a lot.”	Advantages of technology
Code 7	Distractions, eye problems,	Disadvantages of technology
Code 8	SmartBoards, tablets, projectors, etc.	Technological devices used
Code 9	“Technology has facilitated the search for information. This became faster. Instead of the students just looking at the text in a book, we are able to watch things and they can bring more ‘active’ information.”	The use of technology in the classroom
Code 10	“Correct information the students find on the Internet”, “facilitator”	Role of the teacher
Code 11	To guide the students on how to find correct information.	Change disadvantage to become advantage
Code 12	“Everybody became involved, everyone feels that they are concerned with the process. They are all motivated to study and participate because is it not strange anymore.”	Motivators for teachers to use technology in the classroom (motivate students to learn, study, and participate in class).
Code 13	“For example, there are a lot of days where, while we are doing something on the Smart TV, the students play a game on their tablet.”	Demotivators for teachers to use technology in the classroom (Distraction)
Code 14	Power-cuts, freezing tablets/SmartBoards, time limitations, etc.	Challenges in using technology
Code 15	“Whoever tells you that they are proficient in everything, they would not be honest with themselves because technology is a large sea...”	Technology proficiency
Code 16	“It is difficult for us to find things, because we have to find something appropriate. But at the end we find.”	Technology resources in Arabic
Code 17	This teacher’s creative use of technology depends on the lesson and if it lends itself to being creative	Use technology creatively
Code 18	“Our curricula, today, have been created in 1999 or 2000, and I imagine that after 19/20 years, we have to change them.”	Changes teachers would like to see

Table 10

Codes that were Inductively Generated from Student Interviews

	Initial Codes	Used Codes
Code 1	“I like technology, I have technology at my home”, “	Student feeling toward technology
Code 2	“I like all of them.”	Devices student likes
Code 3	Some students said that they like to learn with technology and some said that they preferred real books.	Student preference for learning
Code 4	“Discussions”, “Group work”	Most preferred classroom activity
Code 5	“Group work”, “Dictation”	Least preferred classroom activity
Code 6	“Science”, “Arabic”,	Most preferred subject matter
Code 7	“Physics”, “Arabic”	Least preferred subject matter
Code 8	“To study”, “To play games”, “For social media”	Uses of technology

Discrepant cases. Most of the students that I talked with, formally and informally during my years of teaching, reported their dislike of the Arabic language. They disliked Arabic because of the language’s difficulty and complexity. Despite this proclamation, almost all of the interviewees preferred to hold the interviews in Arabic, especially those from Setting C, the public secondary high school. In addition, many of the students said that their favorite subject matter at school was Arabic. The discrepant cases are mentioned in the Results section.

Evidence of Trustworthiness

Lincoln and Guba (1986) suggested that real-world conditions cannot be studied exclusively using the scientific method. Instead, they developed a new method of study to ensure the rigor of the findings of studies that are done in naturalistic settings. To parallel the experimental rigor conditions, which are internal validity, external validity, reliability, and objectivity, Lincoln and Guba proposed that another paradigm be used. The authors

suggested using the term credibility in place of internal validity, transferability instead of external validity, dependability in lieu of reliability, and finally, confirmability to replace objectivity. Additionally, Lincoln and Guba indicated that researchers of real-world phenomena should use criteria of trustworthiness instead of using the term rigor.

Because it is imperative to conduct ethical research, I tried to keep my study ethical by ensuring the trustworthiness was reached by collecting data from different stakeholders, various settings, and diverse data sources, including interviews and observations. I also immersed myself in the data, which means that I listened to the audio recordings of the interviews as well as read and re-read the transcripts many times to understand in-depth and fully what the participants wanted to share so that I make their voices heard and not mine. Furthermore, I reference-checked the interview questions with the classroom observations to ensure that the teachers paralleled what they said in the interviews with their behavior in the classroom. Also, because the interviews were done in Arabic, I translated the transcripts into English, and a sworn translator translated them back into Arabic to ensure the accuracy of the data and that no meaning was lost in the translation.

Credibility

Credibility is the truthfulness of the information presented (Hammarberg, Kirkman, & de Lacey, 2016). A study is credible when the findings are presented in detail with rich descriptions. To ensure the credibility of a study, a researcher has to practice reflexivity, triangulation of the data, and member checking.

I used several procedures to ensure that my data were credible and accurate. One of these procedures was that I intentionally kept my opinions about technology and education for myself, as I did not want it to influence the teachers' answers to the interview questions. In addition, I tried to eliminate any biases I had about the use of technology in the Arabic classrooms by reading and re-reading my field notes, which kept me focused on what happened in the classroom. The third procedure was that I collected data using two tools, observations and interviews, which helped in cross-checking the data to ensure its accuracy. The fourth procedure involved member checking interviews to ensure that I understood fully what the teachers and students said in the interviews. Finally, the fifth procedure was to triangulate the data by gathering information from administrators, teachers, and students from three different settings.

Transferability

Usually, qualitative studies do not lend themselves to transferability because of the limited number of participants (Shenton, 2004). However, Shenton (2004) cited Denscombe (1998), who suggested that transferability in qualitative studies should not be completely dismissed since these studies give an example of what might be happening in the larger society. To provide an example of how and why technology is used in the Arabic classrooms, I included data from three different settings and the perceptions of administrators, teachers, and students from different age groups, genders, socioeconomic backgrounds, and different towns and cities around Lebanon.

Dependability

To ensure the reliability of the data, I used the ICOT to log in information about my observations in the classrooms. I also created a Word document for each of the observations to capture all of the details of what happened. Furthermore, I recruited 34 participants from three different settings to provide triangulation between instruments and between the different cases to discover the general themes inductively.

Confirmability

Confirmability is ensuring that the researcher's biases are not included in the study (Shenton, 2004). So, to help me neutralize my biases, I created a document for each of the classroom observations so that I had a detailed description of the proceedings of the lessons. I also did follow-up interviews after I transcribed the interviews to ask any further questions or to clear up any misunderstandings about the answers of the participants. Furthermore, member checking interviews helped in allowing the participants to listen to what I understood from the interviews and follow-up interviews to ensure that I convey their voices in the study and not mine.

Results

In this section, I present the results of this research study, which I organized based on the research questions. The interview questions were grouped as they related to the research questions to form themes. Data from my classroom observations and from the lesson plans that I collected were also included in the data analysis. Of course, I could not discuss the advantages or the factors that motivate teachers to use technology in their classrooms without mentioning the disadvantages or the demotivators. All quotations in

this section were verbatim information that the teachers communicated with me, but they were translated from Arabic into English by me. Some of the transcripts were sent to a sworn translator to make sure that I have done an accurate translation and for double translation purposes. In addition, I went over the English transcripts with the teachers for member checking, and they either corrected my misunderstandings, made some clarifications, or agreed that I have captured what they said accurately.

Research Question 1

The first research question asked how Arabic language arts teachers perceived the influence of technology on their own motivation to be more creative in their teaching strategies. This first question helped me understand how teachers viewed technology and how it motivated them to move away from the traditional teaching method that was widely used in Lebanon. The following themes were identified from the answers of the teachers to the interview questions: (a) factors that motivate teachers to be creative in their teaching methods, (b) factors that demotivate teachers to be creative in their teaching methods.

I had a few issues with the interview question that asked the teachers about their perceptions on whether they felt that they were being creative in their use of technology in the classroom. Many teachers did not understand this question, even when translated into Arabic. The term “creative” was confusing to them. To help the teachers understand this term, I had to give them examples of what might be considered to be creative teaching methods. When the teacher found answering this question challenging, I asked

her or him about the factors that motivated them to use technology without focusing on the term “creatively.”

Theme 1: Factors that motivate Arabic language arts teachers to use technology in their classrooms. In this section, I tried to understand what encouraged teachers to use technology in their classrooms. The following figure shows the factors that were inductively generated from the interviews with all teachers in addition to administrators, and that lists the motivators for teachers to use technology in their classrooms.

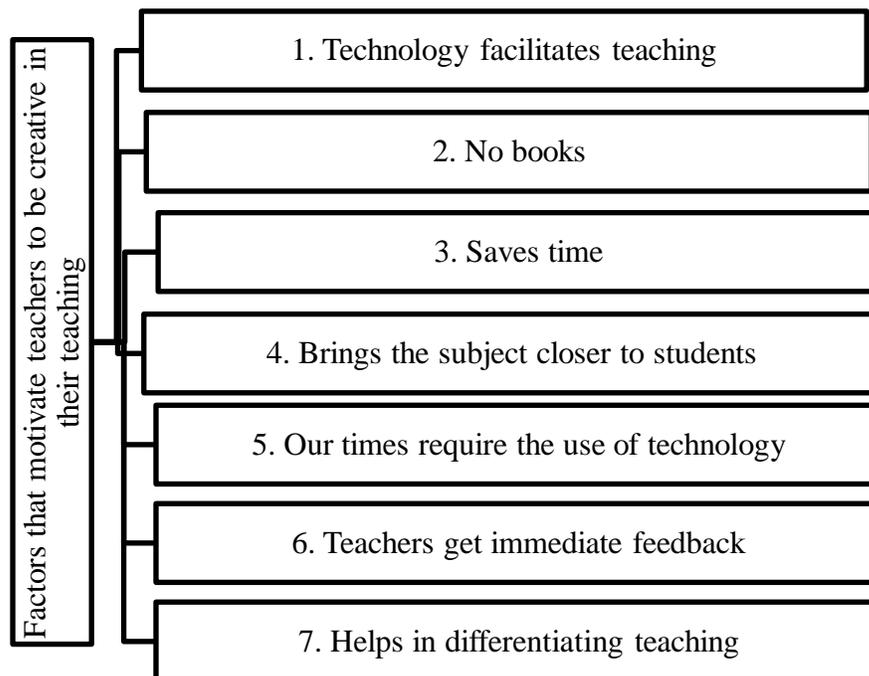


Figure 2. The factors that were inductively generated from the interviews with the teachers of the three settings.

The interview questions asked to get the answer for this question were: (a) Do you think that you use technology in a creative way in your classroom, and (b) What

motivates you to use technology in a creative way in your classroom. Here, and after I explained the term “creative” to the teacher, they would either tell me that they felt that they did use technology in a creative way, or they would ask me to further explain this term to them, which I did.

All of the teachers whom I interviewed said that they did use technology in a creative way. When I asked them to give an example, the teachers usually focused on what they used in the classroom. So, for example, if the school used PowerPoint presentations, the teachers said that they were creative in their use of technology because they used PowerPoint presentations. All but one teacher agreed that the advantages yielded by technology were what motivated them to use it in their teaching. I asked the teachers about the advantages that technology afforded them as teachers. Furthermore, I asked them what motivated them to use technology in the classroom. Below are some of the teachers’ answers.

Factor 1: Technology facilitates teaching. This factor was generated as 12 out of the 13 teachers and administrators mentioned that technology did make teaching easier. All but one teacher agreed with this by saying that she did not find any added value to the use of technology in her teaching practices; she could teach well whether there was technology or not. On the other hand, 12 of the teachers and administrators agreed that technology did make delivering lessons easier.

Teacher 1 said, “Technology facilitates the interaction process between teachers and students. Maybe the students find this to be nice. They enjoy it. But at the same time, they are benefiting from the learning experiences.” Teacher 3 believed that technology

helped her “Find a lot of new things that are ready on YouTube and Google, and so I don’t even have to do a PowerPoint, or work longer hours.” Moreover, Teacher 6 said that technology helped in accelerating her work a little. When asked to give me an example, she said that she saved time in the classroom by asking the students to open their exercise books to a specified page. She could screenshot the page on her iPad and project it on the whiteboard. This practice allowed all the students to follow with her in one place, which also saved time during the lesson.

At Setting B, Teacher 4 said,

I will be very frank with you. When the administration suggested that we have iPads, I was one of those who objected at first, because, in my opinion, the iPads will be a cause of a lot of distraction in the classroom and the students would not be able to concentrate on what the teacher was saying. But when we had the iPads and I started to gain experience with them, you would not believe how much they have helped us.

She continued to say that the students started to want to learn Arabic. “At the beginning,” she said, “Arabic was a dry language which they didn’t like. The teacher would be talking, and the students would only look at her. With technology, the students began to participate in the class.”

When asked what motivated him to use technology in a creative way in his classroom, Teacher 7 said, “The positive things that get reflected on my work such as facilitating my work and it makes my work more alive. It stops being a dead class period. Even I, personally, I can’t tolerate routine.” He continued to say that he would

“suffocate” if he had to teach the same class, in the same way every year. This progress was even more fundamental for the teachers who liked to update their skills and their teaching practices. “So this reflects positively on me. This keeps me finding new paths to update, to add, to change, to do things in a different way. And for the students, it brings the subject close to them. These things motivate me to like to depend on technology more,” he added. Teacher 9 from Setting C agreed with this and she added, “Technology facilitates the search for information” because she was able to find materials about the topic she was teaching on the Internet instead of having to create her own content.

These responses showed that all of the teachers and administrators, who were interviewed, agreed that technology did help them deliver the material in a more interesting way, update their teaching practices, find more engaging materials from the internet, save time since they did not have to create new material, and save lessons for later use. In addition, these teachers found that technology attracted the attention of students and hence increased the interaction between the students and their teachers.

Factor 2: No books. Another advantage of technology, as described by 11 out of the 13 teachers and administrators that were interviewed, was that the teachers and the students did not have to carry heavy books, which affected their posture and their backs in an adverse way. They also mentioned that students, while using the tablets, can study anywhere and anytime without being bound to one specific book. In addition, the SmartBoards made it easy for teachers to teach the students using different mediums, whether they were PowerPoint presentations, videos, or audio files. These different mediums made the lessons more interesting for the students.

As put forward by Teacher 1, “The Smart TV helps a lot because the students don’t have books, and even when the students go home, they can study using their tablet.” Teacher 2 agreed that technology “Eases the load off of the teachers and the students since there are no books to carry.” Furthermore, she explained that since all the books are on the tablet, it becomes easier for the students to study and learn from anywhere.

The acting director at Setting A said,

We use a lot of technology in our teaching. For example, in class, we have Smart TVs, and all of our books are prepared to be displayed on the Smart TVs, and we have them made as Flip-Charts, which facilitates the teachers’ work in class. The teachers could move from one book to another very easily, from the book to the workbook, to sample questions, and so on, and this was in all the subjects across all levels.

Teacher 4 added that not having books with the students made her work easier since she did not have to go around the class to see what each student was doing. She could draw their attention to the projected lesson on the whiteboard instead, and she would know where they were looking. Teacher 5 agreed with this by saying, “I project the reading on the board so that all of the students can read, instead of each student getting their own book and losing time with the books, and not being sure who has read and who hasn’t. They would all be reading from one place and looking at one place.”

Furthermore, Teacher 3 suggested that downloading all of her books on the iPad saves her the inconvenience of carrying many books. The coordinator at site B added,

“Through the use of the iPad, we would have the texts available on the iPad, and so we are saving paper and so saving the environment.”

Factor 3: Saves time. One of the issues that 11 of the teachers and administrators mentioned many times was the amount of time lost during a lesson due to many reasons, but the use of technology has helped them save much needed time. They also talked about how technology and having books on the tablet saves the trees and hence, the environment. Teacher 3 said that “I find a lot of new things that are ready on YouTube and Google, and so I don’t even need to do a PowerPoint presentation or work for longer hours.” She continued to say, “I can find ready-made resources that are compatible with what is required in the classroom.” When I asked her about what motivates her to use technology in a creative way, she replied that “I think that our classrooms, here at the school, are equipped with everything technological. So when you have the equipment, you have many ways to do your work.”

One of the advantages that Teacher 4 mentioned about using technology in her classroom was that technology saves time during the lesson periods. “Suppose I am in the classroom,” she said, “Instead of me having to go around the classroom to check what each of the students is doing I can use the projector to show them the text projected on the whiteboard.” She expressed her relief at the ease of projecting a text on the board and explaining vocabulary words to the students while using colors to make them more visible. Moreover, she took a picture of the board without the need to write everything again, which saved her precious time.

From Setting C, Teacher 7 said, “Technology has made my role easier, from getting information to organizing it. Sometimes it saves time. I may explain a certain lesson, but there is not enough time for the students to write it so that I can send it to them.” Some of the other teachers expressed how technology saved them time when they sent the handouts they wanted to use with their students to their tablets instead of wasting time photocopying and stapling them.

Factor 4: Brings the subject closer to students. Arabic teachers have mentioned how students disengaged from the Arabic lessons since it is a “dry” and difficult language to learn. Teachers noticed that students enjoyed and were motivated to learn Arabic due to the use of technology in the classrooms. Ten out of the 13 teachers and administrators agreed on this point. When asked about the advantages of using technology in her classroom, Teacher 4 said, “Arabic has become close to them more than ever before. Their generation, now, is the generation of the iPad, of technology, and so Arabic has moved to become very close to them.” At Setting C, Teacher 7 said, “Technology helps the teachers bring the Arabic subject matter closer to the students or to help students understand. Especially today, when it is the era of technology, from smartphones to laptops. So, today’s students will not feel as if they are part of the process unless it was close to them and resembles their daily life.”

Teacher 9 elaborated on this by saying that,

Technology helps the teacher a lot, and it facilitates their job, especially in the subjects that are losing their value. For example, in mathematics, the students interact with it a lot. They do so, also in physics, but in Arabic, English, and

French, these are literature-based subject matters, and the students are staying away from them. They don't read much. It is very rare that you see a child who reads. Even if they have to get a news piece, they don't listen to the news. So you feel, as you work with them, that you have to ask them to find information and tell others about it. Then you would feel that they are working.

Teacher 9 continued to say that she modified the Arabic curriculum, which was very dense with so much information about people who lived hundreds of years ago. It also used a language that is no longer employed, and "I try to connect what they are learning to their everyday lives. I bring the language closer to their era, and they don't ask me, 'Miss, what are you reading?' Or 'what do you mean by this?'"

Teacher 1 agreed with this by suggesting that there was a need for technology and education to be integrated together. This integration brought together the two dichotomies—technology and education—and let the students become more involved in the world. Teacher 5 subscribed to the same school of thought when she suggested that technology allowed the students to enjoy learning, which brought the Arabic teachers and the language closer to the students. Since the students were able to become a part of the learning environment, Arabic had become more enjoyable to them. This teaching approach contrasted with the way the students were taught before, where they had to sit in their seats and listen to the teacher talking, as Teacher 5 suggested.

As a summary to this factor, it became apparent, from what the teachers shared, that technology did have a positive influence on the motivation of their students to learn Arabic. This effect was more evident at Setting C since it was a high school, and the

students had to sit for their formal exams at the end of the eighth and twelfth grades. The teachers needed innovative resources to help their students deal with the outdated Arabic curriculum, and technology facilitated this task.

Factor 5: Our times require technology. Seven out of the 13 teachers and administrators who were interviewed, voiced that they felt that students at this time have to learn how to use it. The main advantage that Teacher 1 mentioned more than once during the interview was that “Our times require us to use technology.” When asked whether technology was compatible with her teaching philosophy, Teacher 6 said, “We cannot do without technology. We cannot remain, and excuse the term, in the Stone Age, while the rest of the students and schools are using technology. We have to adapt to progress.”

Teacher 7 corroborated this by saying, “I have been working here at this vortex, if I can call it this, because we don’t have the choice to enter it or get out of it. I am speaking about this on the level of our present era and on the level of the whole world.” Teacher 7 did not feel that he has the choice to stop using technology, even if he wanted to since we were all stuck in this vortex and so we had to adapt to it and learn how to use it. Teacher 8 supported this by saying,

The students enjoy the digital exams because it is their era now, and you have to go along with the times and the progress. You can’t be stuck in one place while the world is moving forward. We have to go along with the times. Even in Arabic, there are so many ways that we can let them [students] use technology.

Factor 6: Teachers get immediate feedback. Six teachers and administrators said that they liked using technology in their classrooms because they got immediate feedback on how their students were doing either on digital exams or on the websites that informally tested the students' knowledge. Teachers at Setting A used an individual learning system (ILS), where the students read a grammatical rule on their own and solved the accompanying exercises individually. This gave the teacher immediate feedback on how the students did on their session, what questions were answered incorrectly or correctly, in addition to any other information that let the teacher know what her students acquired. She could then go back to the questions and explain to the students how to answer them correctly.

Setting B used two websites for this feedback: Ashabouna.com where the students played games that were appropriate for their grade level as well as for the lessons' objectives, and Quizzizz.com where the students competed to answer the questions correctly. The questions were either written by the teachers at that setting or by teachers from other schools. These two websites afforded the teachers the knowledge of how their students were doing on specific lessons, and they were then able to help the students who were not up to standard.

Similarly, teachers at Setting C started using digital tests created by the teachers at this school. Although the questions for the digital tests were multiple-choice, the teachers were the ones who corrected the tests, and then the students received their grades. This practice allowed the teachers to know the problem areas that the students faced and tried to help them. In summary, these teachers agreed on the benefit of technology in helping

them know the skills and knowledge levels of their students as well as having the ability to know the weaknesses of their students and the skills or knowledge that should be retaught or explained again. This knowledge could be immediate since they can get stats about their students' levels through the different websites that they use.

Factor 7: Technology helps in differentiating teaching. As I have seen from previous experience, Arabic teachers usually did not know how to differentiate their teaching to meet the needs of different students. Eight of the 13 teachers and administrators, who were interviewed, agreed that technology helped them in differentiating their lessons depending on their students' needs. This aspect was more evident at Setting B, where the teachers made conscious attempts to differentiate their teaching by using different tools, whether they were technological or not, to allow all students to learn. Moreover, at Setting C, the psychologist at the school did a test to see how the students learned best and shared the information with the teachers who tried to accommodate the different needs of their students.

When asked whether he feels that technology helped him in differentiating his teaching, Teacher 7 pointed out the paper that was stuck to the wall of the classroom, and that showed the learning patterns of the students. The paper had the most common learning categories that were found in each class. He added, "So, we take this into consideration, at least I can speak about myself, I take it into consideration, and in most of the classes that you enter, you can see two patterns that are repeated. Some learn best by group work while others learn with auditory learning through songs or visual through videos." He continued to say that "We can differentiate our teaching, it lets them pay

more attention to the subject, it makes them happy and more excited, they work more. And of course, this positively reflected on them.”

When asked whether technology helped her differentiate her teaching or not, Teacher 3 said, “Technology has a role. When a student is not proficient enough in writing in a fast way, but they can listen in a better way, or understand better through listening, so I would ask them to listen to a document while the rest of the class writes.” She continued to say that she could make sure, later, that the student understood the information orally via questions. “Technology does help them, yes,” she added. When asked to give more details on how technology helped her differentiate her teaching, she added, “I can give the information I want to the students to learn in two ways, maybe the traditional way, and via technology. This depends on each student and the best way for them to receive the information.”

Teacher 6 explained that technology helped her differentiate her teaching because “Let’s say that I have a high achieving student who knows how to solve the exercises or anything else on their own, so I use the same objective for these exercises.” She said that she could give them a more advanced version of the exercise while keeping the same objective. Teacher 9 also suggested,

When we prepare the lesson plan, we are activating the visual and the auditory and the writing and everything. So, when I prepare a lesson, I send it to their [students’] tablets. The student who likes technology will learn it directly from the tablet. Some people like the paper and pen, and they write it in their copybooks. Some people type with me, and when we finish, we send them to each of the

students' tablets. My role is to ensure that the information has reached all the students: the auditory, the visual, and the person who likes to write, the person who likes to memorize.

As a conclusion to this question, it was obvious that all 13 teachers and administrators supported the schools' decision to use technology in the classrooms. This was despite the opinions of a few teachers who said that they were reluctant, at the beginning, to use technology since they thought that it would be a source of distraction and not of learning. As time passed, and as the teachers attended professional development and training sessions or even self-trained, their confidence in using technology increased, and hence, they became more proficient and comfortable in using it in their teaching techniques. Despite the many advantages of using technology in the Arabic language arts classrooms, the teachers did have some concerns about its disadvantages.

Theme 2: The factors that demotivate teachers from using technology in their classrooms. Figure 3 shows the factors that demotivate teachers from using technology in their Arabic language arts classrooms. The interview questions that I asked the teachers to get this theme were: (a) What are the disadvantages for you as a teacher when you use technology in your classroom, and (b) What are the challenges that you face when you use technology in the classroom.

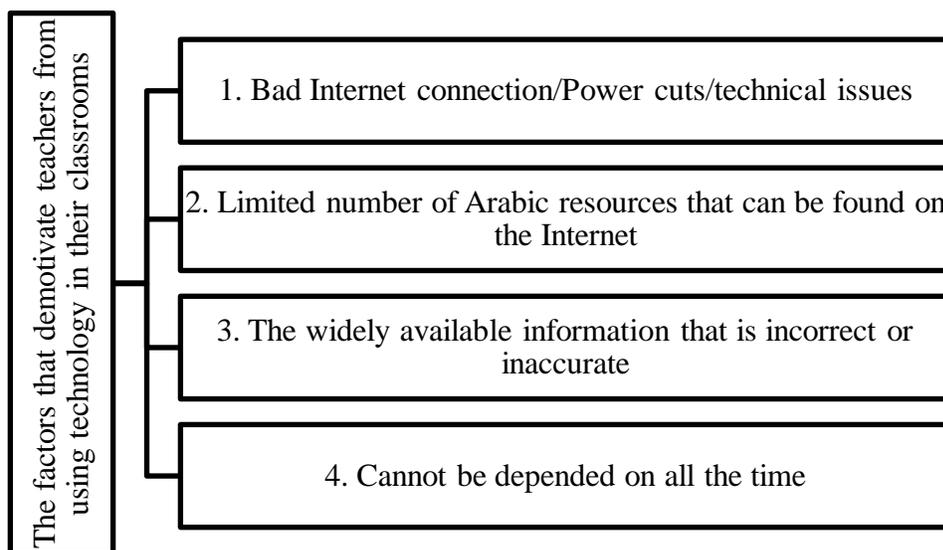


Figure 3. The factors that demotivate teachers from using technology in their classrooms.

Factor 1: Bad Internet connection, power cuts, and technical issues. One of the disadvantages mentioned by the 13 teachers and administrators was the slow Internet connection that affected technology use in Lebanon, in addition to the repeated power cuts and technical issues. Teacher 1 said that she faced technical problems with technology sometimes. She went on to say, “Sometimes the Smart TV might not work properly, things like that. Small things. In ILS, we might face a technical issue which is quickly resolved by the IT manager who works at the school.” Teacher 4 corroborated this issue by saying that despite her school attempted to strengthen the Wi-Fi and Internet connection, this went beyond what the school could do; it was a whole country problem. Teacher 7 said,

The challenges that I face while using technology are the same that every person might face, such as limited time of the period, sometimes something might come up, and that would alter the teaching process such as the laptop stops working, or

the board would stop working. You know in Lebanon, we have power cuts, maybe we would lose Internet connection because of a storm or something, so you always have to have plan B. Perhaps this is the biggest challenge that we face, but maybe this is during the first year that you face such a challenge, when you are new to the field. But when you become more experienced, you would be able to adapt to any change that might happen. It stops being a challenge; it becomes an unexpected occurrence that you can avoid easily by using your plan B.

As Teacher 9 explained, the most important disadvantage that her school faced was its location, which is in a mountainous area where storms and rain caused the Internet to stop working sometimes. She added that the electricity outages that occur all over Lebanon enhanced the difficulty of using technology in the classroom. All 13 teachers and administrators suggested that there was a dire need for plan B, which they used when the Internet was not working properly or when they faced technical issues with the SmartBoards and tablets. This plan depended on the teacher and the school where they worked. It could be a detailed lesson plan of their plan B, a video that the teacher downloaded on their device to show the students when the Internet connection was weak, or any other technique to help the teacher finish what they needed to finish during that particular period.

Factor 2: Limited number of Arabic resources that can be found on the Internet. I identified this factor when I asked the teachers if they were able to find enough resources to fulfill their needs 6 out of the 13 teachers and administrators said

that they are able to find some resources but with difficulty. The teachers at Setting A did not feel that this was a problem since the school's headquarters provided them with all the necessary resources created by the coordinator. They did not need to create or search for any additional resources. At Setting B, the teachers found it challenging to find resources that were appropriate for their lessons and class levels. Teacher 3, for instance, told me that she had to create an interactive PowerPoint presentation about pronouns because she could not find any on the Internet. The coordinator, at Setting B, said that resources for the younger students were more accessible than for the older ones. In addition, the teachers, at Setting B, said that when they were unable to find a story to meet their lessons' objective, for example, their coordinator would author a story to fill this gap. Teachers at Setting C corroborated the lack of resources, stating that they had to create many of the resources needed for their lessons since there were very few ready-made for the older students. One of the teachers at Setting C was working on a project for the higher class levels to create interactive books to help with the scarcity of the resources. Furthermore, many of the presentations or videos that the students watched at Setting C were in English and not Arabic.

Teacher 8 said that she found it challenging to find resources in Arabic that were class appropriate, and that served the topic she was teaching. She continued to say that she eventually was able to find some resources if she searched long enough. To alleviate this problem, different schools used different strategies. Setting A created interactive PowerPoint presentations for all the lessons for all the class levels so the teacher could show the students the explanation of the lessons, vocabulary words, grammatical rules, in

addition to any other tool needed by the teacher to explain the lesson. The students solved the exercises on the SmartBoard first, and then they copied the answers into their copybooks. Setting B used two websites that helped the teachers get the information across to the students in a clear and fun way. But as the coordinator said, these websites catered for the lower class levels and that there were very few resources that they could be used for the older students. At Setting C, the teachers used and allowed the students to use resources in English since they could not find enough resources that served the objective of the lesson or the class level in Arabic. For this reason, Teacher 7 said that he was creating digital Arabic resources, with the help of a colleague, to assist with this issue.

While I was observing her classroom, I saw that the students in Teacher 9's class showed their peers a video in English. When I asked her if she agreed with the students using a language other than Arabic in her classroom, she said that she preferred for the videos to be in Arabic or to have Arabic subtitles, "But the good thing about technology and since we have globalization now, then it becomes mandatory that each of us learn a different language." She continued to say, "Now, it would have been better if the video was dubbed in correct Fusha Arabic or subtitled in Arabic. Most of the films would be in a foreign language, and they would be dubbed or subtitled in Arabic." This teacher added that some of the translations were done quickly and so they would contain many grammatical or linguistic errors. She taught her students to look for those mistakes and avoid them.

In an informal chat with two of the librarians of two schools, Settings B and C, both agreed that there were not enough resources in Arabic for students to use for research purposes. Both suggested that Arabic books and resources that they had in their school libraries were out of date and did not cater to today's youth. The librarian at Setting B said that she found it challenging to find resources that were created by Arab authors. She noted that, unfortunately, most of the storybooks for young children, for example, were translated from other languages.

The scarcity of Arabic resources that the teachers and their students could use to create presentations, watch a video, or other purposes, forced them to use materials that were developed in a different language. Some teachers also mentioned that many errors could be found in the materials that were translated into Arabic.

Factor 3: The widely available information that is incorrect or inaccurate. This issue was voiced by five teachers who said that they could not rely on the information their students got from the Internet because much of it could be incorrect or inaccurate. This issue was more prominent at Settings B and C as the teachers asked their students to do their own research on specific topics. Teacher 3, for example, said,

Sometimes, I want to talk about a particular topic, and I don't find the necessary information that I want the students to know, or we might not be sure of the information, or it does not come from a trusted source. We can't count on the quality of the information that we get from technology. We have to be more aware of the information that we give our students. We can't take everything in an automatic way and teach it to the students.

Coordinator 1, from Setting B, said that they stayed away from untrusted websites such as Wikipedia for anyone could change, add, or edit the information. He gave me the example of one of his students who wanted to search for information about military recruitment in Lebanon, and the coordinator suggested to access the Ministry of Defense webpage as it had the correct information.

Teacher 9 agreed with what had been suggested previously. She said that she asked her students to be careful about where they got their information. She taught them not to accept any information they find first, but that they should make sure that the information is correct. Furthermore, Teacher 8 thought that schools should teach students how and where to find trusted and correct information.

Factor 4: Cannot be depended on all the time. Teachers at the three settings described how they could not depend on technology for the entirety of a lesson and that they used many different activities in the classroom to ensure that the students learned the necessary skills and information. When asked about the disadvantage of using technology for her as a teacher, Teacher 3 said,

I can't depend on it always. I have to see where the students have reached, what they have understood. I don't know if you have noticed, but after we watched the video, I tried to observe more how the students write the pronouns. I will know more about this when the students are assigned homework or even when they write in the class notebook. So we can't rely only on technology and what they [the students] watch because the students might forget what they have watched with technology. So, for sure, we need to supplement it with flashcards. Writing

expression can't solely depend on technology, but it should be linked to technology.

Teacher 1 complained that she could not depend on the ILS sessions to teach the students about the grammatical rules and that she always had to repeat the lesson in class so that the students learn the information. Furthermore, the four teachers and the one coordinator that I interviewed at Setting B said that technology complements their teaching strategies and that they could not depend on it for teaching all the skills and competencies needed.

As a conclusion to the interviews, I asked the teachers what would they change if they were given a magic wand and were told that they could change anything they wanted in the educational system of the school or in the school itself. Many of them showed concern about the outdated Lebanese curriculum, especially at Setting C, as the students were older and because it was a public school that had to follow the Lebanese curriculum. Teacher 7, for example, said,

It doesn't need a magic wand; it needs determination and seriousness in our work on the governmental level in general so that we can change the curricula. This is the most important thing. Our curricula today, have been created in 1999 or 2000, and I imagine that after 19 or 20 years, we have to change the curricula. We have to put a new vision in education. I am talking about the government in general. And from the government, we can go down toward the schools and the teachers. We are forced to follow the curriculum because we are part of the government, and all what we are trying to do is to let the students feel, as much as possible,

that the subject is closer to them and that it is a current curriculum. With the different techniques, with the more current things that we add to the lessons.

This concern was mirrored in what Teacher 9 said,

I hope that we can work on changing the curriculum and we really need this because we have students who are very capable of being creative and of giving a lot. We have to escort the progress in everything, not that we have the technology but are still applying very old curricula. When I change the curriculum and change the mentality of the child and the way he can acquire experience and language and mathematical skills and science and so on, but we have to work on updating our curriculum, there is a huge need for this. And this is very important.

To conclude this theme, it became evident that many issues demotivated teachers from using technology in their classrooms in a creative way. I observed the frustration of some of the teachers when their students' tablets did not connect to the Internet or when their classrooms were not furnished with technology-enabling tools, such as SmartBoards or projectors. I also observed the frustration of the teachers, especially at Setting C, with the outdated curriculum. Setting C teachers emphasized that they had to adhere to the outdated and deficient government curricula and books. The other two settings were private schools, which meant that they were able to create their own curricula to fit their needs.

Research Question 2

The second research question asked how do Arabic language arts teachers perceive the influence of technology tools on the motivation of their students to learn

their native language. This research question aimed to understand how teachers perceived the influence of technology on their students, the positive and the negative. The answers to this question were mostly in agreement with how technology can enhance the learning process in the Arabic language arts classrooms. The interview questions that I asked the teachers to get the answers for this research question are: (a) What are the advantages of using technology for your students, (b) How useful is technology for adapting your teaching to the different needs of your students, (c) What are the disadvantages of using technology for your students, and (d) What are the challenges that you face when you use technology with your students. Some of the teacher answers as they relate to the two inductively generated themes are listed next, (a) The factors that motivate the teachers to use technology with their students, and (b) The factors that demotivate the teachers from using technology with their students.

Theme 1: The factors that motivate the teachers from using technology with their students. In the previous section, I relayed the perceptions of the teachers as they used technology in their teaching. The following section details their perceptions about the influence of technology on their students. Most of the teachers said that they found it challenging to learn how to use technology at the beginning, but this process became easier as they practiced the different skills needed to use technology in a successful and meaningful way. In the staffroom, at Setting C, for example, one of the teachers, who was not included in this study, told me that she was adamantly against using technology when the school administration decided to adopt it. After a few years of being forced into using

technology in the classroom, she became proficient enough to be excited about its use in her teaching.

The following themes were deduced from the interview questions

1. what are the advantages of using technology in your classroom for your students?
2. what factors might motivate you to use technology in your classroom?
3. what might motivate you to be creative in your technology use?

When I asked the teachers these questions, they gave me answers that related to their students. Subsequently, I relayed some of the teachers' replies to the above-mentioned questions. I used many prompting questions to help the teachers think and give me more elaborate answers to my questions. Some of these prompts are found underneath.

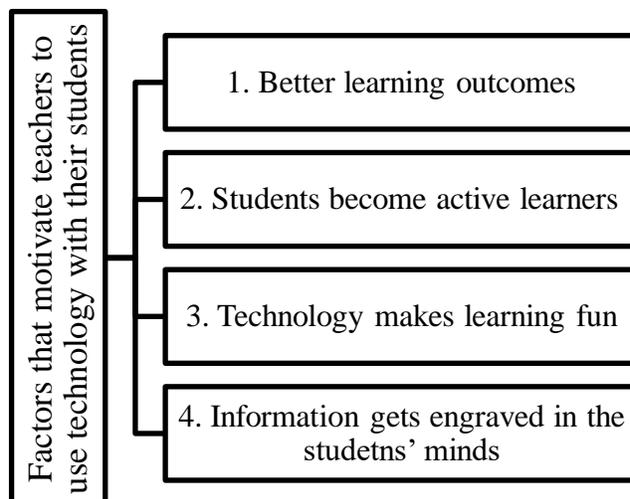


Figure 4. The factors that motivate teachers to use technology with their students.

Factor 1: Better learning outcomes. All 13 teachers from the three settings agreed that the students learned more and that their grades improved after using technology in lessons. The principals, directors, and coordinators of the three settings

corroborated this finding. Teacher 7 told me, for example, that the principal had facts and numbers about the enhanced learning outcomes that the students achieved, and he attributed this improvement to the use of technology. Better learning outcomes motivated the teachers to believe in the influence of technology and its benefit for the learning experiences of their students.

When asked whether or not she felt that students learned faster and better with technology, Teacher 1 commented that the students might learn faster with technology because students enjoy using tablets. She continued to say that her students enjoy ILS, where they had to do a test via a tablet and that her students benefited from these sessions. She expressed her relief at the high grades her students were getting. Teacher 1 further explained that with technology, the students had fun, and hence they learned better.

As Teacher 2 mentioned, technology was beneficial for the students' learning process because "It is very important for them to see the information and to listen to it." She added that they would not be able to listen to the audio files without technology. When I asked Teacher 6 if she felt that her students were getting better learning outcomes due to technology, she said, "The students like the subject matter more with the use of technology. They enjoy it because now technology is their everything. It's their whole life."

I asked Teacher 7 whether he saw improvement in the students' grades or learning outcomes due to technology, and he said, "Of course. It reflects on their learning outcomes and on their results. In the administration, we have a lot of examples where the

principal can tell you, with numbers, that the productivity of the students has improved a lot.” He continued to say that all students became involved in the learning process, and more motivated to participate in their learning willingly. All 13 teachers expressed the opinion that because technology motivated students to enjoy the lessons, this would be reflected, in a positive way, on their learning outcomes. This improvement caused teachers to believe in the positive influence of technology for the learning process of their students, and, by extension, they became motivated to use technology in their classrooms.

Factor 2: Students become active learners. Twelve out of the 13 teachers worked previously at schools that did not have technology, and that relied on the traditional teacher-led lessons. These teachers admitted that the change to use technology in their teaching had a profound influence on how they viewed teaching and learning. They were excited to report that now their students became partners in the teaching and learning process. The teachers were facilitators to the learning experiences of their students. The student’s role changed from being a passive recipient of information, disseminated by the teacher, to being active learners who created presentations, worked on projects, searched for information, in addition to many other tasks.

When I asked Teacher 3 about the advantages of using technology in the classroom for her students, she replied,

They [students] move more, they participate more, they understand more. I have noticed that when they watch something with the help of technology, they focus more, they participate more. Because, maybe a student, if the teacher does all the talking or if she is using traditional teaching methods, the student might lose his

or her concentration or day-dream or get lost in the educational environment. I think that the video motivates them more in the classroom.

Teacher 9 said, “Technology has made my classes more alive, and the students pay more attention, and more active, and they interact with the subject.” Then she expanded on this by saying that instead of the students sitting at their desks passively looking at a text in a book, they could watch videos about a certain topic and that students could bring new information, which makes them active learners. She added, “Technology has made my classes more alive, and the students pay more attention, and more active.”

When asked about the advantages of technology to her students, Teacher 8 said, “They interacted more with the topic they are learning about. When you show them a video, they are able to link information together.” She continued to say that she was able to create her own PowerPoint presentations to explain a lesson or to add more exercises to the ones found in the book. She noticed that her students paid more attention to the lesson when she used technology in her teaching.

Teachers, especially at Setting C, explained how technology made their students active learners and how their teaching approach moved away from the didactic teaching model and more towards a student-centered approach. When the teacher showed her students a video or a presentation, the students became involved in the lesson and curious to learn more about the topic.

Factor 3: Makes learning fun. One of the reasons that all 13 teachers and administrators from the three settings became motivated to use technology in the classroom was that it made the learning fun for the students. The students enjoyed the

lessons more with technology, and they became more involved in their learning experiences. At Setting B, for instance, using the website, where teachers created quizzes for their students, allowed the students to want to learn about the vocabulary words or the grammatical rules to help them win the game. They competed against each other they were motivated to learn.

Teacher 3 suggested that showing the students a video that she found on the Internet about pronouns to be very helpful in motivating students to learn. She continued to say,

The students will understand more; there is something that catches their attention, such as the audio files and the pictures, because most of the time, the teacher is the one who is doing most of the talking and the writing on the board.

Teacher 4 said that with the use of technology in the classroom,

the students began to feel excitement for the Arabic class, even more than we could have imagined. I didn't expect that the students will be motivated; even the word 'motivated' does not truly convey what they feel. Technology encouraged the students a lot to be engaged more with the lessons.

Teacher 6 said that one of the factors that motivated her to use technology with her students is "To make the language more enjoyable to the students so that they think that it is fun and not think of it as being dead." When asked about the advantages for the students, Teacher 6 said, "The advantage is that it [technology] is something new. Not to study everything from a book. It's something that they use every day in their daily lives." Similarly, when asked about the advantage of using technology in her classroom, Teacher

8 said, “They enjoy it [technology], and they interact more.” She continued to say that students interact more with the Arabic language because of technology. “The Arabic language with technology, they like it a lot. Especially that we start each unit with a video or a film that relates to the unit we will study,” she explained.

In summary, most of the teachers from the three settings agreed that technology motivated their students to want to learn. Whether the students were playing an educational game on their tablets or sitting for a digital exam, they were motivated to expend their best efforts to do well.

Factor 4: Information gets engraved in the students’ minds. For eight teachers getting their students to remember the information they learned was a challenge. These teachers said that before the use of technology, their students would learn the lesson for the test and forget it the minute they walked out of the test room. Technology played a part in helping the students remember the information for more extended periods of time because, as the teachers said, they were active learners who were responsible for their learning experiences and not passive learners.

Teacher 2 said, “When students see their teacher at the active board, they memorize the information faster, and it gets engrained in their minds.” Teacher 3 thought that what motivated her to use technology with her students was because they learned the information in a faster and clearer way, and it got engraved in their minds. “Technology made complex lessons simple to learn,” she continued.

When asked whether or not she felt that technology helped students learn more, Teacher 4 said, “It helps because now the students are very interested in technology. This

is why it helps. It helps because you would be doing something that they want you to do, they enjoy it, and they ask for it.” She continued to say that she asked her students to research certain topics because this helped them learn better and for longer. She would not be doing all the talking, and then they would forget what she was saying after 10 minutes. “If they search for the information, it gets stuck in their heads more. When you do something that is different than just receiving it,” she explained.

Teacher 7 suggested that technology was compatible with his teaching philosophy because the objective of every teacher was to deliver the information in a clear and simple way, which helped it to become engraved in their memories for a long time. He continued to say, “I am not only talking about information but also about skills and competencies; they have critical thinking and their own opinions which they can voice and talk about, and technology is serving these competencies or these objectives.”

Many teachers found added value in the use of technology because it helped their students remember the information they had to learn and not just study for the test. Watching videos, listening to songs, creating presentations, were a few activities that were done with technology, allowing students to become more immersed in their learning experiences and hence learn the information, skills, or competencies on a deeper level, not just superficially where it could be forgotten easily.

Theme 2: Factors that demotivate teachers from using technology with their students in the Arabic language arts classrooms. The following figure depicts the factors that demotivated teachers from using technology with their students in the classrooms.

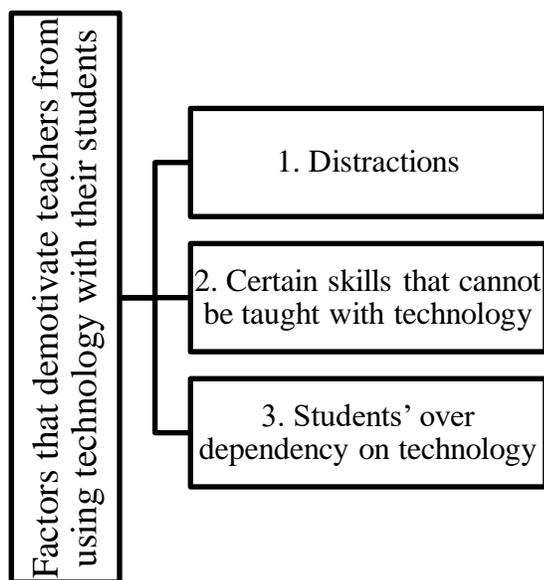


Figure 5. The factors that demotivate teachers to use technology with their students.

Factor 1: Distractions. One of the reported disadvantages, as voiced by 10 out of the 13 teachers, was a distraction. As an example, Teacher 1 said that, “There are a lot of days where, while we are doing something on the Smart TV, the students play a game on their tablet. They use it as a pastime, playing games that they have downloaded at home.” Teacher 3 agreed with this but further suggested that she could not generalize this phenomenon for all the students. She explained that some students were very serious about their use of technology, but still, others were not. Teacher 7 said, “Maybe a student can leave the program or the book and open something else, and they would be doing something else when they should be concentrating with me or focusing on me.”

Teacher 3 added to this by saying that she got demotivated to use technology with her students when

I see that the students don't want to use technology in a good way. When they want to use it only in its bad way and use it only for games and fun. Here I would

rather go back to the traditional way of teaching because we can't risk losing time while not learning anything. So they will not be benefiting from the use of technology nor the objective of the lesson.

Teacher 6 agreed with this by saying, "They [students] get distracted. I feel that sometimes it [tablet] is a source of distraction rather than a source of learning." When I asked her to explain this further, she said that sometimes the students would call on each other to ask their friends where they have reached on their reading on the tablet and that sometimes they get notifications that will further distract them. Teacher 2 suggested, "The disadvantages are that while the students are using their tablets, the teacher needs to continuously monitor and watch them because they might be using another application or a different eBook. Continuous monitoring is necessary."

Despite the teachers' motivation to use technology in their classrooms, they were aware of its downsides. Distraction was one of these downsides when the students used their devices for purposes other than learning. For this reason, teachers felt the pressure of their role as observers of the classroom happenings. The administration also felt the pressure of controlling what the students could access on the Internet and what they could download on their devices. I believe that this was a legitimate concern with which the teachers had to deal. As I was observing one of the teacher's class, a few students started to color the PDF poem that their teacher had sent to their tablets with different colors. This happened as the teacher was reading it from the SmartBoard.

Factor 2: Certain skills that cannot be taught with technology. Although technology played an important role in aiding the students enjoy their Arabic lessons,

seven of the teachers made it clear that technology could not teach all skills, such as writing, holding a pen, and writing on a piece of paper. Three teachers explained that, even at the high school level, some students came to class without the skill of holding a pen properly.

Teacher 3 said that she could not depend on technology for students to learn all the necessary skills. She said, “If we use technology all the time, and forget other skills, unfortunately, the other skills will be lost, whether it was writing or reading. We can’t use or be dependent on technology all the time while forgetting other skills.” Teacher 9 told me that one of the disadvantages of technology was,

As you saw in the classroom, we are losing the skill of writing. Sometimes we use colloquial language more than Fusha, which lands them with problems because what they say is different than how it is written in Fusha. So they get lost much of the time.

When asked what the disadvantages of technology for her students were, Teacher 6 said that there were many disadvantages, especially for the Arabic language. She gave me an example of a student who used the tablet for all tasks, such as reading and writing, to the decline in the use of paper and pen. She believed that the students should not read everything from a screen, but they should flip through and touch the pages of a book. She added,

Let’s say that we have a grammar lesson, in grade one, if they do it on the iPad, they would use their finger to drag words from one side of the screen to the other. Where is the pencil in this case, and the paper? Don’t they have to practice their

handwriting? It is very important that they learn how to write letters and words, especially the Arabic letters, which have three shapes and sometimes four.

Arabic language arts teachers were aware that technology could not take the place of the paper and pen activities. To them, especially at a younger age, it was fundamental that the students practiced their fine-motor skills and learned how to hold the pen and write on a paper. Teachers at Settings B and C talked about their frustration when they get a student who did not know how to hold a pen properly. One of the teachers at Setting C said that it was essential for the students to know how to hold a pen and sign their names on formal documents later in their lives. This issue frustrated Arabic language teachers in particular because writing the Arabic letters could be challenging since they should be written in cursive.

Factor 3: Students are becoming overly dependent on technology. Eight teachers, especially at Setting C, reported that their students were getting overly-dependent on technology. The three teachers from Setting C commented on how students did not want to write the lesson notes on their copybooks. Instead, they would take a picture of the board or ask the teacher to send them the information via email. In addition, teachers compared their own learning experiences when they were students, to those of their students. For instance, a few of the teachers talked about how they had to go the dictionary, try to find the root of a word, and find its meaning. Now, their students could Google the word, and they would get several meanings effortlessly. This overdependence on technology worried these teachers since they wanted their students to spend more on learning. In addition, teachers at Setting B mentioned that their students needed to have

their tablets on their desks, even if they were not going to use them. The students found assurance in having their tablets visible.

I asked Teacher 4 about her perception of the disadvantages of using technology with the students, and she said,

Now I feel that the students are growing dependent on simple things, they don't make an effort to open a dictionary and look for the meaning of a word, or take a paper to write the definition of a word, or doing research. If I ask them to do research, they would do it on a PowerPoint. Only a few would do it using paper or a large cardboard.

She continued to say, "Maybe I am from an older generation who is still focused on paper and pen, but I don't know how long this will last. Now the students are more dependent on the iPad, on typing, on PowerPoint, we forgot about the dictionary, the storybooks, the paper, writing, coloring."

Teacher 6 taught at Setting B before it adopted technology, so when I asked her about the difference in both time periods with her students, before technology and after technology, she said that there was a positive difference and a negative one. The negative difference was especially prominent at the KG level. She explained that before technology, the students moved and danced around when they heard a song on the radio, cassette, or DVD players. Now, "They just sit there watching" and that the screen "Hypnotizes" them.

Teacher 8 believed that her students do not like to write, although it is a necessary skill for them to learn. She said that she encouraged her students to use paper and pen and

that it was nice to write on a copybook, not just type on the tablet. “They ask me to send them the information [to their tablets] so that they don’t have to write it, but I tell them that they have to write it,” she continued.

At Setting C, Teacher 9 emphasized the skill of finding the right information by saying,

Another disadvantage is for the student not knowing where to look for information. I should give them technology, but I should build a strong foundation for them first. I have to teach them how to look for information, know what information to look for, and they should have the culture of technology and to respect what information they need to get and how to search for it, because of this fast wide-spread of technology and its quick progress. You would get a phone at the beginning of the month, and another newer one would be available at the end of the month. So you are always racing against time. A lot of the times, they are skipping a lot of things to stay in the race with technology, and this has an adverse impact. In a cultural way, it is influencing them in a bad way and socially as well. They don’t have the grit to study. Even if there was technology, there are places where the easier you make things for them, the lazier they get.

When I asked her to explain this more, she said,

I could have taken a screenshot of the information that I wrote on the SmartBoard, or I could have typed the text, and I could have typed the questions and sent them to the students, and they will be able to see them on their tablets. I don’t distribute any papers. And we can type the answers. But I want them to keep on using the

paper and pen. I want them to see and correct their handwriting. Even I, on the SmartBoard, I make mistakes and erase so that they can see that I can correct my errors. Not that anything that I take from technology becomes like a holy script that can't be changed. Because at the end, it is a person who is creating technology, and if humans make mistakes, then technology, in certain places, will have errors.

In conclusion, despite the disadvantages of technology mentioned by the teachers, all of them agree that they had to use technology because it was the age of technology. Most of them said that they could not imagine walking into a classroom or working in a school that did not use technology. On the other hand, they regretted that students, these days, used more technology than hard copies of actual books. These teachers were concerned about the declining use of books and how dependent students had become on technology. At Setting B, the main concern was on the importance of developing fine motor skills in students. The teachers at Setting B mentioned that some of their students come to the elementary classes without developing fundamental skills such as holding a pen correctly or writing the letters of the alphabet.

Research Question 3

The third research question asked how Arabic language arts students perceived the influence of technological tools and innovative teaching practices on their motivation to learn their native language. The objective of this research question objective was to listen to what the students had to say about the use of technology in their classrooms. To

answer this question, I interviewed 21 students who ranged in their grade levels from G2-G12. The interview questions are located in Appendix C.

Interviewing young students was a challenge since few could express their thoughts and perceptions. Still, I asked many prompt questions to help them vocalize their opinions about what they thought was the influence of technology on their motivation to want to learn Arabic. In addition to whether the way their teachers used technology impacted their motivation to learn, negatively or positively. Another challenge was finding enough time to do an in-depth interview since I was restricted to the students' lunch breaks which was about 20 minutes in all three settings. The schools had strict rules about my meeting time with the students in addition to the fact that sometimes I had to interview two students in that brief period of time. From the interview questions, the following themes were inductively created: (a) the factors that motivate the students to want to learn Arabic, and (b) the factors that demotivate the students from enjoying learning Arabic.

Theme 1: The factors that motivate the students to want to learn Arabic. To get the themes for this section, I asked the students whether or not they enjoyed learning Arabic, and whether technology helped them enjoy learning Arabic. Talking to young students was challenging because they did not know how to vocalize their thoughts and express themselves proficiently. Older students, at Setting C specifically, gave me more insights as to how they viewed the learning of Arabic with the use of technology.

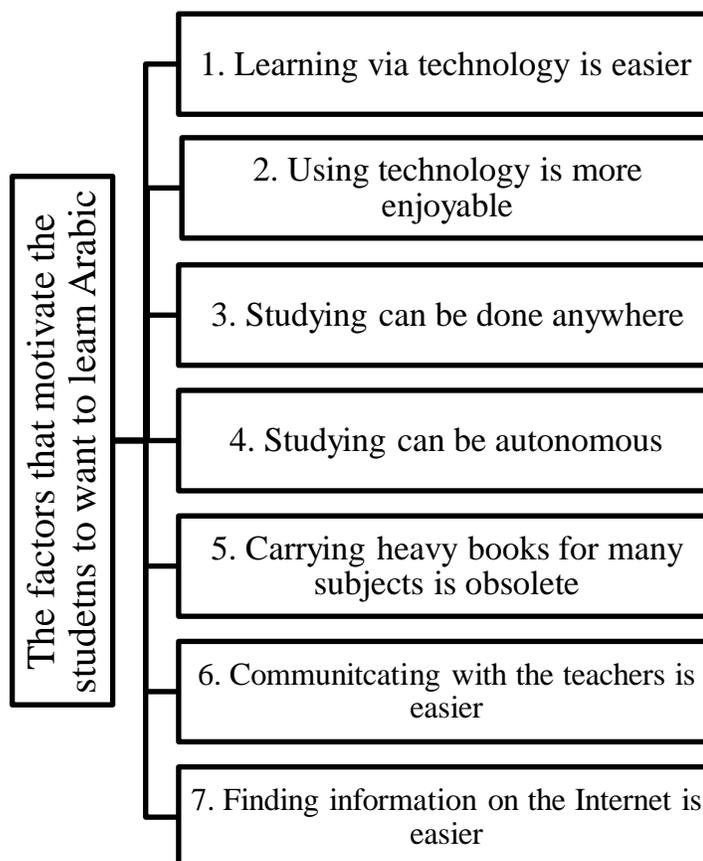


Figure 6. The factors that motivate the students to want to learn Arabic.

Factor 1: Learning via technology is easier. In the following section, 16 students talked about how technology made their learning experiences easier and better. They enjoyed reading and learning from the tablets and SmartBoards more than they did from a book.

At Setting 1, Student 1 said that she felt that she learned more when her teacher used technology but not much when her teacher did not and that she understood everything when technology was used. Student 4 agreed with this and continued to say that she learned better when the teacher used technology in the classroom. She added that technology helped her learn better because she could download the lessons on the tablet,

which was easier than writing all the information on a copybook. Similarly, Student 9 said that she liked using the tablet for learning more than a regular book because “We can just put the number, and then it will give us quickly the page.” This feature made the tablet easier to use than a book. At the end of the interview, this student reiterated that she learned better by using a tablet because she could find the page needed quickly by typing its number on the tablet while with a book, she would have to flip through the pages to find it. Student 10 said that using technology in the classroom made her feel smarter since the Flip-Charts resemble the tests for which they would sit. These charts enabled her to know how to answer the questions on the exams. She added that the tablet helped her concentrate better on the exams since they practiced answering them on the tablet, and this assisted her in knowing how to answer the test questions.

Student 11 said that he liked to read from the iPad more because “You can have a chapter book, you can copy it on the iPad and then without flipping through the pages and getting lost, you can just open the iPad and move the pages.” This meant that he did not lose the page he had reached. He further explained that,

It is fun to use the iPad because first of all, we use the iPad for zooming-in because with a book you can't zoom in, and you will have to bring the book near to you. And on the iPad, the text is bigger than a book.

Student 12 suggested that she liked to read from the iPad more because,

I sometimes read a lot of chapter-books as I like to read a lot and I read at night, and I will have to turn on the light in our room. I have a small lamp that I turn on, and I will have to carry the book and if the book is large then if you have read,

let's say half of it, and the pages that you have already read will cover the pages that are reading, and I keep getting lost. And with the iPad, you can zoom in. This student also mentioned that using technology helped her learn better, and she gave me an example of a lesson that the teacher explained and that she did not understand much. She was able to understand the lesson when the teacher showed them a video about that topic.

Student 14 suggested that one of the advantages of technology was that "It facilitates everything. So we receive things from the teachers. We don't have to write everything. They explain the lesson and then send us the information on the tablet. It facilitates correcting exams for the teachers." He continued to say that when the teachers gave them digital exams, the students "Have the results immediately." He added that his teacher let the students listen to an audio file or watch a video about a poem, for example, and this helped them know how to read it on their own.

To add to this, Student 15 said that she found many differences between her previous school, which did not use technology, and her current one, which did. One of the differences was that her current school had more interactions between the students and the teachers, and between the students themselves. She added, "In Arabic, it becomes clearer for us to see. The teacher has the book in front of him, and he explains to us from the open book on the SmartBoard. The questions are all there on the PowerPoint presentation for him to be able to explain it to us. So it is much easier for us to learn it." She continued that she enjoyed reading from the tablet more because it was easier and

more interactive, and that “We all use our phones and such. So when you see a tablet in front of you, it will motivate you to study more than a book.”

Student 16, who came from a school that did not use technology, said that at his previous school, “When we had a book, we could only study from this book, and that was it. We didn’t have anything except this book. But now, for example, we have PowerPoint and Word documents, we have many things that help us study. But before, we only had a book.” He felt that technology helped him learn because “With technology come things that help us, such as videos and audio files. It has become easier to study. Before, I had a relationship with the book only, which is a memorization relationship.” He added,

Now, we have everything. For example, if we needed something or if we didn’t understand something, before, if we didn’t listen to the teacher’s explanation, we either had to ask her to repeat or to ask our friends. But now everything is on Word and PowerPoint and so on, and this helps us a lot to study. Everything is clear.

At Setting C, Students 18 and 19 agreed that learning with technology was easier. They said that the current curriculum was very old, and they could only find outdated examples in the book. Learning became easier when the teachers created PowerPoint presentations or Word documents to update the information and the examples of the lessons, and to make them more appropriate for our times. This modernization helped the students absorb the information better. Student 18 added, “Personally, I like reading from the tablet because it is a tablet; it is new, and it motivates me to read. Plus, I can zoom-in,

flip the pages, underline, save things, write sticky notes; I can't do these things with a book.”

To summarize, many of the students agreed that using technology motivated them to learn more than reading a book. They suggested that a tablet makes it easier to receive the lesson from the teacher, instead of writing notes, zoom in or out of a page, easily find a page, adding a sticky note to a page, in addition to many other features. In addition, some students expressed that they were motivated to read and learn from the tablet because it was new. Another student enjoyed how technology facilitated the interaction between the teachers and the students and between the students themselves by using Groups to communicate via their tablets or computers. Because of the use of technology, the students felt that they were more motivated to learn and that they found it easier to read and learn from the tablet.

Factor 2: Using technology is more enjoyable. Thirteen out of the 21 students in the three settings said that they enjoyed the lessons more when their teachers used technology. From what the students said, I understood that they learned better when they were having fun. Activities that were incorporated into the Arabic classrooms encouraged the students to pay more attention to the lessons and increased their academic attainment. When asked whether she preferred the lessons where her teacher used technology, Student 1 said that she did. When asked about the reason for this enjoyment, she said that her teacher used the SmartBoard where everyone could see the screen, and “It is better than each one of us working on the small tablet alone.” Student 2 agreed with what Student 1 said, “It [technology] makes me study and understand everything.” He

understood more when the teacher used the SmartBoard because, as he said, “They [teachers] show us everything from the lessons.” Here, he was talking about the PowerPoint presentations—or the Flip-Charts—that were created for each lesson at Setting 1. Student 2 enjoyed ILS because “It allows us to study more,” and he continued to say, “I only like the lessons that are on the computer.” From my observations, it seemed that when the students enjoyed the lesson; they were more motivated to pay attention in class and so they understood the material more.

Student 3 liked the lesson more when his teacher used technology because “It allows us to understand the lesson better.” Student 4 agreed with this when she said that she enjoyed using technology because “We learn the lesson in a nicer way.” She further explained that learning with technology was more helpful than learning with copybooks because she had to write on the copybooks, but she could not write on the tablet; she could only review the lessons. When I asked Student 6 about her opinion of teachers using technology in the classroom, she said, “It makes the students like the Arabic period more, and it lets us have fun during the period.” I asked her what made the period fun, she said, “If we are talking about a certain lesson, she shows us a video, if it was available, or pictures.”

Student 9 did not know how to express herself when I asked her why she preferred that her teacher used technology, and she just said, “Because it feels better.” She continued to say, “Because it is something new. It’s better from the board that she writes on,” (here she meant the whiteboard that was available in all the classrooms in addition to the SmartBoards). At Setting B, Student 11 said that he liked to study with

technology more than books because “Instead of reading books and writing on the book, we can get the iPad, and write on it and we can read on it as well. And the font is clearer; you can zoom-in.” Student 12 agreed with her classmate by saying that she also enjoyed it more when her teacher asked her students to turn on the iPad for she enjoyed using software that the school subscribed to and that allowed the students to compete to answer questions. She also enjoyed using a website “Which has everything, you can read stories, you can learn grammar, you have text analysis, and all of those things that help you to improve everything related to Arabic.”

Student 19 said, “I didn’t like Arabic much before, but now with this curriculum, this year, I like it more. With the way the teacher explains the lesson, and this also has to do with technology. When they added technology to the Arabic classes, I started liking Arabic more.” Student 18 said that he enjoyed watching videos more during the Arabic lessons because “It [Arabic] is about texts, and we like other things, but there would be this day when the teacher tells us that we are going to watch a video. So we enjoy the period and we feel that we have lessened the pressure of the text and that we have watched something that is nice and at the same time that is beneficial for us because our unit talked about it.” Student 19 agreed with what Student 18 said and added, “When the teacher shows us a video on the board and when we research something, these are the nicest things we can do in Arabic. It takes away from the text. These are the nice things about technology.”

Students felt that Arabic was a difficult language to learn, and that technology made the lessons more interesting and more approachable. This was conveyed more by

the older students at Setting C who said that technology made the very difficult old poems they had to learn easier to deal with if they watched a video about it or if they heard it via an audio file. Most of the students agreed that technology motivated them to study and learn Arabic since it made the material easier to understand and learn. These students, who were disengaged before when their teachers used traditional teaching methods, became more interested in the lessons and felt more motivated to learn because they found the lessons and the activities to be fun.

Factor 3: Studying can be done anywhere. Eight out of the 21 students, who were interviewed, felt free to study wherever they want, and that they should not be stuck in a classroom or behind a desk. The older students at Setting C felt relieved that their teachers could send them the lesson notes and that, even if they were absent, they could get the lesson and could study.

When asked why he liked technology, Student 3 said, “We understand the lesson better.” When I asked him how technology did that, he said, “We can listen to it [lesson] at home and such.” Student 4 concurred by saying that she liked the tablet because “We can use the tablet to study at home.”

Student 19 explained that learning was better with technology because
If someone was absent, the teacher would send us what we have studied in class.
And if the teacher was explaining something on the board, and someone was absent, then the teacher can send them the material, and they would know what we did in class. While without technology, this can't be done. For example, on a

chalkboard, if the teacher erases the material, then it ceases to exist. Now they can save, and everything is still there.

Student 20 agreed with this by saying, “At home, I get excited to open the tablet, and play around with it a little, and then I begin to study.”

Students were relieved that they could learn a lesson even if they were absent or distracted in class. They felt that they could study anywhere which gave them a sense of freedom since they could carry all their books in one small portable tablet.

Factor 4: Studying can be autonomous. Due to the many resources that were available to teachers, such as the ILS at Setting A, or the two websites used at Setting B, students felt that they learned on their own without the need for constant teacher explanations. From my observations, I saw that the teachers explained the lesson at the beginning so that the students understood what was required of them. After that, the students practiced the learned skills on their own, on their tablets, and received immediate feedback on how they did without having to wait for the teacher to correct their work.

Student 1 described her autonomy at the ILS sessions that took place, regularly, at Setting 1 because, “We work on our own and we understand, while in class, they [students] start talking and we can’t hear.” Student 3 expressed his learning independence because, “She [teacher] gives us ILS, and we understand on our own.” Student 6 said, “Technology is nice because we have several ways in which we can learn.” When asked to give an example, she said, “On the tablet we can read and understand on our own, and we can, if the teacher was explaining, understand as well.”

Student 9 mentioned that ILS was her favorite classroom activity because “It helps me to learn without the teacher in the class. It helps me to learn how I need to study alone.” Student 15 agreed with this by saying that learning with technology was more fun and was easier. “It [technology] was created to be easier, so you feel that everything is there, in an easier way, for you to study and to learn.” She continued to say, “Instead of thinking how to decode a word to read it, for example, you can listen to someone reading. This helps me a lot so that when the teacher tells me to read, I would know how to read the poem.”

Furthermore, many students at Setting C expressed that they understood better when they read the information on their own rather than as a group in class. Student 17, for example, said that she preferred to read when she was alone. She felt that she could concentrate more on what she was reading when she was alone. Student 19 suggested that tablets made reviewing the lessons, at a later time, easier with a tablet since the information could be saved on it.

Many of the students preferred to read the information or the lesson on their own since they were distracted when they read with others. They reported that they could concentrate more when they studied on their own. It also gave them a sense of accomplishment when they understood the lesson on their own and answered the questions relating to the lesson alone.

Factor 5: Carrying heavy books for many subjects is obsolete. Traditionally, students had to carry many books and notebooks for each subject matter that they had during the day. Their school bags were heavy and often, the parents ended up carrying

the heavy bags, especially when the student was young. The heavy bags caused children to suffer from backaches and bad postures, amongst other health problems (Janakiraman, Ravichandran, Demeke, & Fasika, 2017). For this reason, technology replaced books and the students were relieved of this task when their books were downloaded on their tablets. They talked about the light weight of their backpacks since it held their tablet and a few notebooks. Twelve out of the 21 students mentioned their relief at not having to carry heavy books anymore.

Student 5 expressed his opinion about technology saying that he liked the tablet because he could access the lessons on it immediately without having to carry books.

Student 11 said that he learned better with technology because

Instead of you bringing like a hundred books to learn about one thing, you can have your iPad, go to YouTube and type what you want to learn about and you will have videos and you choose one and then you will learn about this topic.

Student 14 supported this by saying that he liked technology because it eliminated carrying heavy bags. "The tablet replaces about 15 books." This was concurred by Student 15 when she said that she was motivated to learn from a tablet more than a book because it was interactive and because "We don't have to carry 30 or 40 books. We have them on one laptop. So we carry less weight."

Student 16 corroborated this idea when he said, "From the positive side, as well, I have to mention, we don't have to carry heavy bags anymore, but on the other hand, we are responsible for the tablet now. So, if the tablet breaks, the responsibility falls on us and we have to pay to get it fixed." When I asked Student 18 about what he thought about

using technology in learning he said, “Besides the learning process, it makes carrying our bags easier or course, when we use the tablet.” Here, he explained that students felt better when they studied from a tablet, when I asked him the reason why, he said, “Maybe carrying a book is outdated and that by using the tablet he [the student] feels that he is able to go along with the progress more than a book.” Student 20 agreed saying, “It [tablet] even made our backpacks lighter. Our backs used to break, now there is just the tablet and a few notebooks. It is something that is very wow for us as students.”

As a summary, technology helps in more ways than one. In addition to making learning more accessible to the students and more interesting, it also alleviated the weight of the heavy books when their school administration downloaded them onto the students’ tablets.

Factor 6: Communicating with the teachers is easier. Seven students talked about the easiness of communicating with their peers and with their teachers. This was obvious mostly at Setting C since the students were older. The teachers at Setting C created groups using Microsoft Teams where student and teachers communicated and a second group where the students communicated with each other.

One of the advantages of technology that Student 14 talked about was that technology “Facilitates us [students] receiving things. So we would get things while sitting at home, for example. We also, once, did a homework at home and sent it to the teachers. So all these facilitate our work.” Student 19 added, “If the teachers teach us a lesson, they put it on Teachers and Students group. And if we want to show them a presentation, we can also submit it through these groups, and they can see it on their

laptops.” Student 18 explained, “We have two files, Students, which is for us, and it is where we put our work and everything we do, and Teachers where they send us lessons, and Teams.” He further explained that, “If we had to talk to the teachers, we can talk to them through Teams, and they send us our homework, the schedule of the exams, and such.”

Student 16 continued to say that one of the aspects that made him like his school was that learning had become “Easier and nicer and there is a kind of communication between the teachers and the students. So, now, the teacher can give and deliver his ideas in a smoother way, and this for the positives [of technology].” Furthermore, Student 18 agreed with this by saying that, “We have two files, Students, which is for us, where we put our work and everything we do, and Teachers, where they send us courses, and Teams.” She added, “If we had to talk to the teachers, we can talk to them through Teams, and they send us our homework, the schedule for our exams, and such.”

At Setting C, students found it very beneficial to be able to ask their teachers questions about a lesson or an assignment after school-hours through the different Microsoft Groups. They also talked about how easy it had become for the teachers to send them lessons if they were absent in addition to submitting assignments. Technology also helped with group projects where the students needed to communicate to finish a project.

Factor 7: Finding the information on the Internet is easier. For this factor, nine students reported the ease of finding information on the Internet. Many of them said that they typed any keywords in the Google search bar, and they got millions of pieces of

information from different websites and in different mediums (articles, books, videos, and such). One student, from Setting C, suggested that at his previous school, which did not have technology, he was bound to the information found in one book only. Now, at his new school, the amount of information he had access to was unlimited.

Student 11 thought that learning with technology was more fun because “We were learning about democracy and dictatorship, and I was reading, and I didn’t understand anything about dictatorship. At the end, I said to myself, let me research it on Safari, and I found around 10 trillion information that are correct.” Student 13 had a similar opinion about this. He said, “Sometimes you can get information from books, but sometimes technology can give you information that you can’t find in a book.” Student 16 agreed with this when he said that he liked technology in the Arabic classroom because “I noticed that we can get information with ease, and the teachers explain the lessons with ease. The explanation is simplified, so it is harder for the students not to pass the Arabic class, because, in my opinion, it has become over easy.”

Student 17 added that at her previous school, it was difficult and very time consuming for her to do a project since she had to

Search for two hours in books, and I have to find the important information, I had to organize them on a cardboard. But here it is different. You can Google and you get directly what you want, and you can copy it into a PowerPoint presentation, you don’t have to organize and cut and glue like before.

Student 19 said that his teacher used technology in the classroom in a creative way. He found it easy to use Google to find information about topics that he was studying

about, and added that he was able to find this information immediately. “We would not be able to find this in a book for sure,” he explained. Students 20 and 21 agreed that these days, it was much easier to find information which helped them study. Student 20 said,

Technology, these days, is in control of everything, so for me, technology is very important. Every day and at school and such. And it helps me a lot with studying. Before, they used to search 100 hours in books to do a certain project, now the tools are facilitating things for you. You find information immediately. So, I feel that this way makes studying easier, and it excites the student to study, and they are not bored.

In summary, technology helped students from the three settings to find much information easily and quickly. As many of them suggested, they could not find all the information they needed from just one book.

Theme 2: Factors that demotivate the students from using the Internet. The second theme gleaned from the students’ interviews is that there were a few issues that demotivated the students from using technology in the classroom. The following figure lists these demotivators.

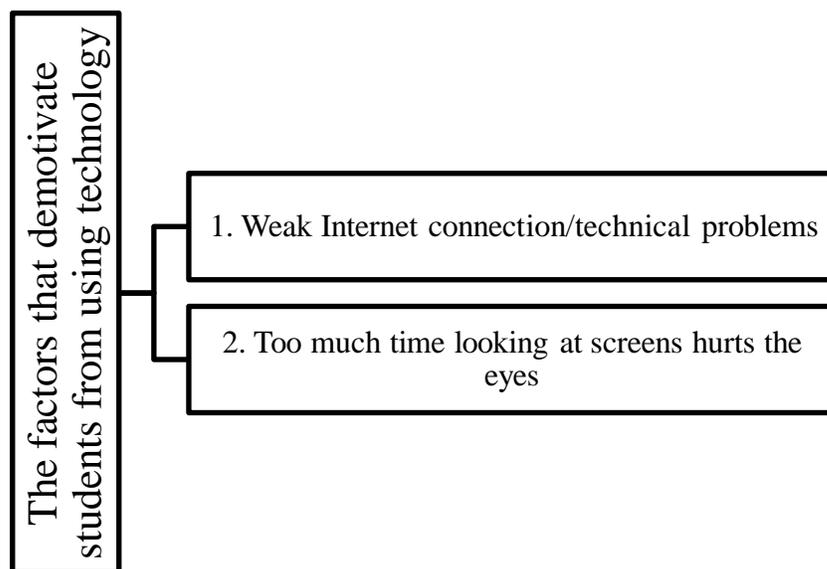


Figure 7. The factors that demotivate the students from enjoying learning Arabic.

Factor 1: Weak Internet connection and technical problems. Five out of the 21 students mentioned the weak Internet connection that plagued Lebanon. This issue was one of the most mentioned demotivators for using technology in the classrooms in general and not only in the Arabic classroom per se but in all the other subject matters, which teachers also noted. When I asked Students 11 and 12 whether there was anything in technology that they did not like, they both agreed that “It is not technology, but I don’t like it when you try to access the Internet with your iPad but it doesn’t always work,” Student 12 said. Student 11 continued, “Especially in the mountains,” since their school was in a mountainous area. Student 14 reiterated this by saying that one of the disadvantages of technology was that although this issue did not frequently happen, “Sometimes, things don’t work immediately. So, for example, the SmartBoard doesn’t start immediately. And it delays us. And once we didn’t have a strong WIFI connection and we were several classes, and the test was late to reach our tablets.”

Despite the usefulness of technology in the teaching and learning processes, students identified two issues as a demotivator to use technology, such as weak Internet connection or freezing or malfunctioning devices. Sometimes, these issues were frustrating for both teachers and students.

Factor 2: Too much time looking at the screen hurts the eyes. Another factor mentioned by six of the students at the three settings was that their eyes would be hurt by spending too much time looking at the screen. Student 4 said that she could not get the tablet too close to her eyes, otherwise “We will not be able to see with our eyes.” This student was also concerned about her teacher standing too close to the Smart TV since it might hurt her eyes too. Student 8 concurred with what her peer was saying by adding that she liked the WhiteBoard more than the SmartBoard because looking at the SmartBoard for too long would hurt her eyes. Student 13 also agrees with this. He said that he preferred handmade books because they were better for his eyes. This demotivator was also stated by Student 20 when she said, “With time, you might develop some problems with your eyes” when she looks at the screen too long. She continued to say, “Sometimes it [tablet] hurts my head. Sometimes I get a headache when I use the tablet a lot. Especially in the beginning of the year, I get a headache around the 5th period. And in the last period, my head hurts the most.”

In conclusion, the students said that they were more motivated to learn Arabic when their teachers used technology. Their only concern, as they heard from their parents and teachers, was they hurt their eyes if they spend too much time looking at a screen. In

general, the students had a positive perception of using technology in the Arabic classroom.

Despite the fact that most of the students, whom I interviewed, said that they did not enjoy the Arabic lessons before technology was used in their school, some of the students, especially at Setting C, said that they have always liked studying the language. These discrepant cases caused me to investigate these students' replies further. One of the students told me that when she was younger, she was taught by a teacher who made her enjoy learning Arabic. Another student said that he had always been good in Arabic and that was he enjoyed it. This student mentioned that he lost interest in Arabic for a while because of the outdated curriculum he had to study. His perception changed when his teacher updated the information to include more current topics.

Summary

This section presented the findings of this study. In summary, the objective of this study was to explore and understand whether technology motivated Arabic language teachers to be creative in their teaching methods. Besides to how they perceived the influence of this creativity on their students, and if the creative teaching methods that used technology motivated the students to enjoy learning Arabic. The results were categorized by the research questions.

Research question one focused on teachers' perception of how technology motivated them to be creative in their teaching practices. The results from the three settings revealed that technology was a big motivator for teachers to use creative teaching practices in their classrooms. The teachers mentioned many advantages of technology, as

was previously mentioned. Although many of the teachers supported paperless schools, as they are more environmentally friendly, they were saddened by the decline of people who are reading from books. Many of the teachers said that using technology was challenging for them at the beginning and they spent a long time learning how to use the technologies available to them. This became easier with time and as they practiced using them, and they reported saving time and effort in preparing for their lessons.

The second research question asked about the perception of the teachers about their students' motivation to want to learn Arabic when they used technology in their classrooms. Most of the teachers said that their students interacted well with technology as it is the age of technology now. These teachers voiced that they did not want the Arabic language to be dry or limited to outdated teaching methods when new teaching methods motivated students to want to learn Arabic. One of the main disadvantages of technology, as most of the teachers from the three settings noted, was that the students were becoming overly dependent on technology, which was affecting their ability to hold a pen and write on a paper.

The third research question investigated how students reacted to technology in their Arabic classrooms. The results for this question showed that most of the students liked technology and they enjoyed studying and learning via technology. They were pleased that they were able to read eBooks, watch videos, listen to audio files, and interact with the material that studied, since this made the Arabic lessons more interesting to them. The most prominent conclusion that I was able to reach from the students' interviews was that the teacher was the most important factor in motivating them to want

to learn Arabic regardless of whether technology was used. Student attitude toward studying also played a role in motivating the students to want to learn Arabic. As I heard from many students during the interviews, if a student wants to study, he or she would study whether technology was involved or not.

Chapter 5 includes a summary of the findings that were concluded from this study, which explored how teachers perceived the role of technology in motivating them to be creative in their teaching methods and how it affected their students. It also analyzed how students perceived the role of technology in motivating them to enjoy learning Arabic. Additionally, it includes the limitations, recommendations, and implications of findings.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this exploratory multiple case study was to investigate how technology was integrated into Arabic language literacy classrooms. It also aimed to examine whether technology motivated the students to learn Arabic and for their teachers to use creative teaching strategies in Lebanon. The findings indicated that all teachers agreed that technology facilitated teaching because it helped them save time and effort while creating their lesson plans and resources. Teachers also believed that technology helped students be closer to the Arabic language because they use technology so often. Some teachers said that technology helped them show the students that Arabic was not “dry” or “dead.” Another advantage of using technology in the classroom for the teachers was that they got immediate feedback on the different educational acquisitions of their students, which helped them in differentiating their lessons. Teachers were also able to notice better learning outcomes, students who were becoming active learners because learning was fun, and who deeply learned the information.

On the other hand, some of the disadvantages of using technology in the classroom were that the Internet connection in Lebanon hindered teachers from using technology. In addition, technical problems and electricity power cuts were demotivators for teachers to employ technology in their classrooms. Furthermore, the teachers commented that some skills could not be taught by using technology such as writing and holding a pen. Concerns of student distractions and their over-dependency on technology also made the teachers not enjoy using technology in their classrooms.

As for the students, the major motivators to learn Arabic at school were that learning was easier, more enjoyable, and more fun with the use of technology. Having no physical books meant that some students felt free to study anywhere autonomously. They also enjoyed the fact that they were able to communicate with their teachers anytime from anywhere, which helped them ask questions or ask for an explanation about a specific lesson. The students also talked about the ease of finding information with the Internet. Students mentioned only two disadvantages that hindered their motivation to use technology. The first one was the weak Internet and the technical problems they might encounter while using their tablets. The other disadvantage voiced by a few of the students was that they were afraid they would develop eye problems if they used a screen much of the time.

This chapter includes several sections. First, I start by interpreting the findings, where the results are explained with the two theoretical frameworks in mind. Next, I talk about the limitations of this study and what hindered access to more data. Then, I discuss my recommendations so that future researchers can improve on this study. Finally, implications are explored where I review how this study can help schools, both private and public, integrate technology in their teaching and learning practices.

Interpretation of the Findings

To understand the perceptions of the Arabic language arts teachers and their students about their motivation to teach and learn by using technology in the classroom, I designed this multiple case study to answer three research questions. The findings were interpreted by employing Rogers's (2003) diffusion of innovation theory and Dörnyei's

(2012) L2 motivational self-system. These two theories aided me in investigating how technology was diffused in Lebanese schools and how it motivated the teachers and the students to teach and learn Arabic. This section is organized by the three research questions.

Research Question 1

The first research question was “How do Arabic language arts teachers perceive the influence of technology on their own motivation to be more creative in their teaching strategies?” To answer this question, I asked the participants to talk about the factors that motivated and demotivated them to be creative in their teaching strategies as it applied to them as teachers. The results showed that there were several factors that influenced the creativity of teachers. The most frequently mentioned factor named by all but one of the teachers and administrators was that technology facilitated teaching. These teachers talked about how technology facilitated the interaction between the teachers and the students, inspired them with new ideas from the Internet, gave them the tools to experiment and create their own resources, and allowed them to easily find information. These reasons, mentioned in Chapter 4 as separate factors, all motivated the teachers and administrators to use technology in their schools and classrooms.

The findings for this research question align with the diffusion of innovation theoretical framework. Although the three schools enforced the top-down approach to diffusing technology in their social systems, and although some teachers were resistant to this innovation, teachers eventually became convinced of its usefulness. This finding was in line with Rogers’s (2003) suggestion that innovation becomes more appreciated when

its members discuss its benefit and have found support in helping them solve problems. This was true for the three settings as they all had an IT manager who helped the teachers with issues they might face.

Additionally, all teachers and administrators gave credit to the professional development sessions in which the teachers were trained on how to use technological tools that their schools afforded them. The length and topics that were discussed in these workshops depended on each school and each case. The two teachers from Setting A, for example, received minimal training because they joined the school later in the academic year after school started, whereas the rest of the teachers had about four or five days of training before the beginning of the school year. Despite this issue, all teachers and the administrators praised their IT managers who were always available to help them in solving technical issues. This professional development and support allowed the teachers to overcome one of the barriers that might hinder them from using technology in their classrooms (Rizvi et al., 2017).

Further, the results showed that in these Lebanese schools, the gatekeepers (administrators) accepted Rogers's (2003) fifth stage of adoption of innovation, which is the diffusion and adoption of the innovation, and this led their teachers to agree to use technology in their classrooms. Because the administrators were convinced of the importance of technology in their schools, they were able to help their teachers go through the five stages of diffusion of innovation: knowledge, persuasion, decision, implementation, and adoption or rejection (Rogers, 2003). From what I saw at the different schools, and from informal and formal discussions with teachers, most of them

said that they did not know about the technologies they were using at their schools before they joined these settings. Because they were required to use the different technologies in their classrooms, the teachers had to force themselves to be persuaded and decided to use them. When they implemented these technologies, they chose to adopt them after they noticed the benefits their students were experiencing, which aligns with the diffusion of innovations theory.

Overall, findings from this study indicated that teachers felt more motivated to use technology in their classrooms if they had enough training, the appropriate technological tools and software, and enough time to create or find resources. As Sahrir (2017) mentioned, many Arabic language arts teachers resist technology because they feel incompetent in employing technology because of their restricted computer literacy and training. At the three Lebanese schools, the proper training that had a mixture of theoretical and practical components gave the teachers enough self-efficacy that motivated them to try their newly learned skills (see Mills & Belnap, 2018). In addition, technology is as good as its user (Sawang et al., 2017). This suggests the importance of teacher training and professional development.

Research Question 2

The second research question that I investigated was “How do Arabic language arts teachers perceive the influence of technology tools on the motivation of their students to learn their native language?” To answer this question, I asked the teachers about their perception of how technology influenced their students’ motivation to learn Arabic. The primary factor that teachers noted in their students was that they had better

learning outcomes. All teachers suggested that technology helped their students get higher grades on tests and exams, especially the digital tests. According to some teachers, another factor that motivated students to want to learn Arabic when their teachers used technology was the prevalence of technology. The students were born at a time where technology was prominent everywhere and the Arabic classroom had to accompany this progress so that Arabic becomes closer to the students.

These findings also apply to Rogers's (2003) diffusion of innovation theory because some of the teachers, whom I interviewed and others with whom I had casual discussions, said that they were resistant first to the idea of integrating technology in their classrooms. They thought that technology would cause distractions in the classroom and that the students would not learn. These teachers changed their perspective after they saw how their students reacted to the new teaching methods. Although distraction was one of the demotivators that teachers talked about in the interviews, they still saw the benefit of technology in the classroom. To solve this issue, the teachers talked about close monitoring of the students at all times. This task was easier in classrooms with a fewer number of students, such as Settings B and C, where a maximum of 20 students were in each classroom. On the other hand, at Setting A, where there were around 40 students per class, this task was more challenging.

Dörnyei's L2 motivational self-system (2009a) was also applicable to the findings for this research question. Dörnyei's theory suggested that motivation was the reason that encouraged people to behave, persevere, and spend effort on certain behaviors. The teachers' motivation to learn how to use technology was apparent by the time they spent

on learning new technological skills. The teachers spent hours, sometimes days, creating new material for their students because they saw their enjoyment at learning Arabic with the help of technology. Even though teachers had to spend much of their personal time at home learning new skills and creating appropriate resources, they were more than willing to spend the time and effort to do so because they noticed how engaged their students became.

Additionally, Dörnyei (2009a) suggested that as teachers and students became more experienced with technology and as they built their self-esteem while using technology, they became more motivated to use it creatively. Teachers mentioned that they were skeptical about their technological skills and that they did not feel proficient while using technology because there were always new tools and devices that changed constantly. They also felt that their students were more proficient than they were. However, teachers felt that they needed to keep themselves updated with technology to keep up with their students, which led to better self-esteem with using technology and more motivation to teach Arabic with technology.

I asked the teachers about their students' perceptions of the Arabic class before they used technology to which their answers were similar. Before technology, the students felt that the Arabic language was "dry," "boring," "unnecessary," and "dead." When technology was used, students became more interested to learn their native language. For example, Teacher 5 talked about how students used to complain that they did not like Arabic and that they did not want to learn it, but with technology, students became more excited and motivated to learn. Because teaching and learning create a

synergic relationship, the motivation of the students to learn Arabic with the use of technology increased the motivation of teachers to create and use it—“No matter how long it takes to learn and create new resources,” as Teacher 5 said. These thoughts mirrored previous research that indicated that students’ motivation to learn increases when their teachers create multimedia resources, which include colorful images and graphics in addition to text (Mayer, 2014).

All the teachers commented that they saw an increase in their students’ learning outcomes. Some related this to the use of technology, whereas others related it to the updated resources that they used. Nevertheless, they all agreed that by modernizing their teaching techniques, the students became the center of the learning environment instead of the teacher. Arabic is seen to be a difficult language to learn because most teachers use the traditional teaching approach where they disseminate knowledge to passive students (Mahmassani, 2016). Thus, when the teachers changed their perception of their teaching, the perception of their students changed as well. I noted that in two classrooms where two teachers still used the lecturing approach, their students were disengaged. This disinterest caused the students to become noisy and fidgety and caused the teacher to become frustrated and desperate to keep the students on task (see Bahou, 2016).

Research Question 3

The last research question was “How do Arabic language arts students perceive the influence of technological tools and innovative teaching practices on their motivation to learn their native language?” I wanted to include students in this study because I noticed that there was a lack of studies that included young students (Mahfoudhi &

Abdalla, 2017; Mahmassani, 2016). For this reason, I included two elementary schools in this study. Despite two students mentioning that “Education is education,” whether it was done via technology or books and “If a student wants to learn, they will learn anyhow,” most of the students agreed that technology made their learning fun, more enjoyable, and easier.

Dörnyei’s (2009a) theory was visible here as students became more involved in their learning process because their teachers began using a more student-centered teaching approach. The teachers agreed that their students were more proficient in using technology, and this might be the reason for the high self-esteem the students had about their ability to use it. Many disadvantaged students did not have the chance to use technology before they came to their schools. However, once they started to use technology, they were willing to spend time and effort to learn how to employ it properly, as Student 17 suggested.

Another factor that helped in the motivation of the students to learn Arabic was the change in the school environment from didactic traditional teaching methods to a more student-centered approach which allowed the students to become more active learners (Dörnyei, 2005). As Dörnyei (2005) theorized, learning had to take into consideration the conceptualizing agents with their learning differences, in addition to conceptualizing school’s environment and how it affected the interaction between the students, their environment, and the length of time and amount of effort it took them to learn a new skill. From what I saw at the three settings, the students were willing to exert the necessary effort to learn how to use technology, which helped them in creating

projects, presentations, and other material for their classes. I saw the enjoyment and pride on the faces of two students who showed their peers a video that they created about different Lebanese villages. These feelings might translate into the students being motivated to create more technological material in the future. This motivation fell within the boundaries of Dörnyei's proposal, which discussed the interplay between the learners, their environment, and the language that plays a part in how motivated the students were to learn Arabic.

Furthermore, many of the older students at Setting C complained about the outdated curriculum that had not changed in 20 years, which made many of the students bored with the lessons. The teachers at this setting tried to find more current resources to engage their students with the topics. This task was in line with what Bahou (2016) said that students were demotivated to learn Arabic because they did not understand the reasons behind what they were being taught as it was divorced from current events. The newly updated lessons that the teachers at Setting C created included multimedia resources such as songs, images, and videos that attracted the students attention and that included more current topics in which the students felt more engaged.

One of the interesting findings that four students talked about was that they had always been good in Arabic, and that was the reason why they liked learning it. They felt confident in their Arabic language skills, which allowed them to enjoy learning it. As Mills and Belnap (2018) suggested, a person's belief about their ability to do or complete a task, or their self-efficacy, was the most consistent barometer of academic performance across many research studies.

In addition, Gabsi et al. (2015) suggested that diglossia paired with didactic teaching methods demotivated students to learn their native language. Nevertheless, when teachers and students cooperated to create learning experiences, the teacher could move the students to become mature enough to direct their own learning processes (Dörnyei, 2007). This also allowed the students to become autonomous learners, as was observed in all three settings in Lebanon. Students from all three settings were motivated to learn when they had the chance to use technology to study on their own and to show the teacher what they have learned.

Limitations of the Study

In my proposal, I identified five limitations that related to issues of trustworthiness. As I conducted my study, I found one additional limitation that might have compromised the trustworthiness of my study. The first limitation was the small sample size of teachers and students that might hinder the generalizability of the findings. This issue was a common aspect of all qualitative studies. I interviewed and observed nine teachers, one acting director, two coordinators, and one principal, in addition to 21 students, from three Lebanese schools that used technology. Although I tried to include many students from different socioeconomic backgrounds, most of the students were from underprivileged families, which might have a consequence on the findings because these students were not technologically literate before coming to their schools. Therefore, the findings might not be consistent with other studies that might be done in other countries for a different language and in different types of schools.

Another limitation of this study was that the data was gathered from two elementary schools, which provided a challenge since young children were unable to express themselves well. This issue prevented me from collecting rich data from the interviews. Usually, young students gave me brief answers for my questions. So, for example, when I asked a young student if they liked technology, they would reply by only a “Yes.” When I tried to prompt them to give me a reason for their feelings, they would answer with, “Because it’s fun.” They were not able to vocalize their perceptions in rich descriptions.

In addition, I was not welcomed in most of the schools that I approached, and hence, I had to gather my data from the schools that allowed me to. In Lebanon, usually, the principal is the gatekeeper that any researcher has to go through to be able to conduct a study at their establishments. I contacted eight schools but was accepted into only three. This limitation did not allow me to select participants randomly, and hence I used the purposive sampling method as I had to settle for the three schools that accepted me into their premises.

A fourth limitation was that one of the schools was rigid in allowing me to contact students and ask them to volunteer for my study. Instead, the administration asked parents if they were willing for their children to participate in this study. I was able to talk to the students when their parents sent back the signed parent consent form. Of course, I read the opening script and made it clear to the students that they could refuse to participate, but they were willing to sit for the interviews. This obstacle gave me access to only three students. Furthermore, the limit of the 10 or 20 minutes that I was allowed

to interview the students was not enough, especially for the younger ones to feel comfortable with me and to allow them to be more vocal. One more issue, which I faced, was that I was unable to find a private place in which to interview some of the students and so the audio recordings had very noisy backgrounds because they were done in the classrooms. The presence of other curious students, who were not part of the study, caused some of the students, especially the younger ones, to feel more self-aware while answering the questions.

A fifth limitation was that even though I had the list of questions ready, I realized, after I transcribed the interviews and the follow-up and member checking interviews, that some of the answers were missing an explanation or clarification. I wished I had one more chance to access the teachers and students to ask them about some points that they mentioned but that I did not have the time or the presence of mind, at that time and for different reasons, to ask them then. Also, some of the teachers' interviews were done in the coordinator's office or the staff room for lack of another more private place. I felt that the teachers were not very open about what they thought or felt because of the presence of the coordinator or other teachers in the office.

A final limitation was that all of the teachers' interviews and most of the students' were done in Arabic; and, later, translated by me into English. An independent sworn translator translated a third of the interviews back into Arabic so that the credibility and validity of the data were observed. This double translation afforded me accurate information about the perceptions of the teachers and the students about the use of technology in the classroom without any research bias. Furthermore, follow-up and

member checking interviews were used to ensure the accuracy of the data that was collected via the initial interviews. Investigating how technology was used in three schools from different parts of Lebanon helped me in triangulating the data.

Recommendations

Few researchers investigated the influence of technology on Arabic language teaching and learning in the Lebanese context. Therefore, the recommendations were founded on the findings and the limitations of this study. I grouped the recommendations into two categories: methodological recommendations and practical recommendations.

Methodological Recommendations

First, I recommend that future studies include a larger number of students and ensure that the researcher has enough time to interview each one of them individually in a private space. I found that interviewing students, separately, allowed each student to express his or herself without the influence of other students around them or get distracted by them. This issue is specific to younger students. It could be an option for future researchers to talk informally to the students to break the ice for a few minutes before the day of the interviews. This exercise might help the students feel more at ease with the researcher and the interview process.

A second recommendation might be for the future researcher to include other data collection methods with young children such as elicitation techniques (Barton, 2015) that might help young students to elaborate on their answers. Such elicitation techniques might include activities like bringing photographs of students who are using technology

and asking the students to talk about them. Then the researcher might be able to move on to the students' perceptions by connecting them to the photograph.

One final recommendation is that the researcher should ask for more sessions with the students and the teachers, especially at the data analysis stage. I found that I was missing some information while I was analyzing the data, but by then, it was too late for me to ask the schools for more time with the participants. So, it might help researchers to ask the school for permission to talk to the teachers and the students at a later time.

Practical Recommendations

In addition, teachers should attend enough workshops or professional development sessions to help them learn the theoretical skills that are needed. They should also be given plenty of time to experiment and learn, in a practical way, how to use the different technologies. As I observed in the classrooms, it was not enough for the administration to give teachers technology and expect them to know how to use it. The more successful teachers, from what I have seen in the classrooms, were the ones who had enough time to practice using the technologies that they employed in class. These practice sessions can help improve teachers' self-esteem about their proficiency to use technology in a meaningful way, and that would help their students increase their learning outcomes.

Implications

The implications of this study can promote positive social change in the Lebanese society. The most prominent social change that might result from this research is that different schools can see the benefit of the use of technology in motivating the

students to enjoy learning Arabic. As was presented previously, motivation and deep learning go hand in hand to help students acquire the required skills and competencies. As was discussed by many teachers, even the ones who were resistant to the use of technology, the use of tablets and SmartBoards motivated students to pay attention to the lessons. This resulted in higher grades and increased learning outcomes.

For teachers to be able to use technology effectively in their classrooms, they have to have proper theoretical and practical training. All of the teachers, whom I interviewed, said that their training sessions were on the device itself and not as it related to their Arabic language arts classrooms. These teachers had to do their own research to learn how to use these technologies in their own classrooms with their own students. Teachers at Setting B talked about how trainers came from the Apple company to train them on how to use the iPads and how the training sessions were done in English, despite the fact that some of the teachers had limited English language skills.

When teachers learned how to use technology in a contextualized way, their self-efficacy would increase (Mills & Belnap, 2018). The teachers' increase in self-efficacy, in turn, would motivate them to use technology in a creative way, which would influence how students view learning Arabic. As Al-Zahrani (2015) noted, one of the barriers that prevented teachers from being creative in their teaching was their lack of knowledge on how to use technology in practical terms. As suggested earlier, the way teachers taught affected their students' perceptions of the subject matter. So, if teachers were creative in their teaching techniques and included updated teaching practices and materials, their students would enjoy the lessons more, and they would be more motivated to learn.

This study was built on previous research on educational technology and language learning. It provided an insight about the factors that motivated and demotivated the teachers to use technology in their classrooms with their students, and what motivated or demotivated the students to want to learn Arabic. Student motivation to learn is fundamental in engaging them with the language when multimedia was used in their learning experiences (Mayer, 2014). Technology affords the teachers the means to show different multimedia resources to students, which facilitates the teaching process and which increases the students' learning outcomes since deep learning is promoted (Mayer, 2014).

Conclusion

These findings confirmed, to a certain extent, the knowledge reflected in the literature discussed in Chapter 2. Although technology played a fundamental role in helping the teachers make the Arabic lessons more interesting and current, and the students enjoying these lessons, I found that this was not enough. Despite the numerous research studies that affirmed the importance of technology to motivate students to learn (Flewitt et al., 2015; Rizvi et al., 2017; Sawang et al., 2017), many teachers do not have sufficient technology literacy to be able to use technology in their classrooms appropriately. For this reason, many teachers use traditional didactic teaching techniques that focus on lecturing, teaching grammar, and grades (Wahba et al., 2018).

Rogers's (2003) theory of diffusion of innovation helped me understand how technology was diffused in three different Lebanese schools, while Dörnyei's (2009a) L2 motivational self-system aided in understanding more about what motivates teachers and

students to enjoy teaching and learning. The findings in this study identified the factors that motivated teachers to want to use technology in their classrooms and with their students, and that motivated the students to enjoy learning Arabic, in addition the demotivators.

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Appendix A: Teachers' Interview Questions

Opening Script:

Hello and thank you so much for taking some time for my interview. I know that you might be busy and hence this meeting will take about 30 minutes. I will take some time to introduce my project which is about how technology impacts the motivation of teachers to use creative teaching methods in their classroom and their students to enjoy learning Arabic. If you do not mind, I will be recording this interview so that I can transcribe it and use it later for my data analysis. I assure you that no names will be mentioned in any of the documents. Therefore, this interview will be confidential. After summarizing the interview, a copy will be sent to you so that you can corroborate that I understood what you were trying to say. Of course, this will be done without mentioning any names. This meeting is the main interview meeting, and I hope that it will be ok with you to have a follow-up meeting if necessary. Finally, I want to emphasize one important point: I am not here to judge you or to test you. I merely would like to learn from you about your teaching practices and about your opinions and perceptions about the use of technology in your classroom and how its use might motivate you to be creative in your teaching practices and motivate your students to learn Arabic.

- May I, please, have your name, you can give me a pseudonym if you wish instead of your real name?
- What grade level do you teach?
- Do I have your consent to conduct this interview?
- What is your level of education?
- How many years have you been teaching?
- What are the advantages of using technology for instruction for you as teacher, and for your students? Can you give me specific examples?
- What are the disadvantages of using technology for instruction for you as teacher, and for your students? Can you give me specific example?
- How can the disadvantages be turned into advantages, in your opinion?
- How much do you support your students when they are using technology?
- How much do you personally use technology?
- What is your teaching philosophy?
 - How do you think students learn?
 - What kind of approach do you take to teaching?
 - What could you add to the teaching environment?
- How is using technology for instruction compatible with your teaching philosophy?
- How useful is technology for adapting your teaching to different student needs?
- How can technology complement your teaching practices to be most beneficial for your students?
- What are the challenges that you face when you use technology during your teaching experience?

- Have you received any training in relation to the uses of technology (such as training sessions, workshops, online training etc.)?
- How much training did you receive?
- What kind of training was it? (Theoretical or practical?)
- Which specific piece of technology did it target?
- What kind of training do you think is most useful?
- How proficient do you think you are at using this technology? Why do you think so?
- What kinds of technology do you use most in your classroom? For what purpose? Why do you use that specific technology the most?
- How long did it take you to learn how to use it?
- How long did you experiment to learn how to use it?
- Do you consider the pedagogical use of technology as an effective tool for your students' learning?
- How did you come to learn about this technology and how to use it?
- How frequently do you use technology in your classroom?
- Do you access online material or information from the Internet or intranet during classes?
 - How often do you find you could use the Internet if you need it?
 - How often do you access it?
 - How easy is it to access?
- What are the factors that promote or limit the use of technology in teaching and learning from your perspective?
- Does technology help you be more creative in your teaching practices? Can you give me specific examples?
- How do you find yourself using technology to be more creative in your teaching practices?
- What factors might motivate you to use technology in the classroom?
- How much do you feel that you don't use it creatively? In what way?
- What makes you want to use it creatively?
- What might not want you to use it creatively?
- What would you change in your teaching environment if you could?
- Thank you for your answers. Do you have anything else to add?

Closing Script:

Thank you again for taking part in my interview. As I mentioned earlier, your personal information will stay confidential. You will also receive a copy of the transcribed interview to make sure that I have captured what you really meant by what you said. If there are more questions that I would like to ask you, then I hope that it will be ok to contact you to arrange another shorter meeting. Is that ok with you? Thank you so much again. Have a great day.

Appendix B: Instrument Approval Email

Dr. Mustafa Jwaifell 

December 15, 2017 at 7:56 PM

DJ 

Re: Permission request

To: Rima Chamout



Dear Rima

It is my pleasure to knowing what my research interests

You have my permission to use the instruments sued in the research sturdy of using effusion theory in 2013.

With my best wishes for you

Hoping you can send me your thesis after defending it and passing which I am very sure what it Will be very distinguish

My regards

[Outlook for Android](#) الحصول على[See More](#) from Rima Chamout

Appendix C: Student Interview Questions

The opening script will be read to the students from the “Student Assent Form” as suggested by the IRB.

- How did you/are enjoying today?
- In which grade are you in?
- What do you think of school?
- How much do you enjoy being here at this school?
- I’m really curious about some of the things that you are doing/you do with technology? Can you show me?
- What does technology mean to you?
- What do you think about technology?
- How much do you enjoy Arabic classes?
- Does your Arabic teacher use technology in her or his classroom?
- If yes, then how does that make you feel? What do you think about that?
- If no, then how does that make you feel? What do you think about that?
- Which is your favorite technological tool that your teacher uses in your classroom? Why?
- Can you, please, give me an example of what you enjoy more?
- Which is your least favorite technological tool that your teacher uses in your classroom? Why?
- Can you, please give me an example of what you dislike most?
- What time is it better for you to use technology?
- How easy is for you to read on the tablet/ How do you like reading on your tablet?
- How fun is it?
- How long can you read on the tablet before it starts to bother your eyes?
- How many pages do you need to read before your eyes bother you?
- Do you feel that your eyes are bothering you when you are watching a video on the Smart TV?
- How do you use your tablet? Can you, please, give me an example?
- When do you use it? Can you, please, give me an example?
- What is your favorite activity that your teacher initiates in your classroom? Why/can you, please, tell me more about that?
- What do you like most about your Arabic class?
- What is your least favorite activity that your teacher initiates in your classroom? Why/can you, please, tell me more about that?
- What do you dislike most about Arabic class?
- Does technology help you learn better?
 - If yes, can you explain, please?
 - If no, can you explain, please?
- How much studying do you do at home?
- How much time do your parents spend with you?

- Thank you for your answers. Do you have anything else you would like to add?

Closing Script:

Thank you very much for taking part in my project. As I mentioned before, no one will know that it was you who said this today. The information you provided will be used solely for this project. Is it ok if I need to meet with you again for a shorter interview if I need a clarification from you on something that you said?

Thank you very much again.

Appendix D: ICOT Website Address and Screenshots

iste Classroom Observation Tool v2.2.2 Macro © ISTE 2011

Click on a variable name to see its description		Enter data in this column		Setting	Store Data	Clear Form
Setting	Date:	03/07/18		<Setting notes>		
	Project:	<name or code>				
	School:	<name or code>				
	Observer:	<name or code>				
	Teacher:	<name or code>				
	Grade (1-13):	No Gd Ent ▼				
	Subject:	No Sbj Ent ▼				
	No. Students:	<enter #>				
	No. Computing Devices:	<enter #>				
	Students/Device:	#VALUE!				
Click to record Start time	0:00:00		9			
Groups	Individual	<input type="checkbox"/>		<Groups notes>		
	Pairs/Small Groups	<input type="checkbox"/>				
	Whole Class	<input type="checkbox"/>				
Role Notes						
Teacher Role	Lecturing	<input type="checkbox"/>		<Teacher role notes>		
	Interactive Direction	<input type="checkbox"/>				
	Facilitate/ Coaching	<input type="checkbox"/>				
	Modeling	<input type="checkbox"/>				
	Moderate Discussion	<input type="checkbox"/>				
	Other role (see notes)	<input type="checkbox"/>				
<Activities notes>						

Data Preview	
Gd	Subject
1	Art
2	Lang Arts
3	For. Lang
4	Math
5	Music
6	PhysEd
7	Science
8	SocStud
9	Technol
10	Multidisc
11	Other
12	No Sbj Entry
13	Other Grade
No Gd Entry	

Activities				
Activities	Receive Presentation			<Activities notes>
	Give Presentation			
	Create Presentation			
	Run Simulations			
	Research			
	Info. Analysis			
	Write			
	Take Tests			
	Drill & Practice			
	Hands-on Skills			
	Student discussion			
	Other (see notes)			

Ratings			
Need (1-4)	No Entry	<Need notes>	
Students Unengaged	<enter #>	<Engagement notes>	
Engaged %	#VALUE!		

Technologies					
	by Teachers		by Students		<Technology notes>
Calculator					
Database					
Desktop Computer					
Digital Camera					
Digital Sensors					
Document Camera					
Drill/Practice					
Email					
GPS/GIS					
Graphics					
Handheld/Smartphone					
Interactive Videoconf					
Interactive White Board					

Need Codes	
Not	
Somewhat	
Useful	
Essential	
No Entry	

Technologies Used					
	Interactive Videoconf				
	Interactive White Board				
	Laptop Computer				
	Learning Mgt System				
	Outliner				
	Podcast				
	Presentation Software				
	Response System				
	Simulation/ Visualization				
	Spreadsheet				
	Tablet				
	Text Editor				
	Video Camera				
	Web Browser				
	Web Authoring Tool				
	Wiki/Blog/Shared editor				
Other tech (see notes)					
NETS for Students					
Creativity	<input type="checkbox"/>	1a. apply existing knowledge to generate new ideas, products, or processes			
	<input type="checkbox"/>	1b. create original works as a means of personal or group expression			
	<input type="checkbox"/>	1c. use models and simulations to explore complex systems and issues			
	<input type="checkbox"/>	1d. identify trends and forecast possibilities			
Communication	<input type="checkbox"/>	2a. interact, collaborate, publish w/peers, experts, others employing ..digital environments...			
	<input type="checkbox"/>	2b. communicate information/ideas to ... audiences using a variety of media and formats			
	<input type="checkbox"/>	2c. develop cultural understanding/global awareness...engaging with learners of other cultures			
	<input type="checkbox"/>	2d. contribute to project teams to produce original works or solve problems			
Inf. fluency	<input type="checkbox"/>	3a. plan strategies to guide inquiry			
	<input type="checkbox"/>	3b. locate, organize, analyze, evaluate, synthesize, ethically use information...			
	<input type="checkbox"/>	3c. evaluate / select information sources / digital tools based on appropriateness to tasks			
	<input type="checkbox"/>	3d. process data and report results			

Communication	<input type="checkbox"/>	2a. <u>interact, collaborate, publish w/peers, experts, others employing ..digital environments...</u>
	<input type="checkbox"/>	2b. <u>communicate information/ideas to ... audiences using a variety of media and formats</u>
	<input type="checkbox"/>	2c. <u>develop cultural understanding/global awareness...engaging with learners of other cultures</u>
	<input type="checkbox"/>	2d. <u>contribute to project teams to produce original works or solve problems</u>
Inf. fluency	<input type="checkbox"/>	3a. <u>plan strategies to guide inquiry</u>
	<input type="checkbox"/>	3b. <u>locate, organize, analyze, evaluate, synthesize, ethically use information...</u>
	<input type="checkbox"/>	3c. <u>evaluate / select information sources / digital tools based on appropriateness to tasks</u>
	<input type="checkbox"/>	3d. <u>process data and report results</u>
Thinking	<input type="checkbox"/>	4a. <u>identify and define authentic problems and significant questions for investigation</u>
	<input type="checkbox"/>	4b. <u>plan and manage activities to develop a solution or complete a project</u>
	<input type="checkbox"/>	4c. <u>collect and analyze data to identify solutions and/or make informed decisions</u>
	<input type="checkbox"/>	4d. <u>use multiple processes and diverse perspectives to explore alternative solutions</u>
Citizenship	<input type="checkbox"/>	5a. <u>advocate and practice safe, legal, and responsible use of information and technology</u>
	<input type="checkbox"/>	5b. <u>exhibit positive attitude toward technology that supports collaboration, learning, productivity</u>
	<input type="checkbox"/>	5c. <u>demonstrate personal responsibility for lifelong learning</u>
	<input type="checkbox"/>	5d. <u>exhibit leadership for digital citizenship</u>
Tech. Ops.	<input type="checkbox"/>	6a. <u>understand and use technology systems</u>
	<input type="checkbox"/>	6b. <u>select and use applications effectively and productively</u>
	<input type="checkbox"/>	6c. <u>troubleshoot systems and applications</u>
	<input type="checkbox"/>	6d. <u>transfer current knowledge to learning of new technologies</u>
		<NETS notes>

	Time Periods	By Teachers	For Learning?	By Students	For Learning?
	0:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:06	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:33	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:36	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:39	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:42	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:45	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:48	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:51	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:54	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
	0:57	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SE
Click to record End time	End:				
	Dur.:	0:00:00	0:00:00	0:00:00	0:00:00
	Percentages:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!