STUDENT PERCEPTIONS OF THE EFFECTIVENESS OF USING INSTRUCTIONAL TECHNOLOGY IN ACQUIRING LISTENING AND SPEAKING PROFICIENCY IN ARABIC

Doctoral Dissertation Research

Submitted to the
Faculty of Argosy University, San Francisco Bay Area Campus
College of Education

In Partial Fulfillment of
the Requirements for the Degree of

Doctor of Education

by

Fawzi George Khoshaba

October, 2014

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Scott Griffith, Ed.D.

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Department: College of Education

ABSTRACT

The purpose of this study was to examine student perceptions of the effectiveness of using Apple devices—such as the iPod, iPad, and MacBook—and Web-based tools—such as the SMART Board and Sakai (Blackboard)—in acquiring listening and speaking skills in the Arabic Basic Course at DLIFLC. This study utilized a descriptive method and MANOVA test because it gave the researcher first-hand information about the participants' views on using technology in the classroom. This study used a survey to collect data, administering three (surveys) questionnaires (labeled A, B, and C) to the participants. The total number of items within the three questionnaires was 50. The survey (questionnaires) employed for the majority of items was a five-point Likert scale. Research findings showed significant differences in students' attitudes towards the Apple devices (iPad, MacBook, and iPodTouch).

Almost all students indicated that the iPad and MacBook were instrumental in acquiring proficiency in the Arabic language and that these Apple devices contributed to the acquisition of Arabic language skills. Results also indicated that the incorporation of technology into the classroom to acquire proficiency in the Arabic language was perceived as an essential factor by students at DLIFLC. The Arabic students expressed their positive perception of incorporating technology into the classrooms. Also, this study investigated any significant differences in the students' perception in comparing Apple devices with Web-based tools in promoting language proficiency in the Arabic language.

The results show that students preferred to use Apple devices as opposed to Web-based tools in their classrooms because MacBooks and iPads are already uploaded with

the Basic Arabic Course curriculum and all other material related to the Basic Arabic Course. Therefore, Apple devices were more effective than SMART Board and Sakai in learning the Arabic language. Results also concluded that there was a statistically significant difference among the five means (iPad, MacBook, iPod Touch, SMART Board, and Sakia). Because technology improves as time goes on, it should only continue to get better, leading to more effective methods of teaching. Technology influences all aspects of life and will continue to do so. It has infinite potential to enrich language learning.

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CHAPTER ONE: INTRODUCTION

Problem Statement

Arabic language teachers both inside and outside of the United States have been experimenting with Apple devices and Web-based tools by studying their impact on learning. For example, Arrabtah and Nusour (2012) conducted a study to examine the role of technology in teaching Arabic grammar at Princess Alia University College in Amman, Jordan. The two researchers compared the traditional method of face-to-face teaching with another method, which was based on implementing technology into the classroom. During the first semester of the 2011-2012 academic year, they divided 122 third-year female students who were studying Arabic language and grammar into an experimental group and a control group. The experimental group was taught Arabic grammar using technology, while the control group was taught using traditional methods (Arrabtah & Nusour, 2012).

They concluded that there was "a statistically significant difference in the post-test between the control group and the experimental group in favor of the experimental group" (Arrabtah & Nusour, 2012, p. 334). Arrabtah and Nusour developed this test based on the instructional material of the Arabic language grammar course. They conducted both a pre-test and a post-test on the two groups. Two instruments—questionnaires and semi-structured interviews— were used to collect data.

"The means, standard deviations and Two-Way ANOVA analysis of variance were used to analyze data" (p. 338). Arrabtah and Nusour (2012) argued that one of the problems impeding this study was that most instructors at the Jordanian universities considered the use of technology to be time-consuming and thought that they might not

"achieve the course objects" (p. 336). Furthermore, "some universities are not well technologically equipped or the labs are not enough." Arrabtah and Nusours' findings indicate that "teachers become more involved in preparing extra materials by taking advantage of the new technological facilities that the new project made available for their use" (p. 337).

In general, a lack of technology in the classroom is due to schools' financial situations and educators' insufficient training regarding how to effectively implement technology tools into their classrooms. This was underscored by Bates (2001), who argued that "knowing how to use a computer is not equivalent to knowing how to use a computer as a learning tool" (p. 68).

It is clear that technology should not be the only answer to the challenges that the educational system is encountering today. However, technology is applicable and relevant, and can be considered an essential tool in assisting educators to teach and students to learn (Fox, 2009). Nevertheless, there are skeptics who are against the integration of technology into the classroom, who believe that technology may impede the learning process (Gordon, 2008). Also, Thorne and Payne (2005) concurred by saying "technologies are not neutral mediators of human activity" (p. 389), but are cultural artifacts that are used with specific purpose (ibid).

Noeth and Volkov (2004) emphasized the importance of using technology in the American classroom in their American College Testing (ACT) Policy Report:

1. The integration of computers with traditional instruction produces higher academic achievement in a variety of subject areas than traditional instruction alone.

2. Students learn more quickly and with greater retention when learning with the aid of computers.
3. Students like to learn with computers and their attitude toward learning and school are greatly affected by computer use.
4. Effective and sufficient teacher training is an integral element of the successful learning programs that are based on or assisted by technology. (p. 9)

Today's students need an interactive environment that keeps them engaged and motivated to finish their tasks on time. Keefe (2003) argued that technology enhances student motivation and learning inside the classroom. A computer can offer interactive, colorful, and animated audiovisual information to accompany lessons (Keefe, 2003). In addition, education is moving rapidly toward incorporating electronic Apple devices and Web-based tools into the classroom, as will be discussed with regard to one particular institution below.

Disadvantages of Technology

There are some researchers who are against the introduction of online learning and thus the integration of technology in the education field. Brown and Liedholm (2002) found that student performance on virtual classroom examinations was much lower than on the traditional counterparts (as cited in Howard, Schenk, & Discenza, 2004). Agger-Gupta (2002) confirmed that "without the hands-on supervision inherent in the traditional environment, cheating and plagiarism take on added concern" (p. 143).

According to Daft and Lengel (1986), "face-to-face communication is the richest media because it allows the participants to simultaneously employ verbal and visual communication, as well as body language and immediate feedback" (as cited in Keefe,

2003, p. 3). Kern, Ware, and Warshchauer (2004) argued that language educators should not necessarily use the Internet to teach the same things in various ways, but rather to "help students enter into a new realm of collaborative inquiry and construction of knowledge, viewing their expanding repertoire of identities and communication strategies as resources in the process" (p. 254).

A drawback of technology use is that it may not lend itself to teaching spoken language and intercultural competence. Barr, Leakey, and Ranchux (2005) reported on a project with French undergraduate students who were involved in a program delivered through a blend of collaborative and individual learning via a combination of Computer-Assisted Language Learning (CALL) programs, online instruction, and traditional face-to-face conversation classes. Through pre-tests, post-tests, and questionnaires, the researchers compared technology-augmented instruction with traditional classes. The results indicate that the non-technology group made greater gains.

Moreover, Muller-Hartmann (2000) stated that task-based classroom activities promote intercultural learning opportunities. The author concludes that it is important that student interaction—the exchange of information and points of view—be integrated into the local context of classroom instruction. Technology alone cannot meet this objective because it requires a teacher to be available in the classroom to facilitate and mediate the learning process. According to Murray (2000), "technology is not neutral, but not inevitable as many have proclaimed" (p. 12). Murray encourages educators to use both a critical and a historical lens when discussing or adopting technologies into classrooms.

Computers are impartial and can store an abundant amount of data. We have come a long way from reading newspapers, listening to the radio, and watching television. However, what really matters is how we use the technology at hand. This researcher believes that computers will never replace teachers; however, computers do offer new opportunities for better language practices.

Szendeffy (2008) corroborated the idea that:

> Far from being replaced by computers, teachers actually take on more responsibilities in a CALL environment than in a teacher-centered, lecture-based class. They add to their content knowledge and pedagogical skills a familiarity with a certain range of computer functionality and adroitness at managing a student-centered, student-empowered classroom. (p. 7)

Purpose of the Study

The purpose of this study was to examine students' perceptions of the effectiveness of using Apple devices—such as the iPod Touch, iPad, and MacBook—and Web-based tools—such as the SMART Board and Sakai (Blackboard)—in acquiring listening and speaking skills in the Arabic Basic Course at The Defense Language Institute Foreign Language Center (DLIFLC).

Background

DLIFL is located in Monterey, California, and has been recognized as a premier institution within the field of foreign language education for more than 69 years (DILFLC, 2011-2012). The institution is rapidly heading toward the direction of creating a "more technology-equipped foreign language learning environment" (Hu, 2011, p. 24). The DLIFLC teaches Modern Standard Arabic (MSA), a standardized form of classical Arabic that is used by all countries of the Arab world in printed material, media, and all

official forms of delivery (speeches, radio, and television). At the DLIFLC, the entire Arabic Basic Course curriculum lasts 63 weeks and consists of three semesters.

The first semester involves topics such as family, market, and Arabic culture. The second semester moves on to the intermediate level, which covers health care, employment, travel, sports, and hobbies. The third semester is an advanced level, covering politics, economy, science, and technology. The DLIFLC's teaching method is learner-centered and proficiency-oriented, using authentic materials (ibid). For example, task-based instruction, which includes activities such as problem solving, role-play, information gap, and jigsaw puzzles, helps with language learning and connecting students to the real world.

Researchers do not agree on a singular definition of the term "task." Ellis (2008) defines the term as "a language teaching activity where meaning is primary, there is some kind of gap, students are required to use their own linguistic resources, and there is an outcome other than the display of language for its own sake" (p. 980).

Teaching Arabic is accomplished within a framework that provides intensive practice and interaction in the target language, as spoken by educated teachers of that language. Generally, the Arabic students at DLIFLC start with carefully selected texts and structured exercises in order to practice listening, reading comprehension, and speaking. Then, students move toward advanced uses of the language (DLIFLC, 2011-2012). The DLIFLC has multiple proficiency and performance goals associated with each of its instructional programs (ibid). The minimum graduation requirements for the basic instructional program in every language taught at DLIFLC are based on the U.S. Government Interagency Language Roundtable (ILR) Skill-Level Description (see ILR

Skill in Appendix G). The instructional goal for the Basic Course is that students should achieve a Level 2+ in reading comprehension, Level 2+ in listening comprehension, and Level 2 in speaking ability (DLIFLC, 2011-2012).

Technological Devices

Various technological devices are used in DLIFLC classrooms. The following description of the tools illustrates how they are used.

Blackboard

Blackboard (Sakai) is a widely used Web-based learning course management system (CMS). Blackboard allows instructors to track access and usage of the entire course site (Monolescu, Schifter, & Greenwood, 2004 p. 244). Today, most of the higher education institutes have some form of CMS; in a survey, 80% of students reported using CMS during their studies in higher education institutions (Wilen-Daugenti, 2009). Over time, Blackboard's incorporation into the classroom had "as major an impact on modern schooling as any technology, but it was an evolutionary adaptation of the individual slate—it did not attempt to wipe the slate clean" (Wilen-Daugenti, 2009, p. 134).

Blackboard was considered an "improvement upon the small, individual tablets that students and teachers had been using" (p. 134). In this researcher's Arabic language classes, Blackboard is used to provide students with homework, tests, and online discussions.

SMART Board

According to the SMART Board website, the SMART Board is an electronic, interactive whiteboard that connects to a computer "and draws the power it needs from the computer" (SmartBoards, 2014). The interactive whiteboard tool not only motivates

students to participate more in the class, "it also brings a new sense of comradeship to the class" (Sally Bowman-Alden, as cited in Adrian, 2004, p. 2). In Bowman-Alden's study, when students shared their answers via the SMART Board, they were (a) more relaxed in sharing their viewpoints on any issue with their classmates and (b) more eager to share their answers. Bowman-Alden was discussing the use of technology as a strategy in order "to give students independence and a sense of accomplishment." Bowman-Alden reported that students seemed to be more relaxed when sharing their points of view on matters "if they were able to display their answers through the SMART Board" (ibid). The purpose of SMART Board technology "is to promote interaction in the classroom environment. Each student is actively and physically engaged" (Tidbits in tech, 2011).

iMacs

In 1976, Steve Jobs developed the iMac desktop computer for Apple (Haggit, n.d., p. 1). The Apple Company claims that iMacs are the future for today's computer generation. The iMac offers many alternatives to today's textbooks (ibid). For example, the device is equipped with iBooks that cover subject areas such as science, language, art, geography, and mathematics (Haggit, n.d.). DLIFLC uses MacBooks to assist in language learning by instructing students to read authentic materials, such as the news of the day on the Internet in the Arabic language.

With the incorporation of technology in the educational field, the way in which students used to do their classroom activities, including interacting and communicating with their peers and instructors, has completely changed. These days, "intelligent whiteboard, chat tools, videoconferencing systems, digitized movies, electronic libraries, and mobile devices" (Wilen-Daugenti, 2009, p. 24) are becoming more common in

classrooms like those of the DLIFLC. These mobile devices help students learn the material in countless ways that are completely different from the previous generation (ibid).

iPod Touch

The iPod, another device developed by the Apple Company, allows people to upload and store information, as well as play back music. The iPod Touch is user-friendly and has more capabilities than yesterday's Palm Pilots (Warschauer, 2012). Warschauer (2012) states that the iPod Touch has been used widely and passionately in classrooms across the United States. The iPod Touch is used in this researcher's classes and can be used to test every skill of the Arabic language, including speaking and listening. For example, if students want to brush up on their speaking skills, they can easily prepare something on the iPod, read it aloud into the recording device, and then bring it in for grading. Perhaps the two most useful features are the vocabulary lists and the supplementary material (this material is used to reinforce student comprehension).

The aforementioned technologies are being incorporated into the DLIFLC's Arabic language classrooms. These devices and tools were introduced during the first week of the Arabic Basic Course. All 15 students in this researcher's classes from last year said that during the speaking hours (students have one or two hours of daily speaking practice in Middle East School II), they were happy to receive the iPod Touch, iPad, and MacBook before they began learning the Arabic language. Students expressed their enthusiastic expectations that these devices would improve their academic performance in the classroom. One of the researcher's former students spoke about the benefits of using IPod Touch:

> By using the record feature of the iPod Touch, I have been able to repeat the conversations required for each test multiple times and practice them until I am comfortable and better prepared. I believe that without my iPod Touch I would need at least an additional eight hours of speaking practice weekly to achieve the same level of fluency I currently possess.

In order to serve student interests better and maximize the use of technology in the classroom, teachers should be trained in how to use Apple devices and Web-based tools in their daily teaching activities. The objective is to improve the quality of teaching that should be reflected in raising students' proficiency levels.

Hur (2012) conducted a study examining foreign language instructors' (a) use of technology and (b) feelings toward technology-integrated foreign language instruction at DLIFLC. Hur stated that many teachers lack the necessary technology training at the collegiate level, observing that "many of the teachers are not well-prepared to interact with students in a digitally competent manner" (p. 23). One hundred sixteen teachers from the Arabic, Korean, and Russian schools participated in this study. Hur (2012) made recommendations for developing comprehensive training programs for DLIFLC instructors, which are listed as follows:

More support for training should be provided through the DLIFLC, not only from the headquarters offices, but also at the schools and departmental levels.

1. The training itself should be diversified. Not only should it emphasize hands-on practical instruction, but it should also be offered as more than one workshop in order to accommodate the different levels of expertise that teachers bring into training.
2. Coordination should be made between training and the technological applications available.

3. Raising teachers' awareness of available technological products would help them include more technology into their instruction. (p. 37)

This researcher agrees with Hur - it is imperative that all teachers at DLIFLC be trained regarding how to use technology. Educators should show an intellectual willingness and ability to learn about technology, which is integrated in all areas of learning. They need hands-on practice with the technology prior to entering the classroom. Blake (2008) discusses the importance of teacher training by saying:

> Training new professionals and retaining seasoned educators in order to enter the Brave New Digital Classroom is the responsibility of the field as a whole, but it begins with each teacher's desire to participate in the process of changing how they and their students view the world. (p. 144)

Today's younger generations are very familiar with the latest technology - both software and hardware. Therefore, this researcher recommends that, in order to encourage faculty members to be aware and knowledgeable of the latest technological innovations, the DLIFLC Technology Integration Division should introduce trainings classes or workshops every month in order to introduce and integrate technology into the classroom. This includes the iPad, MacBook, iPod Touch and Sakai (Blackboard). The purpose of this integration is to train and equip teachers with the required technological tools that will be used in the classroom. The teachers, in turn, could use these tools to become more efficient in their classrooms.

Theoretical Foundations

Constructivist Theory and Connectivism Theory were both used in this study. Applications of both constructivism and connectivism at DLIFLC help make use of technologies such as Apple devices and Web-based tools.

Constructivist Theory

Constructivist learning is the "active process in which learners collaborate in the construction of new knowledge based upon current and past wisdom and practice" (Murchú & Sorensen, 2002, p. 1). Constructivist perspectives on learning provide a solid foundation on which to build a discussion of the various uses of technological media in providing learners with the environment to build knowledge through collaborative learning methods. The primary tenet of constructivist learning is that students who are engaged in active learning are "making their own meaning and constructing their own knowledge in the process" (Gagnon & Collay, 2007, p. 2). The students in this study were high school students in fine arts and industrial arts classes, who actively participated in the learning process instead of being passive recipients of the information (Gagnon & Collay, 2007, p. 2).

Thanasoulas (2008) argued that it is the learner who interacts with his own surroundings and, therefore, gains an understanding of their components, stating that "the learner constructs his own conceptualization and finds his own solutions to problems, mastering autonomy and independence" (p. 1). Each teacher must produce meaningful activities so that students can engage more often in class and become better problem solvers.

Vygotsky, a late Russian psychologist, developed a constructivist theory called *social constructivism*. Vygotsky (1978) stated that learning occurs through socialization. Social interaction is not only important in building knowledge as it also allows students to verify their comprehension. Meanwhile, Bruner (1973) says that learning is a social process, whereby students develop new ideas based on current knowledge. Students (a) take the information given, (b) synthesize and analyze it, and (c) make a decision regarding what to keep in their memory based on what is most interesting to them.

Connectivism Theory

Connectivism has been described as a learning theory for the digital age (Wheeler, 2012) or "the integration of principles explored by chaos, network, and complexity and self-organization theories" (Siemens, 2005). One of the main concepts of Siemens's argument is that "today, learning is lifelong, largely informal and that previous human-led pedagogical roles and processes can be off-loaded onto technology" (Wheeler, 2012, p. 1). Connectivism argues that students in this generation are learning in different ways than the previous generation because of technology (ibid).

Technology has caused knowledge "to be more distributed than ever" (Wheeler, 2012, p. 1). It is imperative that students know *where* to find the knowledge that they require, rather than try to internalize it. In this way, students develop learning tools "within which they can store their knowledge." (ibid).

In the Arabic Basic Course, connectivism learning takes place, for example, when this researcher instructs his students to visit the researcher's share folder listed on the Middle East School II's website and listen to an authentic-material podcast about "traveling to Lebanon." Students open their iPads, visit the website, download the

podcast on their device, and begin listening. Students then collaborate and interact with each other, exchanging thoughts and ideas about this topic. They manage to construct their own learning by developing the main idea, thus better comprehending the podcast. Students eventually become more familiar with vocabulary, grammar, and reading between the lines.

What is authentic material? Kramsch (1993) defined authentic material as "a reaction against the prefabricated artificial language of textbooks and instructional dialogues; it (authentic material) refers to the way language is used in non-pedagogic, natural communication" (p. 177). Authentic materials include articles chosen by the Arabic instructors at Middle East School II from various Middle Eastern countries, including sources such as the Internet, news websites like *Al-jazeera*, the Arabic satellite news channel, and the BBC in Arabic. Once the Arabic students at Middle East School II have chosen their article, they read it entirely and present a summary to the class. They are able to generate knowledge about a new subject and pass it on to others, thereby shaping their personal interest in the subject.

Language learning is analogous to building a bridge, and that bridge requires scaffolding. Scaffolding is used in the construction field to assist workers in constructing new buildings. In a similar way, scaffolding is used to assist students in finishing tasks that are challenging, but still in accordance with the students' levels. Van Lier (2009) defines this notion by saying that "scaffolding refers both to a special, supportive way of interacting as well as to a temporary structure that assists learning" (p. 1). Donato (1994) uses the term "collective scaffolding," meaning that learners have the ability to provide guided assistance to their peers during collaborative second language interaction.

Research Questions

The study was guided by three research questions:

RQI: How do students perceive the effectiveness of the incorporation of the latest technological innovations in their daily learning of Arabic language?

RQ2: What devices and tools do students think best promote language proficiency in listening and speaking?

RQ3: How is the usefulness of Apple devices perceived in comparison to Web-based tools in developing listening and speaking skills?

Definition of Terms

Blackboard: a "comprehensive e-learning platform that is used to deliver and manage course material on the Web" (Monolescu et al., 2004, p. 254).

iMac: "one of the trademark /brand names that Apple, Inc. uses for their Mac family of personal computers" (http://dictionary.com).

iPad: "the first of a new genre of media tablets with mobile operating systems (e.g., iOs or android) and a multi-touch screen" (Warschauer, 2012, p. 39).

iPod Touch: a device that has a "full wireless Internet access, a sophisticated touch screen interface, and a host of downloadable educational apps, ...being used with great enthusiasm in many classrooms across the United States" (ibid.).

Podcasts: "a means of publishing audio and video content on the Web as a series of episodes with a common theme" (Wilen-Daughenti, 2009, p. 15).

SMART Board: an electronic, interactive whiteboard that connects a computer to a digital projector, which projects the computer screen onto the SMART Board.

Limitations

- This study has used a survey for quantitative data collection. The responses to all 50 closed-ended questions elicited the subjects' points of view. It is assumed that students will answer the questions honestly and to the best of their knowledge, and that learner biases will be difficult to control. Other limitations may be related to measurement errors and non-response errors.
- The Arabic language used in this study was mainly Modern Standard Arabic (MSA). MSA is used widely in the DLIFLC classrooms. Future studies should focus on the other three dialects that are currently taught at DLIFLC, such as Iraqi, Levantine, and Egyptian, in order to offer fair perceptions and better findings.
- It is possible that some participants might portray themselves as more computer savvy than what they really are.
- The possibility that some participants may have rushed through the survey, choosing answers randomly, cannot be ruled out.
- The participants in this study consisted of 45 students, who are American military students, enrolled in the Basic Arabic Course in Middle East School II at the DLIFLC. The participating students were selected during the first and second semester.

Delimitations

- This study was limited to a population from only the Middle East School II, it excludes the other two Middle East Schools (I and III), and specifically focuses on one institution - DLIFLC.
- The population of this research includes young adult students who are currently studying the Arabic language at the Middle East School II. The majority of these students were studying Arabic for the first time. Most of them were high school graduates, with ages ranging from 18 to 42.

Significance of the Study

This study is expected to detail student views on the use of technology, such as Apple devices and Web-based tools, in the classroom. The topic that was examined included participants' experiences in using the aforementioned technology**.**

The aim of the proposed study was to learn (a) how students are interacting with the tools, (b) which tools they are using for listening and speaking, and (c) which tools they believe are improving their grasp of the language. The integration of technology into the classroom will significantly increase student interest in the Arabic Basic Course. In addition, it is assumed that students became more interested in the Arabic language and culture as a result of the acquisition of proficiency in the Arabic language. Language is embedded in culture, and in turn, culture is reflected in language.

After this information is gathered, it will be of benefit to the DLIFLC because curriculum developers will be able to integrate the way that the tools are used in the classroom. These findings also serve as a guideline on how to encourage teachers to use technology, depending on how Arabic language-learning students interact with it and

how they view the aforementioned technologies improvement of their proficiency. If the students say that the technology is helpful, the teachers will be more inclined to use it in order to further improve student performance in the classroom. Teachers can enhance their lessons with the right tools so that students can have a better learning experience.

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of this study was to examine student perceptions of the effectiveness of using Apple devices—such as the iPod Touch, iPad, and MacBook—and Web-based tools—such as SMART Board and Blackboard (Sakai)—in relation to acquiring proficiency in listening and speaking skills in the Arabic language courses at DLIFLC.

This study aimed to determine whether the students are of the opinion that the integration of such technology in the classroom will better prepare students to improve their grasp on listening and speaking abilities in the Arabic language. The study will also include student reactions regarding whether the technology will assist or impede their performance in acquiring proficiency in the Arabic language.

The literature review consists of four sections:

Sections 1: A presentation of the theoretical foundations

Sections 2: A review of Web-based tools for Course Management System (CMS) and Apple devices

Sections 3: A review of the collaborative and non-collaborative forms of technology and social networking

Sections 4: A critical discussion of technology used in foreign language Learning

In today's society we are witnessing mobile learning, including the use of smart phones, iPads and tablet PCs, which make up another trend under examination in higher education. Almost all college students around the world own some sort of mobile device, both on and off campus. (Wilen-Daughenti, 2009, p. 23). "These gadgets contain multimedia functionality, are typically

feature-rich, and are equipped not only for phone calls and text messages but also for connecting to Web sites and playing games online" (ibid). For instance, St. Paul Christian Academy, in the state of Tennessee, is one of the first elementary schools in the United States that is providing Apple devices and one-to-one technology access to its students, which are as follows:

1- Apple iPad from kindergarten to first grade.

2- MacBook from second grade through six grade.

Every student is allowed to take these above mentioned devices to their home, in order to reinforce their learning comprehensions. (St. Paul Christian Academy. edu).

Section 1: Theoretical Foundations

Collaborative Learning

Collaborative learning produces intellectual synergy of many minds. This mutual exploration, meaning-making, and feedback often lead to "better understanding on the part of students and to the creation of new understanding" (Smith & McGregor, 1992, p. 2). Collaborative learning differs greatly from the traditional teaching environment, offering a place where students can work and interact with each other, rather than competing with one another (Thirteen, 2014). Collaborative learning can take place anytime and anywhere in the classroom. For example, students can work together on class projects, homework, assignments, and Power Point Presentations. There are three essential factors for a lively collaborative working environment:

1. Students should feel safe and be challenged.
2. Group work should be small (no more than three students), so that everyone can participate in the class activities.

3. A teacher should clearly define the task that the students are working together on (Thirteen, 2014.)

Smith and MacGreger (1992) argued that there are many strategies for collaborative learning:

- Learning is an active process whereby students assimilate the information and relate this new knowledge to a framework of prior knowledge.
- Learning entails a challenge, which leads the learner to actively engage with his or her peers and analyze the information, instead of merely memorizing and restating it.
- Learners benefit more when different viewpoints are expressed from people of all walks of life.
- Learning flourishes in a social setting where a discussion between learners occurs.

During this conversation, "the learner creates a framework and meaning to the discourse" (Smith & McGreger, 1992, p. 1). In the collaborative learning setting, the learners are being challenged both socially and emotionally when they are exposed to different opinions and are required to articulate and defend their concepts (Smith & McGreger).

Using small-group learning inside the classroom has become very popular within the last twenty years. In this kind of setting, high achieving students are mixed with low achieving students. For instance, Gokhale (1995) suggested that, "the active listening within small groups not only increases interest among the participants but also promotes critical thinking" (p. 1). According to Johnson and Johnson (1986), "there is persuasive

evidence that cooperative teams achieve at higher levels of thought and retain information longer than students who work quietly as individuals" (ibid).

However, some researchers do not agree that mixing strong students with weaker students will assist the weaker students to learn from their classmates and eventually catch up with the strong students. Mills and Durden (1992) said that gifted students will not derive benefits when they are grouped with weaker students.

As the researchers disagree about the make-up of groups, they also voiced various points of view regarding what the most effective size of small groups is. For example, Slavin (1987) stated that a classroom with two or three people per group will generate better performances among students than a classroom with four or more students per group.

The use of technology in the classroom can assist in the collaborative form of language learning. According to-Smith and McGregor (1992), "collaborative learning is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together" (p. 1). Gokhale (1995) emphasized that the incorporation of technology and rapid changes in the organizational infrastructure have "put an increased emphasis on teamwork within the workforce" (p. 1), hence, the development and improvement of critical-thinking skills via cooperative learning is one of the key objectives of technology education.

Often, teachers and students are all novices, and the creation of knowledge is a genuinely cooperative endeavor. Research suggested that collaborative learning can yield positive outcomes, for example, "deeper understanding of content, increased overall

achievement in grades, improving self-esteem, and higher motivation to remain on task" (Thirteen, 2014).

Two theories will be used in this study: Constructivist theory and Connectivism theory.

Constructivist Theory

Thanasoulas (2008) described constructivist theory as a paradigm that shifts the responsibility of learning from the teacher to the learner, who is "no longer seen as passive or powerless" (p. 6). Students take the responsibility of learning into their own hands by constructing their own new knowledge and understanding, as the teacher facilitates rather than dictates.

Jerome Bruner (1973), the cognitive psychologist who coined the term "scaffolding," wrote in *Process of Education* that, "knowing how something is put together is worth a thousand facts about it." He argued that learning is a social process, whereby students develop their new ideas based on current knowledge. Bruner is known for developing *Bruner's theory,* which has three main principles:

1. Instructions must be commensurate with the experiences that make the students willing and able to learn (readiness).
2. Instruction should be designed to facilitate extrapolation—going beyond the information given (as cited in Thanasoulas, 2001, p. 2).

According to Sjøberg (2004), there are several key concepts of constructivism that are based on the analysis of Taber (2006):

- Knowledge is actively constructed by the learner, not passively received from the outside. Learning is something done by the learner, not something that is imposed on the learner.
- Learners have their own individual ideas about the world, but there are also many similarities and common patterns of ideas. Some of these ideas are socially and culturally accepted and shared, and are often part of the language, supported by metaphor. (p. 3)

Sjøberg maintains that many concepts of constructivism are not new and that it might be helpful to present a historical account based on the influence of late Swiss psychologist and epistemologist Jean Piaget, the father of cognitive development (Sjøberg, 2004, p. 8). Piaget wrote his last paper on constructivism one year before his death in 1980, concerning his first use of constructivism. He summarized his life-long task:

> Establish what we have called a constructivist theory of knowledge and, at the same time, refute the empirical study and nativist theories. The essential problem of a theory of knowledge is: How is new knowledge constructed? Is it, as empiricism contends, always derived from observing reality, or is it preformed in human mind, and thus innate? Even our earlier work, I believe, clearly showed the insufficiencies of both the empirical and performist theories (ibid).

Piaget clearly rejects both the empiricist and behaviorist view that "knowledge derives directly from sense experience" (Sjøberg, 2004, p. 8). Also, he strongly disagrees with the rationalist or performist stance "that knowledge is innate and develops more or less biologically as we grow and mature" (p. 8). Piaget's entire life showed how both of these stances are inadequate. Sjøberg (2004) claimed that constructivism has developed from Piagetian views, as well as other theories that focus significantly on

social and cultural conditions for learning, claiming that "this may explain why we now have so many varieties of constructivism" (p. 8).

Vygotsky was a Russian psychologist and constructivist who had a different research agenda than Piaget. Vygotsky has been considered a father of social constructivism. His main theory focused on "understanding the social and cultural conditions for human beings." According to Vygotsky (1978), the human mind has infinite intellectual capabilities that may be stimulated by social interaction.

Koç (2005) stressed the importance of using technology in the constructivist-learning setting within the educational field. Koç believed that this encourages learners to actively receive and organize the information "by making internal cognitive connections, which can well provide the theoretical frameworks for the effective technology integration" (p. 2). Koç concluded that the use of technology as a learning tool can make a substantial difference in "student achievement, attitude, and interaction with teachers and other students" (p. 13). Over time, technology can encourage self-driven learning.

This example of incorporating technology in an elementary school reflects the tenets of transformational learning. Mezirow (1994), who wrote about transformational learning theory, describes this theory as being "constructivist, an orientation which holds that the way learners interpret and reinterpret their sense experience is central to making meaning and hence learning" (p. 222).

In a constructivist learning environment, the role and use of technology in foreign language learning should assist in the process of "constructing meaningful representations of making sense of one's experiential world" (Murphy, 1997, p. 4). The

challenge present for foreign language teachers who share the constructivist view of learning is to innovate and integrate new technology into their curriculum in order to create an environment that allows students to explore and formulate new ideas, generate knowledge, and shape the construction of their identities. Students use their peers as a valuable resource for exchanging knowledge to further enhance their learning environment (ibid).

This researcher agrees with Koç (2005) regarding the importance of incorporating technology in the constructivist learning environment. The role of technology in foreign language learning, within the constructive approach, is not only to help focus the learners' attention on the material at hand, but also to facilitate their development of new concepts and ideas about their world. From this follows the role of the fo reign language teacher as the facilitator for the incorporation of technology into the curriculum, in order to help develop the students' processes of reflection and consciousness concerning constructivist perspectives of themselves as social actors in the world (Koç, 2005).

Connectivism Theory

Knowledge is spread among one's information network and is stored in different digital formats. "Learning transpires through the use of both the cognitive and the affective domains, cognition and the emotions both contribute to the learning process in important ways" (Kop & Hill, 2008, p. 2). This theory can greatly enhance the education field via the revision of educational standpoints, which may lead to changes in learner-centered education (Siemens, 2004).

Siemens (2004), in his landmark paper entitled *Connectivism Theory for the Digital Age,* discusses the main principles of this theory:

- Learning and knowledge rests in the diversity of opinions.
- Learning is a process of connecting specialized nodes or information sources.
- Learning may reside in non-human appliances.
- Capacity to know is more critical than what is currently known.
- Ability to see connections between fields, ideas, and concepts is a core skill.
- Currency (accurate, up-to-date knowledge) is the intent of all connectivist activities. (p. 4)

Siemens believes that connectivism is the successor of three theories: behaviorism, congnitivism, and constructivism. He notes the limitations of these theories as:

- their intrapersonal view on learning;
- their failure to address the learning that is located within technology and organization; and
- their lack of contribution to the value judgment that needs to be made in knowledge-rich environments. (as cited in Bell, 2011, p. 3)

Siemens puts emphasis on sharing cognitive tasks between people and technology, dealing with the rapid pace in "the information ecology and the impact of theories of networks, complexity, and chaos." (ibid). Connectivism theory places high emphasis on the importance of giving students the tools to search for, filter, analyze, and synthesize information in order to receive knowledge (Darrow, 2009, p. 5). Siemens states that "when knowledge… is needed, but not known, the ability to plug into sources to meet the requirements becomes a vital skill." As knowledge continues to grow, access to required information becomes more essential than what the learner already possesses (ibid).

Mark Prensky is one of the proponents of connectivism theory, meaning that he is in favor of using effective technology in the classroom as a substitute for the traditional method of teaching. Prensky's main focus is on digital game-based learning in order to keep the students motivated and engaged in the classroom. In his article, *Engage Me or Enrage Me*, Prensky (2005) argued that today's learners demand a learning setting tailored to their needs and related to real-world experiences. Students are more engaged when the material is more relevant to their lives.

Today's students are computer savvy and equipped with the latest technological innovations, including MacBooks, iPads, laptops, and iPhones. Students are doing their class assignments and homework, posting their comments on these devices, keeping in constant touch with their classmates in order to exchange ideas about any upcoming assignments, and sharing ideas collaboratively in order to finish their class assignments on time. Instructors who use the conventional method of teaching will experience difficulty keeping up and connecting with their students during the education process. According to Prensky (2001), "our students today are all 'native speakers' of the digital language of computers, video games, and the Internet" (p. 1).

Some researchers, like Wade (2012), disagree with Prensky's concept. Wade believes that connectivist theory is not a learning theory. Currently, it does not clearly state what represents the actual learning component of the theory. One of the major elements of the learning theory is that it attempts to be universal. Galvani (2008) cited the absence of originality in the connectivist theory and refers to other theorists "who did pioneer the ideas which are stitched together in different ways to inform the connectivism framework" (as cited in Wade, 2012, p. 4). Generally, connectivism appears to be

standing on one foot, meaning that "it appeals to the classical formalist theories of education on which it stands, while simultaneously denying their relevancy" (ibid.). Kerr (2006) concurs with Galvani, stating that connectivism "misrepresents the current state of established alternative learning theories such as constructivism, behaviorism, and cognitivism, so this basis for a new theory is also dubious" (Para. 5-7).

Darrow (2009) argued that the relationships between connectivism and network learning have not been fully adopted in the educational field. As digital technology continues to grow at an unimaginable rate and the means of accessing the Internet have been significantly improved, the method for adopting these theories will be easier. Change within the classroom will be inescapable, as "the 'Digital Immigrants' population of educators continues to age and retire, the 'Digital Natives' will be left to navigate the future of education" (Darrow, 2009, p. 26). According to Prensky (2001), "Digital Natives" refers to "today's students as native speakers of the digital world while others not born into the digital world can be considered "Digital Immigrants" (p. 3). Darrow argued that there are a number of questions that need to be answered before this theory is implemented in the educational field, including:

- In connectivism learning theory, what is the clear, defined role of the educator? What teaching methods and strategies are best employed? Is there an optimal size for learning network?
- In connectivism learning theory, what is the clear, defined role of the learner? How do we assess students as individuals in a connectivist environment?
- Do the existing classroom models make sense? Should the one-instructor classroom make way for more diverse approaches?

- If the future of educational material is an open source, how will revenue be generated? What is the future of textbooks? How are issues of online privacy and ownerships going to be handled? (pp. 26-27)

Darrow (2009) concluded by saying that connectivism entails making associations with others and building upon work that was done previously. In order for connectivism to take place, teachers and students should both be actively involved in the learning process, hence, this theory is a good model for life-long learning (Darrow, 2009). Darrow appears to believe that there is a bright future for the connectivism theory, relaying that:

> Connectivism allows the future of education to be viewed in an optimistic, almost utopian, perspective as individuals co-create knowledge in a global society. Finally, the debate for status of connectivism will continue for the time being, and the final results have yet to be announced. Therefore, the 'debate could lead to a prevailing view that connectivism is the leading learning theory of the time.' (Davis, Edmunds, & Kelly-Bateman, 2012, p. 4).

Section 2: Web-Based Tools for Course Management System (CMS) Apple Devices such as iPod Touche, iPad, and MacBook

Web-Based Tools for CMS

Blackboard

Sakai (Blackboard) is a Web-based learning content management system. Blackboard can make a course available over the World Wide Web, providing the framework for an online learning community, as well as for classroom-based courses. Blackboard can be used to create and grade tests, as well as to revise, and move content. Blann and Hantula (2004) organized a course via the Blackboard. The course was made of two interactions on an Internet-based Personalized System of Instruction (PSI). The purpose of the course was designed to "capitalize on the unique advantages

of the PSI while using the Internet to overcome some of its noted administrative drawbacks" (p. 286).

> Unlike previous computer-based PSI courses, the asynchronous nature of the Internet and the automated features built into Blackboard made it possible for students to attend lectures, to take quizzes and examinations, and to communicate with the instructor and other class members at any time from any networked computer. (p. 286)

As a result, the students in both courses "reported high satisfaction with Blackboard usability and moderate to high satisfaction with the Internet as an instructional medium" (Blann & Hantula, 2004, p. 305). This should mean that the Blackboard system is instrumental in supporting all of the features of PSI. Furthermore, Blackboard provides the teacher with more flexibility by allowing different students to browse different websites simultaneously, without wasting class time to read or write website addresses for individual students or groups of students (Weis & Efaw, 2004). For instance, if the day's lesson is about problem solving strategies, the teacher can say, "Group 1: click on the link titled Problem Solving 1; Group 2: Problem Solving 2; and Group 3: Problem Solving 3" (p. 153). Each group will view different websites and each will come out with their own experience in problem solving techniques.

West Point Military Academy decided to adopt Blackboard in its freshman classes in 2003. The instructor of psychology classes started using Blackboard, not just for an out-of-class supplement, but also as an instrument to use inside of the class. As a result, the instructors of this class found that using Blackboard in the classroom offered them "a unique opportunity to grasp the depth of subject and student understanding of key concepts without sacrificing valuable class time" (Weis & Efaw, 2004, p. 150).

This technology can be incorporated into any teaching hour. Teachers can use a tab for "assessments." These tools give teachers the chance to ask assessment questions in different methods, which is mutually beneficial for teachers and students**.** While the Blackboard allows the instructor to provide multiple content formats (text, images, audio, and animation), fill-in-the-blank, and true and false (Weis & Efaw, 2004), it also allows the students to find materials based on their preferred style and provides an area to record information regarding course assignments and exams in multiple locations. Additionally, the "assignments" tool allows the instructor to view files, post comments for students and themselves, resubmit the files, and obtain feedback.

Distance Learning

Wilen-Daugenti (2009) defines the "distance learner" as a student who is not connected to a campus classroom and is not physically present" (p. 100). This means that there are no face-to-face meetings between students and teachers, either in the classroom or through a video course (Wilen-Daugenti). In order to reach distance learners, higher education institutions have resorted to alternative methods, such as TV Hybrid learning. This learning has become very popular for many institutions, where students rotate between spending time on campus and "using distance learning tools" (Wilen-Daugenti, 2009, p. 100). "The instructors combine elements of online distance learning courses with traditional courses to replace some classroom sessions with virtual sessions" (ibid).

Because distance learning can be done from work or home, it is considered the best option. This is because of the advances in technology, whereby individuals now have the ability to take classes online through distance learning programs. Kim and Bonk (2006) undertook a study to examine the future trends of online education, surveying

instructors and administrators in postsecondary institutions in the United States. They argued that institutions of higher education have widely adopted online education. Enrollments for distant learning have risen sharply at colleges and universities. Partlow and Gibbs carried out a Delphi study, which included experts in instructional technology and constructivism, observing that, "online courses designed from constructivist principles should be relevant, interactive, project based and collaborative, while providing learners with some choice or control over their learning" (Kim & Bonk, 2006, p. 2).

Traditional Classroom

The traditional classroom teaching setting has become a thing of the past**.** Today's students need an interactive environment that keeps them engaged and motivated to finish their tasks on time. Keefe (2003) stressed that technology enhances student motivation and learning inside the classroom. A PC can offer interactive, colorful, and animated audiovisual information to accompany lessons. Keefe (1999) proposed transforming the traditional face-to-face lecture to an Internet technology lecture, employing "Internet technology to enhance instruction by freeing up time in the classroom for more interaction" (p. 2).

Wilen-Daugenti (2009) agreed with Keefe that today's learners are not limited to just one source of acquiring information. The old system of traditional face-to-face teaching in the classroom has been eliminated, while currently, distance learning is using the latest technological learning resources, including "virtual classroom, two-way interactive audio, video, synchronous and asynchronous computer-based interactions are being added on distance education" (p. 102).

Today, there are numerous methods of learning. For instance, traditional software application has switched to Internet service, as the traditional unreceptive form of e-learning has transferred to a more collaborative learning setting, which includes "discussion forms, blended learning, virtual classroom, podcasts, mobile learning, games, blogs and wikis" (Wilen-Daugenti, 2009, p. 102). Since students have been equipped with new technological resources, they are now enabled to use suitable communication modes, which include "email and instant messaging ...Web 2.0 has created a significant paradigm shift in distance learning." Web 2.0 is the latest development in collaborative Internet technologies (Wilen-Daugenti, 2009, p. 9).

In 2002, the University of Memphis carried out a study to compare the old-fashioned conventional method of learning with online course learning. The university revealed that students learned more from online courses than from the traditional method, possibly due to increased time being spent with "online learning material than in classroom based courses" (Wilen-Daugenti, p. 103). Students appreciated the abundance of information that they received from the Internet.

There are a number of studies that favore distance learning over the traditional learning method. Neslar and Hanner (2001) conducted a study with regard to the use of online courses, interviewing students from different nursing programs about their level of socialization. They were surprised to find out that "online nursing students showed more socialization characteristics than their peers in the traditional learning environment" (as cited in Howard et al., 2004, p. 179). The online course environment allowed students to reply and comment on their classmates' posts, which engaged the students with one another more often. Distance learning in the higher education setting is spreading

globally as an alternative way of learning. Studies have indicated that students like online format courses because they feel more motivated to learn in this kind of environment. "As technologies continue to advance, simplify, and expand, there will be little or no differentiation between on-and off-campus learning" (Wilen-Daugenti, 2009, p. 108).

Apple Devices

iPod Touch

The iPod Touch is a device developed by the Apple Company which allows students to upload and store any audio or video file and play it back at any time. Oberg and Daniels (2013) conducted a study in Japan regarding the effect of integrating the iPod Touch into classrooms with students. Oberg and Daniels selected 120 university students who were in their first year of their engineering major at the university. Four classes were used for this study. The subjects were divided into two experimental groups and two control groups. Each author taught one control group and one experimental group.

During the treatment session, the control groups "studied in a group-oriented classroom environment" (Oberg & Daniels, 2013, p. 177). The experimental groups studied the same course subjects, but used a self-based strategy that utilized Apple's iPod Touch mobile devices. The curriculum for both groups was based on a textbook written by Daniels in 2007, entitled *Science, English, Communication Skills for Scientists and Engineers* (ibid). Both groups were given the same standardized tests. In order to treat all groups equally, the independent sample *t*-tests were used to analyze the subjects' scores on the university general English entrance examination. During the sessions, which took place at the university laboratory, "both groups participated in task-based activities, such as group presentation, conducting student surveys and reporting on the results, and blog writing" (Oberg & Daniels, 2013, p. 183). The control group used the traditional textbook method while the experimental group used the iPod Touch devices. Both groups were tested on the four basic learning skills: reading, listening, writing and

speaking (ibid). The post-treatment data indicated substantial differences between the groups, with the experimental groups performing much better than the control group.

Oberg and Daniels (2013) revealed, at the end of the study, that a post-treatment survey given to the experimental groups showed "very positive learner attitudes towards the self-study iPod Touch based instructional method" (p. 177). This group also reported that they liked the kind of environment where they can learn at their own pace and study with iPod Touches. For instance, 83% of students said that using iPod Touches proved to be very effective in learning the English language. The students in this group were able to check their answers by themselves and access any assignment multiple times without the presence of an instructor (ibid).

There are few studies that focus on the role of mobile devices and language acquisition. Currently, most research concerning mobile devices in English language teaching was done on the pre-smart phone mobile (Dias, 2002, Shield, 2008, and Stockwell, 2007, as cited in Oberg & Daniels, 2013). Those studies showed that there are many disadvantages of implementing mobile devices, including:

- Students argue that working with mobile devices outside the classroom can be considered a distraction.
- Small screen size and added cost (e.g., for extra text messages sent or for accessing the Internet).
- Text input difficulties. (Oberg & Daniels, 2013, p. 178)

In light of these mobile shortcomings, Oberg and Daniels attempted to use iPod Touches to compensate for wireless mobile phones. Oberg and Daniels argue that Apple's iPod Touch possesses many advantages for studying the language "over standard

(non- smart) mobile phones, including a large screen size and touch screen control." (Oberg & Daniels, 2013, p. 178). They also noted that if a classroom can provide a set of iPod Touches for every student in the class, each student is given access to the same digital tools (ibid).

While iPods contain speaking files and lists of glossaries for all curriculum chapters, they also enable the students to listen and assign vocabulary required by the teachers. Because diacritical marks in Arabic do not often appear in the written form of language, the pronunciation of words must be learned by memorization from listening.

iPad

The iPad is also developed by the Apple Company. Since its inception in 2010 in San Francisco, California, it has been widely accepted among the public, also catching the attention of educators. The iPad is "the first of a new genre of *media tablet*s with mobile operating systems (e.g., iOs or android) and a multi-touch screen" (Warschauer, 2012, p. 39). The iPad is a great tool for educators, as it, as well as other media tablets, provides numerous benefits for education in comparison with netbooks or laptops. Tablets offer a number of advantages for education in comparison with laptops or netbooks.

Firstly, their lighter weight and flexibility make them far superior for digital reading and the accessing of content. Secondly, their instant-on capability and fast switching among applications allow learning activities to proceed with less delay. Thirdly, they are much more mobile than laptops, as students can carry them inside or outside a room without having to close and reopen the screen, and can also use them for mobile data collection and note taking (Warschauer, 2012). Since it is inexpensive to develop apps

for mobile platforms, there is a rapidly growing amount of free or low-cost apps for tablets, many of which are suitable for education. Finally, the tablet's long battery life makes it more suitable for a school day.

Los Angeles Unified School District in California is working to put iPads in the hands of every student in their district for the 2014 school year. Their goal is to revolutionize teaching and boost achievement through the tablets with pre-loaded educational software. Access to the Internet can also provide the opportunity to watch educational videos. With the swipe of a finger, students can highlight and read words that may be unfamiliar to them. In addition to the learning benefits, the district hopes to provide minority students with tools that they may not have access to otherwise.

Additionally, some textbook publishers are embracing the iPad as an alternative to print textbooks. Young (2011) characterized the iPad as a better device, which will completely replace textbooks in the future. A company called Inking creates textbooks made exclusively for iPads, "with interactive features and videos—things that paper volumes cannot do" (Young, 2011, p. 4). However, despite being a great tool for both educators and students, iPads have some disadvantages as well: (a) they are expensive, (b) they can be difficult for a user to write and edit on, and (c) "iPads are unable to access Websites that use the Adobe Flash multimedia platform, which is still common on many educational sites" (Warschauer, 2012, p. 39).

Some parents and researchers are expressing their concern that schools across the United States are rushing to invest money on iPads before educational benefits have been proven by research. For example, Cuban (n.d.) argued that there is little evidence that students are learning better or faster when using the iPad. He added that the money

already spent on this medium could be used to recruit and train teachers instead, relating that "iPads are marvelous tools to engage kids, but then the novelty wears off and you get into hard-core issues of teaching and learning" (as cited in Hu, 2011, p. 2).

MacBook

In 1976, Steve Jobs created Apple's iMac desktop machine. Steve Jobs encountered financial difficulties when he founded Apple Computers. In 1985, he lost his battle with Apple's management and left the company. A few years later, he assumed the job of Apple's CEO and started to redesign and restore the reputation of Apple by inventing what is known today as the iconic iMac. The iMac was first launched in 2002 (Haggit, n.d.). "The original iMacs were totally reimagined personal computers geared toward that relatively new phenomenon called the Web (the lowercase "i" in the name initially stood for Internet" (Haggit, n.d.).

On its website, www.Apple.com, Apple notes the benefits of their MacBooks, iPods, and iPads in the educational field, relaying that "today's students have grown up completely immersed in technology, iPod, iPad, computer—these are the ways they interact with their world. They need textbooks made for the way they learn" (Apple-Education-iBooks Textbooks for iPad, n.d.).

The integration of technology into the classroom has revolutionized the education system for both students and teachers. In the past decade, several higher education institutions have become wireless in order to support the utilization of mobile devices. More than 90% of public universities and 80% of private universities in the United States have utilized some kind of mobile wireless technology (Wilen-Daugenti, 2009).

Section 3: Non-Collaborative and Collaborative Technological Devices and Media and Other Technologies/Social Networks

Non-Collaborative Technological Devices and Media

Computer-Assisted Language Learning (CALL)

Levy (1997) defined CALL as "the search for and study of applications of the computer in language teaching and learning" (p. 1). Computers have been used for language teaching ever since the 1960s. In the last few years, the number of teachers using CALL has increased sharply. CALL offers a powerful self-access facility and helps produce autonomous learners who will experience the freedom of choice. By working on their own, students are able to realize their strengths and weaknesses.

Students have the ability to select topics and activities in which they are interested and feel comfortable, so that they will get a greater understanding out of their learning. Wilson (2003) supported this statement by saying that it is essentially the "process of helping students to take some responsibility for their learning, especially in regard to online learning. I would think students need to be mature and motivated enough to do it on their own" (as cited in Hanson-Smith & Rilling, 2006, p. 71).

Cubillos (1998) maintained that CALL has benefited students significantly, including:

- Assisting students in learning vocabulary.
- Assisting teachers in keeping track of their "own students' processing of the language."
- Encouraging students in learning the target language and culture.
- Increasing students' motivation.

On the other hand, there are researchers who disagree with Cubillos's findings. Gonzalez and Carlos (2005) carried out a study to examine if there were any significant differences between students who used CALL, and those who did not, when taking an English writing achievement course at a Puerto Rican university. The authors divided the 134 student participants into two groups. The first group was taught CALL, while the second group received only normal instruction. Gonzalez and Carlos assessed the outcome of the study with a pre-test and post-test. Gonzalez and Carlos (2005) concluded that there was no statistically significant difference in the English writing achievement "of Puerto Rican university students who received CALL (*N*=62) and those who received regular instruction only (*N*=72). Hence, receiving CALL did not show any significant gain for the students in the Basic English writing course" (Gonzalez & Carlos, 2005, p. 15).

Alosh (1995) offered two major reasons for using CALL programs, one pedagogical and learner-related and one research-oriented. The first category includes factors such as "improving language acquisition, time savings, and freeing the classroom to allow the teacher to spend more time on communicative interactions in class" (p. 259). The second category includes factors related to using CALL as a research tool, in order to better understand the learning process. CALL offers a powerful self-access facility and helps produce autonomous learners who will experience the freedom of choice. By working on their own, students are able to realize their strengths and weaknesses (p. 259).

Alosh (1995) discussed both the advantages and disadvantages of CALL, pointing out that every medium of instruction has certain advantages and disadvantages and that CALL is no exception. One of the advantages is that the learner is able to interact with it,

unlike programmed instruction in which lessons are presented gradually and tasks are to be performed by the learner. Another advantage is that large volumes of information are handled by CALL. However, a disadvantage of CALL is that the "computers were too rigid and impersonal and their novelty wore off after a while" (Alosh, 1995, p. 261).

Podcasts

According to Shelly, Cashman, Gunter, and Gunter (2008), a podcast "is recorded audio stored in a file on a website. The host or author of a podcast is often called a podcaster" (p. 195). Podcasting allows one to play back a file once it has been recorded. Podcasting can be viewed as another avenue for providing language learners with access to diverse and authentic materials, building on the text and imagery available on Web pages and discussion forums, as well as the audio and video streamed from Internet radio stations and television networks (Shelly et al., 2008, p. 463).

Podcasting is a kind of media that deals exclusively with audio broadcasting (e.g., professor lecture, news bulletin), where one can play the audio file as many times as one wants once it has been recorded. Students are able to record their voices and "make recording comments on each other's work using their computer's own sound capability and microphone" (Stanley, 2006, p. 191).

Podcasts are regularly delivered via networking through a university or college subscription. As soon as students subscribe to the podcast feed, "the media can be regularly distributed over the Internet or within the school network and accessed with an iPod, note book, or desktop computer" (Wilen-Daughenti, 2009, pp. 15-16). In 2007, Apple announced the launch of iTunes U in the iTunes store, offering free education content from many colleges and universities, as well as specific course information for

the student, noting that "Podcasts from iTunes can be loaded onto the iPod with a single click of a mouse" (Wilen-Daughenti, 2009, p. 16). Users can listen to podcasts anytime and anywhere, making learning from a lecture as easy as enjoying music (ibid).

Podcasting has been used widely at colleges and universities. At the collegiate level, podcasting consists of three categories:

- audio or video archiving of classroom lectures and/or university events;
- delivery of supplemental course material such as prerecorded lectures before class, video reviews of homework problems, and third party podcasts that relate to the coursework or class summaries that highlight important information; and
- as part of course assignment where students develop their own podcast. (Wilen-Daughenti, 2009, p. 17)

The use of podcasts for Arabic language study is invaluable. Podcasts have two key advantages - portability and the ability to have updated content on a daily basis. As the Internet and mobile devices gain popularity around the world, content for language students will become more available in both quality and contact. Students can already download podcasts of several Al-Jazeera News Channel programs, including daily news broadcasts, as well as BBC in Arabic programs. As podcasts can be set to update automatically, students basically have access to an unlimited amount of authentic and up-to-date material. The material can then be accessed anywhere, including in the car, at the office, or anywhere in between. Furthermore, teachers and students can access this material independently, without teachers needing to spend time posting, emailing, or otherwise distributing the material.

Internet

In 1995, the Internet and World Wide Web started to spread universally throughout the areas of business and schools and, consequently, people began to create web pages. Between 1997 and 2007, the Internet spread much faster than anybody expected, "it soon became the world's largest database of information, graphic, and streaming video, making it an invaluable resource for educators" (Hanson-Smith & Rilling, n.d., p. 4). The Internet is considered an essential tool in everybody's life and has become a critical tool for higher education, as "students are pervasive users of the Internet for self-learning" (Wilen-Daughenti, 2009, p. 63). The Internet has broadened the way in which information can be delivered to today's students. The development of the Internet has provided enormous advantages to teacher perspectives, as the teaching tools now offered have gradually become more reliable.

With the advances in technology, individuals now have the ability to learn and take classes online through distance learning programs. With online classes, individuals can complete the degree of their choice by simply fulfilling a certain number of course credits, often at their own pace. Information regarding these classes can be obtained entirely online, including additional resources and criteria for each class (e.g., syllabus, homework assignments, and research papers). In 2008, the Pew Research Center's Internet and American Life Project report revealed that

- 79% of college Internet users say the Internet has had a positive impact on their college academic experience;
- 73% use the Internet more than the library for research;
- 60% think the Internet has improved their relationships with classmates;

- 56% believe that email has enhanced their relationship with professors; and
- 46% say email enables them to express ideas to a professor that they would not have expressed in class. (Wilen-Daughenti, 2009, pp. 63-64)

Technology is becoming part of the daily activities of young adult students between the ages of 18 and 26. Whether at home, at work, or in school, Wilen-Daughenti (2009) says that "in 2007, students and their families spent about $12.8 billion on electronics, up about 22% from 2006" (p. 62). This growth was the result of huge sales of laptops, digital cameras, cell phones, and Apple iPhones.

The Internet will continue to play an essential role in the education reform. Reform efforts focus on authentic activities, "with students taking more responsibility for their own learning" (Posey, Burgess, Eason, & Jones, n.d., p. 11).

Rapid Rote

Rapid Rote, used at DLIFLC, is digital software that allows students to create and memorize words. Students in the past used to write down single words or vocabulary on flashcards in order to memorize them, and then create a sentence. According to Lamar (2011), Rapid Rote, "a popular computer-based flash card program allows students to create their own lists to upload and share; Joint Language University, a portal to ILR rated instruction and DLPT testing material; and Blackboard" (p. 1).

Rapid Rote consists of three steps. Step one is to familiarize students with the word list. Then the learners go through both sides of the cards, trying to memorize the words. There is also an auto function to help accelerate this process. Once the computer "senses" that you have become proficient with the words, it recommends that you go to step two.

Step two begins with the placement of easy words into memory. For example, if learners are defining words, then they will see the definition first and the vocabulary word second. You will flip the card over and tell the computer if it was, in fact, what you thought it would be. Step three involves memorizing the entire card. It begins by presenting the easiest words and eventually asks learners to remember the hardest words. At this stage, it signifies that learners are about 50% finished. "Rapid Rote will begin having you type in your answers to help facilitate memorization" (Kruczek, 2010, p. 1).

A positive feature of this program is the audio component. A student can record audio to later be used for memorization. This is an excellent way for students to practice both pronunciation and memorization. "Hearing something a few times can help speed up your ability to retain it, especially long definition and foreign language vocabulary" (Kruczek, 2010, p. 1). Students like this software because it motivates them to remember as many vocabulary words as they can, until they know the meaning of the words. "Rapid Rote allows you to be engaged in something and have feedback from the computer" (Kruczek, 2010, p. 2).

Collaborative Forms of Technological Devices and Media

SMART Board

SMART Board connects a computer to a digital projector, which projects the computer screen onto the SMART Board. In 1991, a company named Smart Technologies developed the first SMART Board**.** Since then, it has become a popular classroom tool and an essential device for improving the learning environment (Tidbits in tech, 2011). The purpose of SMART Board technology "is to prompt interaction in the

classroom environment. Each student is actively and physically engaged (Tidbits in tech, 2011).

Alzubi (2012) conducted a study regarding the impact of CALL strategy (SMART board) on public university students who were learning English in Jordan. The purpose was to compare the computer method of the four basic learning skills—reading, listening, writing, and speaking—with the traditional method (conventional white board). Thirty students from two Jordanian universities were selected and separated into two sections, with each section consisting of 15 students. The first group, called the experimental group, was taught with SMART Board. The second group, called the control group, was taught using the traditional method. The study, which occurred during the second semester of the 2012 academic year, lasted two months. This study used a quasi-experimental design. Alzubi (2012) concluded by saying that his study agreed with other studies that showed "the positive effectiveness of using CALL in developing students' skills achievement" (p. 15).

Likewise, SMART Board helps keep the students energized, attentive to details, and engaged in the class by using updated and authentic materials. In the past, students would get bored and restless when they listened to and read old materials**.** The SMART Board is connected to a TV, a video recorder, and the Internet, so that students are able to watch any live newscast on any subject, and can replay the video clip as often as they wish in order to facilitate their listening comprehension. SMART Board permits the whole class to view a single board and promotes student engagement through hands-on participation. Although the teacher can interact with one student using the board, this does not affect the learning of other students in the class because they also have the

opportunity to view a specific example, while still being engaged. One high school student remarked

> I feel that the SMART Boards are an excellent addition to the learning environment of the high school. Teachers are able to access the Internet and show the material to the class without the use of a laptop for each student. SMART Board enhances the understanding of material. (www.antonews.com., 2006)

According to (Tidbits in tech, 2011) SMART Boards:

> Are becoming the classroom technology of tomorrow. It is the goal that someday the boards will be able to take the place of textbooks. While textbooks have to be replaced, SMART Boards can be used repeatedly with updated information.

The benefits of this board are infinite and educators are praising the schools for incorporating it into their classrooms. SMART Boards have multiple functions that can be used in the classroom, including "presentations, conferencing, learning demonstrations, and activities that include multimedia clips and games" (Tidbits in tech, 2011). Adrian (2004) stated that integrating technology as a teaching tool should probably be considered one of the most effective manners "in building child's self-esteem and learning skills" (p. 4). This interactive tool was not only encouraging student participation in the class, "it was also bringing a new sense of comradeship to the class" (ibid).

Blogs

Carney (2009) argued that "blogs provide an updatable template for writing, and their ubiquity on the web makes them a source of reading on innumerable topics" (p. 293). Stanley (2006) emphasized that the blog offers more options for teachers and students than traditional methods of improving reading and writing skills. Thorne and Payne (2005) discussed an illustration, a survey that was undertaken by Spanish foreign

language students who kept weekly blog entries for a full academic year. The students interviewed reported that they frequently looked back over their own and others' earlier blog postings and noticed progress in their writing, particularly in such areas as using new phrases, spelling improvements, and expansion of verbal conjugations. The authors concluded that blogging contributes to developing writing skills because blog articles must show an excellent command of the English language. Also, students are able to voice their opinions on the class structure and receive feedback from the instructor on how to improve the current state of the class. As blogs allow students to freely express how they are feeling, they can give their "free thoughts" in the target language, which promotes new understanding of vocabulary and grammar. Stanley (2006) suggested that teachers integrate blogs into their teaching "to build a better sense of community in the classroom, to implement formative assessment, and to encourage greater student autonomy and more reflective learning" (p. 187). The Pew Internet and American Life Project (2005) stated that "27 percent of online adults read blogs and that 48 percent of bloggers are under the age of thirty" (p. 187).

Blog usage has increased steadily within the classroom environment. This has been described as a new way of teaching (Wilen-Daugenti, 2009. P. 9). For instance, blogs are not the same as the books, meaning that "a book is predicated on micro content whereas blogs are about posts, not pages." (ibid). Administrators are using blogs as a new way to welcome new students. Blogs are considered a major tool "for engaging people in large public conversations" (ibid). Educational benefits of blogging include "deepening research, providing feedback mechanism on their arguments,

connecting students to previously unknown authorities, and pushing students forward in a way that a thesis committee would not be able to accomplish" (Wilen-Daugenti, p. 9).

Blogging in higher education offers additional educational benefits:

- Promote critical and analytical thinking.
- Promote creative, intuitive, and associational thinking.
- Promote analogical thinking.
- Provide potential for increased access.
- Provide exposure to quality information and to combination of solitary and social interactions (ibid).

Other Technologies/Social Networks

Facebook

Facebook is a social network. Other social networks include Twitter and YouTube. The most prominent social network, however, is Facebook. Since its inception in 2004, it has spread all over the world. Today, it is estimated that there are over one billion users, globally. "Beyond posting status updates, users are sharing a tremendous amount of information—more than 5 billion pieces of content (web links, news stories, blog posts, notes, photo albums, etc. [are] shared each week" (Towner & Munoz, 2011, p. 35).

"Social network sites have revolutionized the way individuals connect, interact, and share information" (Towner & Munoz, 2011, p. 34). Facebook plays an important role in increasing teacher-student interaction in the form of web-based communication, as it "helps instructors connect with their students about assignments, upcoming events, useful links, and samples of work outside the classroom" (Towner & Munoz, 2011, p.

35). Students can use Facebook to interact and keep in touch with their classmates regarding upcoming assignments and examinations, while collaborating and exchanging ideas on an assignment or group project (ibid).

Facebook will be highly beneficial to teachers when communicating with their students. For example, teachers may assign articles regarding the educational use of Facebook, "then drawing from their personal experience with Facebook and reading, pre-service students can reflect about Facebook as an educational tool in the classroom or a course blog" (Towner & Munoz, 2011, p. 36). Madget, Meek, Wellens, and Hooley (2009) "find that 46% of first year undergraduate students use Facebook to informally discuss academic work with other students on daily or weekly basis" (as cited in Towner & Munoz, 2011, p. 36).

However, there are diverse points of view concerning the acceptance of faculty accounts on Facebook. Hewitt and Forte (2006) revealed that 66% of students reported that it is acceptable to have faculty on Facebook (Towner & Munoz, 2008). In sharp contrast, Roblyer, McDaniel, Web, Herman, and Witty (2010) noted that only 26.6% of students felt that they "would welcome the opportunity to connect with faculty on Facebook" and only 22.5% felt that "Facebook is personal/social—not for education." Teachers seem to have more reservations than students with regard to developing an educational presence on Facebook. "Fifty-three percent of faculty surveyed felt that is should not be used for education, because it is personal or social" (Towner & Munoz, 2011, p. 37).

Towner and Munoz (2009) recommended that traditional lectures, or face-to-face meetings, be replaced with the online classroom setting in order to increase both teacher-

student and student-student interactions. For instance, teachers should do their utmost to "promote active learning through a learning community, and to test the effectiveness of online communities through social networks such as Facebook" (p. 9). Educators should investigate these alternative teaching tools and decide "if the benefit of creating cyber learning communities to complement the traditional experience is worth the cost of retooling and restructuring" (Towner & Munoz, 2009, pp. 9-10).

One of Facebook's goals is to enhance education-related communication between students by providing them with new opportunities to collaborate and learn outside of school. Nowadays, instructors are accepting Facebook as an important educational tool, and its presence has become more noticeable. "Before students are willing to accept faculty on Facebook, faculty must first be present in the social network." Students, faculty, and school administrators should be willing to adapt to change, "as traditional tools, such as office hours and campus courseware, become outdated in today's classroom" (Towner & Munoz, 2009, p. 53).

Twitter

Based in San Francisco, California, Twitter was founded in 2006 by Jack Dorsey. It has achieved popularity all over the world and has been described as the "Short Message Service (SMS) of the Internet" (Twitter, 2009). Twitter enables its users to send and read other user messages called *tweets*. Tweets are text-based posts of up to 140 characters displayed on the author's profile page (Chamberlin & Lehmann, 2011).

Twitter is rapidly changing the landscape of higher education, as "some professors are tweeting extra resources to their students while others are sharing their courses backchannel with the entire world" (Chamberlin & Lehmann, 2011,

pp. 385-386). Additionally, "this real-time discourse and feedback via Twitter is growing" (ibid). Educators can use Twitter in many ways. For example, a teacher can tweet assignments to students, while the students might ask their teachers or peers for follow-up questions, assignment due dates, or assistance or advice (Chamberlin & Lehmann, 2011). Twitter has also been used as a means of keeping families in touch with each other, and it has proven helpful during emergencies such as a fires and airplane accidents, in which people wish to find the whereabouts of a loved one.

Twitter has made a significant positive impact on higher education. Students, faculty, and librarians use Twitter to keep in touch, both inside and outside of the classroom. Twitter has provided many benefits to students' learning experiences. For example, Gina Minks, who lives in Boston but attends online graduate school at Florida State University, argues that Twitter is a great tool for communicating with her classmates and instructors, by saying:

> Twitter has helped me with the topics that I learned during my classes, but it has also embedded me into learning community. It totally changed my grad school experience and presented me with opportunities I would not have if I stayed within the normal brick and mortar experience. (G. Minks, personal communications, April 25, 2010; (as cited in Chamberlin & Lehmann, 2011, p. 379)

Twitter can also help students to facilitate active learning. For example, "metacognition, which is the practice of thinking about and reflecting on your learning, has been shown to benefit comprehension and retention" (Jones, 2008, p. 1). Twitter can be a feasible platform for metacognition, which in turn will compel students to be brief and concise. Adopting social networking sites is becoming another trend of today's college students, as students spend about 6.5 hours weekly on social networking sites. "College students look to their friends above any other influences for guidance and

approval. The increase in friend access and the evolving definition of friend affords peer networking greater importance than ever" (Wilen-Daughenti, 2009, p. 67).

Dunlap and Lownethal (2009), who are faculty and technology coordinators at Colorado University, offer some guidelines on how to enhance the effectiveness of Twitter for both teachers and students:

- Establish relevancy for students.
- Recommend people for students to follow
- Model effective Twitter use
- Encouraging students' active and ongoing participation
- Build Twitter-derived results into assessments
- Continue to actively participate in Twitter. (as cited in Chamberlin & Lehamnn, 2011, p. 385)

A counter argument is placed by Tadros (2011), who argues that, despite the rapid spread of social media networks, there are still obstacles and drawbacks to using social media in the classroom. She sees that:

- Not all students are computer savvy in a constructive way. Students who are [not] proficient in texting may not have the necessary skills to use the new media.
- "Social media create a new digital divide, because those students who do not have access to computers in the first place have no access to anything and not just education. They will fall behind more, creating a wider digital gap as the world becomes increasingly dependent on social media.

- Social media could create an instructor digital divide between those who know the technology and can use it and who those who cannot." When adopting technology into the classroom, teachers begin to assume new roles that they are, perhaps, far from ready to adopt.
- The web has an ephemeral nature: everything is changing. It will negatively affect scholarly work.
- The proliferation of online social media tools which makes it difficult to remain current with the most recent tools or to find the tools one would need for teaching specific topic" (pp. 93-94).

Section 4: Critical Discussion of Technology Use in Foreign Language Learning

Kern (2006) argued that technology-based language teaching can be integrated into various pedagogical approaches. However, some changes in practice may be necessary.

> Because the dynamics of interaction (and feedback–uptake relationship) in online environments differ from those in face-to-face interaction, teachers must be prepared for new ways of structuring tasks, establishing exchanges, guiding and monitoring interaction, and evaluating performances; not to mention mastering the relevant computer application. (pp. 200-201).

In a study investigating the effectiveness of email as opposed to word processing, Biesenbach-Lucas and Weasenforth (2001) raised the question as to whether email is an appropriate tool for students to use in writing academic essays for promoting self-contained academic writing. In their study, they observed that the students use different writing strategies for online (shorter text) and offline (longer text). The longer texts in their study were the word-processed texts, longer than the email texts, in part, because of

the inclusion of contextualized material. This material was not included in the email texts.

On the other hand, Muller-Hartmann (2000) found that asynchronous email exchange proved to be influential in intercultural learning. This was concluded from three email projects among 11th and 12th grade high school students in Germany—studying English as a foreign language (EFL)—and Canada and the United States—studying English and Social Studies. The study considered individually organized networks between classrooms in Germany, the United States, and Canada. The basis for all asynchronous email exchanges among the 11th and 12th grade high school students was the joint reading of young adult novels and plays.

Likewise, Muller-Hartmann (2000) shows that task-based classroom activities promote intercultural learning opportunities; therefore, it is important that students' interactive exchanges of information and views are integrated into the local context of classroom instruction. Technology alone cannot meet this objective - it requires a teacher to be available in the classroom to facilitate and mediate the learning process.

As for the quality and reliability of programs produced for language teaching, Wood (2001) studied 16 software programs which were made commercially available on the market including "edutainment," which claims to foster literacy development for elementary school students. She points out that the pedagogical limitation of these programs underscore the need for educators to be involved in the overall design of software programs. According to Bartolome (1998), the goal would be to develop a product that reflects diversity in languages and cultures.

Plass (1998) evaluated user interface of foreign language multimedia software,

CyberBuch/Ciberteca, and discovered that issues in the design of the software were often neglected in the development of instructional programs. The commercial designs that she researched were based more on intuition and experience than on theory-based models. She came up with a new hybrid approach to user interface design for foreign language multimedia software.

While moving forward in the technological millennium, Hoven (1999) proposed an instructional model appropriate for humanistic multimedia, Computer-Enhanced Language Learning (CELL), in a self-access environment for second language (L2) learning through listening and viewing comprehension. The use of CELL, in preference to CALL, is to recognize the role that computers play in enhancing the language learning process, allowing language learners to work at their own pace and in their own time. She said that it is the researchers' task to evaluate the effectiveness of their learning environment.

For example, computer breakdowns, network freezes, and the need to learn new computer features might disrupt class time. "Hardware, software, and maintenance can cost so much money that other important educational goals are crowded out" (Warschauer, 2012, p. 31). Therefore, the technologies that are easily incorporated into the classroom should be less distracting "in terms of cost, size, maintenance, ease of use, and learning curve" (ibid).

North Regional Educational Laboratory (2003) presented a set of questions to be addressed when considering technology assessment:

1. How and when will the assessment of technology's effect on teaching, learning and achievement be done?

2. Who will be responsible for collecting ongoing data to evaluate the effectiveness of technology?
3. How will the level of technological proficiency of students and teachers be assessed?
4. How will technology be utilized to evaluate teaching and learning?
5. What is the key indicator of success for each component of the technology plan?
6. How will implementation decisions accommodate for changes as a result of new information and technology being analyzed? (as cited in Noeth & Volkov, 2004, p. 1).

Summary

Constructivist-theory stresses that learners construct their own learning and collaborate with peers. For example, within the constructivist approach concerning learner-centered experiences, technology can be harnessed to promote stimulating, versatile, collaborative, and individualized forms of learning. Also, the teacher plays an essential role in the classroom; by actively engaging in an active dialogue with students and guiding them to the right path, students learn to facilitate their own learning (Bruner, 1973).

While connectivist theory is a learning theory for the digital age (Siemens, 2005), both of these theories share the same objective, which is to focus on the ability of the learner to assume the responsibility of being an autonomous thinker. According to Holec (1981), learner autonomy is "the ability to take charge of one's own learning" (p. 3). Connectivisist theory maintains that students in this generation are learning in different ways than the previous generation because of available technology. Technology has caused knowledge "to be more distributed than ever." It is imperative for students to find knowledge, rather than internalize it. In this way, students develop learning tools "in which they can store their knowledge" (Wheeler, 2012, p. 1).

After the questions about the role of the learner and teacher have been answered, the connectivist theory stands even stronger. The researcher agrees with Siemens that connectivism is a learning theory for the digital age. One of the most important features of the 21st century is the changing and improving of technology at a rapid speed. Simultaneously, technology is ubiquitous, as iPods, iPads, MacBooks, iPhones, and these types of technology are making their way into the classrooms Teachers can create

homework or assignments that are tailored to students' needs and interests, regardless of whether students' learning styles are visual or auditory. Technology has arrived in the classroom, and it is here to stay! Although research results at this point are inconclusive regarding the benefits of technology in language teaching, it is still a valuable resource that can be used for enhancing the teaching process. The dilemma here is not the technology itself, but how well we use it. The degree of educators' involvement in the design of technology, that will include sociocultural aspects of the target language, remains an open-ended question.

However, despite some of its disadvantages, technology plays an influential role in language learning, especially tools such as the, iPad, iPod Touch, SMART Board, and Sakai (Blackboard). SMART Board enhances the students' learning environment and ensures their active participation in the classroom. With Sakai, teachers can keep up with students' progress, by assigning homework, projects, and any extra materials. In turn, this form of technology allows teachers to see how their students perform in the classroom. The iPod Touch is a great tool for language learning because of the attached speaker device, which allows students to speak into a recorder and replay what they have just heard, improving listening and speaking skills at the same time. It is safe to say that the advantages of the iPod Touch outweigh the disadvantages.

The potential for technology to help language learning has arrived, but is not yet fully developed. It will be a challenge for educators and software designers to produce a product that is based on clearly defined pedagogical principles, capable of promoting second language acquisition and literacy. However, Kramsch (1993) stated that "the

computer encourages learners to make connections between items, discover patterns, and make inferences" (pp. 200-201).

Because technology improves as time goes on, it can only continue to get better, leading to more effective methods of teaching.

CHAPTER THREE: METHDOLOGY

Overview

The purpose of this study was to examine student perceptions of the effectiveness of using instructional technology such as Apple devices—iPod Touch, iPad, and MacBooks— and Web-based tools—SMART Board and Sakai (Blackboard)—in acquiring listening and speaking proficiency in the Arabic Basic Course at the Defense Language Institute Foreign Language Center.

Methodology and Design

In this study, a quantitative methodology was employed. This study has utilized a descriptive method because it will give the researcher first-hand information regarding the participants' views on the use of technology in the classroom. This study used a survey as the main method of collecting data. The survey (questionnaires) will employ a five-point Likert scale. It is believed that if an evaluator is coping with multiple variables, the best option to choose is the Likert scale. (Changing Mind.org).

Selection of Participants

The participants in this study consisted of 45 American military students who were enrolled in the Arabic Basic Course in Middle East School II at the DLIFLC. They came from various military branches, such as the Army, Marines, Navy, and Air Force. The majority of students were studying Arabic for the first time. Most of them were high school graduates, and their ages range from 18 to 42.

The participating students were selected during their first and second semester from Middle East School II. At the DLIFLC, the Arabic Basic Course curriculum is considered intensive. The course lasts 63 weeks and consists of three semesters. The

DLIFLC trains military students to become linguists in the foreign language that the military deems fit (DLIFLC, 2011-2012). The students surveyed were of various races and ethnicities.

The researcher used SurveyMonkey.com to administer the electronic survey. Survey Monkey is a well-known online survey site that provides an accurate analysis of data. An electronic survey is inexpensive and easy to download on any statistical analysis software program (Shannon, Johnson, Searcy, and Lott, 2002).

The survey was administered to 45 students at Middle East School II in DLIFLC, on July 31, 2014. The students came from four classes and were in different semesters. The first class consisted of 15 students, the second class of 12 students, and the third of nine students. All of the students were in the first semester of studying Arabic Basic Course. The fourth class consisted of nine students who were in the second semester studying Arabic Basic Course. After receiving the approval from the Dean of Middle East School II and his departmental supervisor, the researcher met with students in their respective classrooms and instructed them to go to Survey Monkey in order to read the informed-consent before agreeing to participate in this study.

The students were informed that their participation would be completely voluntary, and that if they decide to withdraw, they could do so at any time. This study will protect the confidentiality of the subjects, while taking into consideration the credibility of the study. The identity and rank of the individuals will remain confidential and the data that is collected will be used solely for this study. Consent forms were distributed prior to conducting the research. The participants had to willingly agree to

engage in this research, meaning that the consent forms were collected after the students had signed them.

Instrumentation

Three different instruments were used to collect data from students. Participants in this study will be asked to respond to a total 50 questions from three instruments.

The first survey instrument (see Appendix A) was developed in 2011 by Dr. Carmelita Graham in her dissertation, *Strategies for Using iPods to Support Student Learning in the Millville School District,* in New Jersey. The objective of Dr. Graham's student survey was to identify how iPods can support student learning at elementary and middle schools in the Millville School District. Permission to use Dr. Graham's survey was granted via email (see Appendix D). This researcher informed Dr. Graham that modifications would be made to the survey questions, and she agreed that modifications to her survey could be made. With that in mind, this researcher made the modifications to Dr. Graham's survey, tailoring the questions to his participants.

Dr. Graham's survey instrument was based on a 5-point Likert scale and was designed to measure the extent to which the respondents agreed or disagreed with a set of statements about the effects of iPods in the classroom. In each survey, the Likert responses were scored for each participant as follows: 1. Strongly Agree; 2. Agree; 3. Neutral; 4. Disagree; and 5. Strongly Disagree. Graham's findings concluded that the majority of students felt that iPods helped them with their learning and that "iPods were a great tool for the classroom" (Graham, 2011, p. 51).

The first survey instrument measured student perceptions of the latest technological innovations such as iPod Touch, iPad, MacBook, SMART Board, and Sakai (Blackboard). The goal of this researcher's survey was to use the student perceptions to see if the Apple devices and Web-based tools improved their performance in listening and speaking skills within the Arabic Basic Course. This survey instrument shed light on (a) what kind of technologies students prefer to use, (b) what kind of programs and applications are particularly helpful, and (c) what kind of technology students can see improving their listening and speaking skills in both the long and short-term.

The second instrument (see Appendix B) was developed by Diemer, Fernandez, and Streepey (2012), at Indiana University-Purdue University, in Indianapolis, Indiana. This survey instrument, like the first survey instrument, was based on a 5-point Likert scale. Permission to use this survey instrument with modification was granted online by Dr. Eugenia Fernandez of Indiana University-Purdue University (see Appendix E).

In 2012, Diemer et al. published an article entitled *Student Perceptions of Classroom Engagement and Learning using iPads*. The purpose of this article was to describe factors influencing the positive impact of iPad activities on student perceptions of learning and engagement. The subjects totaled 209 undergraduate students from different degree programs at Indiana University-Purdue University. Within this article, Diemer et al. (2012) concluded that the iPad is generally effective in promoting active and collaborative learning.

The second survey instrument measured students' perceptions of using the iPod Touch, iPad, and MacBook. The goal of this researcher's survey was to use the students'

perceptions to see if the Apple devices enhanced students' learning of both listening and speaking skills within the Arabic Basic Course. This survey instrument has revealed that iPad and MacBook devices have assisted students in acquiring proficiency in learning both of these skills.

The third survey instrument (see Appendix C) is called the *iPad Research Study*. The Pepperdine University Information Technology staff developed this study in 2011, in Los Angeles, California. This survey instrument was also based on a 5-point Likert scale. Permission to use this survey instrument with modifications was granted online by Tiffany Yu, director of Pepperdine University's Information Technology Department (see Appendix F).

The study lasted three semesters from the fall of 2010 to the fall of 2011, comparing student learning outcomes for each semester, within the same course, using a focus group, which was exposed to the conditions of the study, and a control group, which was not exposed to the conditions of the study. The focus group was provided with iPads, while the control group used various computing devices. Data was collected using a survey and classroom observations. Pepperdine University's iPad research team reviewed feedback from faculty and students who participated in this study, then evaluated the effect of the iPad on learning (Pepperdine University, 2011).

The iPad research team attempted to answer two specific questions:

1. Does the iPad have the potential to enhance student performance on course learning objectives?

2- Can [the iPad research team] develop a formula for success? (Pepperdine University, p. 1).

Pepperdine's researchers concluded that the focus group was the one that was subject to the most benefit, observing that 75% of this group confirmed that the "iPad was very helpful or slightly helpful for sharing information with others in the class" (p. 1) also noting that "the iPad has the capacity to be a communication, productivity, and gaming device in one convenient mobile platform" (Pepperdine University, 2011, pp. 4-5). The goal of this researcher's survey was to use the student points of view in order to see the extent to which the participants believed that incorporation of Apple devices and technology, in general, in the classroom will have a positive effect on their proficiency in listening and speaking in the Arabic language. Also, students' questionnaire responses gave the researcher immediate information regarding participants' experiences with using technology.

The Survey Questionnaires

The purpose of this study was to examine students' perceptions of the effectiveness of using instructional technology, such as Apple devices—iPod Touch, iPad, and MacBook—as well as Web-based tools—SMART Board and Sakai (Blackboard)—in acquiring listening and speaking proficiency in the Arabic Basic Course at the Defense Language Institute Foreign Language Center (DLIFLC). The collected data will be analyzed and illustrated by the study's findings.

Instructions to Participants

Below are three instruments (questionnaires) in Appendices A, B, and C**,** that were used in this study and were designed to elicit perceptions of the effectiveness of using instructional technology in acquiring listening and speaking proficiency in Arabic. Please do not write your name on the questionnaires so that your responses will be completely anonymous. Please answer the questions as frankly as you can, and please be certain to answer all the questions.

Read each statement below carefully and circle the appropriate number to indicate the extent to which you agree with the statement.

Circle 1 if you **strongly disagree** with the statement.
Circle 2 if you **disagree** with the statement.
Circle 3 if you **neither agree nor disagree** with the statement.
Circle 4 if you **agree** with the statement.
Circle 5 if you **strongly agree** with the statement

Instrument A

The Advantages and Disadvantages of Using the iPod Touch, iPad, and MacBook to Acquire Listening and Speaking Proficiency in the Arabic Language

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I was familiar with the iPod Touch before taking the Arabic Basic Course.	1	2	3	4	5
2. I was familiar with the iPad before taking the Arabic Basic Course.	1	2	3	4	5
3. I was familiar with the MacBook before taking the Arabic Basic Course.	1	2	3	4	5
4. It was difficult to find the classroom content on the iPod Touch.	1	2	3	4	5
5. It was difficult to find the classroom content on the iPad.	1	2	3	4	5
6. It was difficult to find the classroom content on the MacBook.	1	2	3	4	5
7. IPod Touch was helpful to me in memorization of vocabulary in the speaking skills.	1	2	3	4	5
8. iPad was helpful to me in memorization of vocabulary in the speaking skills.	1	2	3	4	5
9. MacBook was helpful to me in memorization of vocabulary in the speaking skills.	1	2	3	4	5
10. Using iPod Touch in the classroom assisted me to finish listening activities.	1	2	3	4	5
11. Using iPad in the classroom assisted me to finish listening activities.	1	2	3	4	5
12. Using MacBook in the classroom assisted me to finish listening activities.	1	2	3	4	5
13. The iPod Touch was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	1	2	3	4	5
14. The iPad was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	1	2	3	4	5

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15. The MacBook was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	1	2	3	4	5
16. Using the SMART Board increased my listening skills.	1	2	3	4	5
17. Using Sakai increased my listening skills.	1	2	3	4	5
18. Using Sakai increased my listening skills more than iPod Touch.	1	2	3	4	5
19. My overall experience with listening activities loaded on the iPod Touch was positive.	1	2	3	4	5
20. My overall experience with listening activities loaded on the iPad was positive.	1	2	3	4	5
21. My overall experience with listening activities loaded on the MacBook was positive.	1	2	3	4	5
22. The iPod Touch will help me in the future to be more proficient in listening skills.	1	2	3	4	5
23. The iPad will help me in the future to be more proficient in listening skills.	1	2	3	4	5
24. The MacBook will help me in the future to be more proficient in listening skills.					
25. The iPod Touch recording apps will help me in the future to be more proficient in speaking skills.	1	2	3	4	5
26. The iPad recording apps will help me in the future to be more proficient in speaking skills.	1	2	3	4	5
27. The MacBook recording apps will help me in the future to be more proficient in speaking skills.					

Source: Graham, C, C. (2011). *Strategies for using iPods to support student learning in the Millville school district.* (Doctoral Dissertation). Retrieved from Pro Quest, UMI 3498215.

Comment

Instrument B

Student Perceptions of Classroom Activities and Learning Using the iPad, iPod Touch, and MacBook

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I paid more attention to the listening task(s) when using the iPad device.	1	2	3	4	5
2. I paid more attention to the listening task(s) when using the iPod Touch device.	1	2	3	4	5
3. I paid more attention to the listening task(s) when using the MacBook device.	1	2	3	4	5
4. The iPad recording apps helped me participate in the speaking activities in ways that enhanced my learning.	1	2	3	4	5
5. The iPod Touch recording apps helped me participate in the speaking activities in ways that enhanced my learning.	1	2	3	4	5
6. The MacBook recording apps helped me participate in the speaking activities in ways that enhanced my learning.	1	2	3	4	5
7. The authentic material presented by iPad facilitated my learning of Arabic course material better than face- to-face interaction.	1	2	3	4	5
8 The authentic material presented by iPod Touch facilitated my learning of Arabic course material better than face- to-face interaction.	1	2	3	4	5
9. The authentic material presented by MacBook facilitated my learning of Arabic course material better than face- to-face interaction.	1	2	3	4	5

Source: Diemer, T. Fernandez, E. & Streepey, J. (2012). Student Perception of Classroom Engagement and Learning Using iPads. *Journal of Teaching and Learning with Technology,* pp. 13-25.

Comment:

Instrument C

iPad, iPod Touch, and MacBook as Learning Tools

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I believe that using the iPad device in class encouraged me to interact more than I normally would with online course materials in the classroom.	1	2	3	4	5
2. I believe that using the iPod Touch device in class encouraged me to interact more than I normally would with online course materials in the classroom.	1	2	3	4	5
3. I believe that using the MacBook device in class encouraged me to interact more than I normally would with online course materials in the classroom.	1	2	3	4	5
4. I feel I accomplish more in the class because of technology.	1	2	3	4	5
5. Overall, technology makes my life learning Arabic easier.	1	2	3	4	5
6. In general, I feel that using iPad for the Arabic course was very effective.	1	2	3	4	5
7. In general, I feel that using iPod Touch for the Arabic course was very effective.	1	2	3	4	5
8. In general, I feel that using MacBook for the Arabic course was very effective.	1	2	3	4	5

Instrument C

Circle 1 for **never**
Circle 2 for **rarely**
Circle 3 for **occasionally**
Circle 4 for **frequently**
Circle 5 for **always**

Statement	Never	Rarely	Occasionally	Frequently	Always
9. How often did you use the iPod Touch **during class** for the Basic Arabic Course?	1	2	3	4	5
10. How often did you use the iPad **during class** for the Basic Arabic Course?	1	2	3	4	5
11. How often did you use the MacBook **during class** for the Basic Arabic Course?	1	2	3	4	5
12. How often did you use the iPod Touch **outside of class** for the Basic Arabic course?	1	2	3	4	5
13. How often did you use the iPad **outside of class** for the Basic Arabic Course?	1	2	3	4	5
14. How often did you use the MacBook **outside of class** for the Basic Arabic Course?	1	2	3	4	5

Source: Pepperdine University. (2011). *Technology follow-up survey for the iPad students* (2011). Retrieved from community.pepperdine.edu/it/tools/ipad /...nonipad_survey.

Comment:

Data Collection Procedures

The data collection for this survey lasted seven days. The researcher informed the participants about the objective of the study and the degree of technology use in the classroom. During the first week, the participants met with the researcher. The meeting occurred at the DLIFLC Middle East School II building. During this meeting the researcher explained the objective of this study, research questions, data collection procedures, and the three instruments associated with it. The students were informed about (a) their right to participate voluntarily in the study, (b) how the data will be kept confidential, and (c) that the data is being used solely for this study. The identity of the individuals and their ranks will remain confidential, as well as the data that has been collected. Every effort was made to follow the ethical guidelines of Argosy University and its Institutional Review Board (IRB).

The researcher described the purpose of the study, research questions, data collection procedures, and the significance of the study. The students were informed about (a) their right to participate voluntarily in the study, (b) how the data will be kept confidential, and (c) that the data is being used solely for this study.

Before agreeing to participate in this study, the students were provided with ample time to read and review the information describing the study. Information was given to subjects in the English language. Once the participants agreed to take part in this study, they received written instructions, dates, times, and the exact location where the survey (questionnaire) will be administered.

Ethical Considerations

This section discusses how ethical concerns will be carefully taken into consideration when conducting this study regarding students' perceptions of the effectiveness of using Apple devices like the iPod Touch, iPad, and MacBook, as well as Web-based tools like SMART Board and Sakia (Blackboard). This study protected the confidentiality of the subjects, taking into consideration the credibility of the study. The identity of the individuals and their ranks will remain confidential, as well as the data that was collected. Every effort will be made to follow the ethical guidelines of Argosy University and its Institutional Review Board (IRB).

Before agreeing to participate in this study, the students were provided with sufficient time to read and review the information describing the study. All of the collected data was kept in a double-locked cabinet in a safe place at the researcher's office. The students were provided with a phone number in case they have any further questions or clarification regarding this study. All data was analyzed in order to answer the three research questions. All of the questions will be close-ended.

Data Analysis

This study used the aforementioned three instruments, which consisted of 50 closed-ended questions. The Statistical Package for Social Sciences (SSPS) software version 20 was used for this quantitative study. Various analyses were performed on a scale level to analyze contextual information regarding how second language learners enhance their learning by using technology during the duration of their Arabic Basic

Course. The proposed collected data has given the researcher immediate information regarding participants' experiences in using technology.

Variables and Data Collection

The data collection was based on two variables - the dependent and independent variables. The independent variable is the students' perceptions of the effectiveness of the latest technological innovations in the classroom. The dependent variables are the iPod Touch, iPad, MacBook, SMART Board, and Sakai (Blackboard).

This study was guided by three research questions:

RQI: How do the students perceive the effectiveness of the incorporation of the latest technological innovations in their daily learning of the Arabic language?

This question was answered by utilizing descriptive statistics. The mean and the standard deviation will be calculated by using SSPS software.

RQ2: What devices or tools do students think promote language proficiency in listening and speaking?

Question 2 was answered by organizing and analyzing the close-ended questionnaire within the three instruments (surveys). The close-ended questions centered on the effectiveness of incorporating technology into the classroom.

RQ3: How is the usefulness of Apple devices perceived, in comparison to Web-based tools, in developing listening and speaking skills?

For statistical data analysis, the MANOVA test was applied to determine whether there are any significant differences between students in their assessments of the two technologies (Sakai and iPad).

Based on the study's findings, reports will be provided regarding the subjects' views of DLIFLC's administration, in accordance with the intended objective of this study.

In addition to the considerations of data collection stated above, the following procedures were respected when preparing this study:

- Obtaining an approval letter for this study from the dissertation committee chair.
- Obtaining approval letters from both Argosy University and DLIFLC.
- Obtaining the informed consent from students (the informed consent form explained the objective of this study and what will be involved as a participant).
- Administrating the survey questionnaire.

CHAPTER FOUR: PRESENTATION AND ANALYSIS OF DATA

Overview

The purpose of this study was to examine students' perceptions of the effectiveness of using Apple devices—such as the iPod Touch, iPad, and MacBook—and Web-based tools—such as the SMART Board and Sakai (Blackboard)—in acquiring listening and speaking skills in the Arabic Basic Course at DLIFLC.

The study was designed to answer three research questions.

RQI: How do students perceive the effectiveness of incorporation of the latest technological innovations in their daily learning of Arabic language?

RQ2: What devices and tools do students think best promote language proficiency in listening and speaking?

RQ3: How is the usefulness of Apple devices perceived in comparison to Web- based tools in developing listening and speaking skills?

Selection of Participants

This study was conducted at the Defense Language Institute Foreign Language Center (DLIFLC) located in Monterey, California. The research population consisted of students from the Basic Arabic Course. The sample included 45 volunteers, 35 male and 10 female American military students, who were enrolled in the Arabic Basic Course in Middle East School II at the DLIFLC. They were of different races and ethnicities and came from various military branches, such as the Army, Marines, Navy, and Air Force. The majority of the students were studying Arabic for the first time. Most of them are high school graduates and their ages ranged from 19 to 43.

The participating students were selected during their first and second semester from Middle East School II. At the DLIFLC, the Arabic Basic Course curriculum is an intensive three semester course. The DLIFLC trains military students to become linguists in the foreign language that the military deems fit (DLIFLC, 2010).

Descriptive Statistics of the Sample

This study utilized a descriptive method because it gave the researcher first-hand information about participants' views regarding the use of technology in the classroom. This study used a survey to collect data, administering three (surveys) questionnaires, labeled A, B, and C, to the participants. The total number of items in the three questionnaires was 50. The survey (questionnaire) employed for the majority of items was the five-point Likert scale.

As explained earlier in this study, this research was limited to DLIFLC's Middle East School II. The researcher used SurveyMonkey.com to administer the electronic survey. The survey was administered to 45 students at Middle East School II in DLIFLC, on July 31, 2014. The students came from four classes and were in different semesters. The three classes were as follows: The first class consisted of 15 students, the second of 12 students, and the third of nine students. All of the students were in their first semester studying in the Arabic Basic Course. The fourth class consisted of nine students who were in their second semester studying in the Arabic Basic Course.

After receiving approval from the Dean of Middle East School II and his departmental supervisor, the researcher met with all of the students in their respective classrooms and instructed them to go Survey Monkey to read the informed-consent before agreeing to participate in this study. They were provided with ample time to read

and review the information describing the purpose of the study, research questions, data collection procedures, and the significance of the study. They were also informed about (a) their right to participate voluntarily in the study, (b) how the data will be kept confidential, and (c) that the data will be used solely for this study. Once students agreed to participate in this study, they were instructed to take the survey. The students completed the surveys and wrote their comments within 25 minutes. Forty-four students participated, while one student declined to participate.

The aim of the proposed study was to learn (a) how students are interacting with the tools, (b) which tools they are using for listening and speaking, and (c) which tools they believe are improving their grasp of the language. The integration of technology into the classroom will significantly increase student interest in the Arabic Basic Course. In addition, it is assumed that students will become more interested in the Arabic language and culture as a result of the acquisition of proficiency in the Arabic language. Language is embedded in culture, and in turn, culture is reflected in language.

Quantitative Findings

The majority of students' preferred using MacBook over iPad and Ipod Touch when performing their daily activities in the classroom. This was due to the fact that students used the MacBook most of the time while they studying the Arabic Basic Course, whether inside or outside of the class. Students utilized the MacBook to open their Arabic curriculum lesson, access authentic material from the Internet, and do their daily homework. Also, students stated in their responses that the MacBook was a great device for assisting with the listening activities.

Even though students like to use the iPad in their daily classroom learning, they do not use it as much as the MacBook. The reason for this is because they do not have access to the entire course curriculum material that that MacBook has. However, students indicated in their responses that the iPad is an effective tool for learning the new vocabulary through a digital program called "Rapid Rote." Also, the iPad assisted students in acquiring proficiency in speaking and listening skills by downloading recording apps into their software.

In regard to the iPod Touch, the majority of students indicated that they were neutral or had no viewpoints because they do not have access to this device, as DLIFLC's administration discontinued providing this device to students when they started learning the Arabic Basic Course material in the middle of 2014. They expressed a hope that DLIFLC would reconsider its decision and issue the iPod Touch once again. Students preferred the iPod Touch over the iPad because it helped them acquire proficiency in the Arabic language, especially in the speaking skills, by recording students' voices on typical homework assignments. Then, students give the iPod Touch to their respective teacher to check accuracy in terms of pronunciation, vocabulary, verb conjugation, and sentence structure.

SMART Board (interactive white board) is available in every Middle East School II classroom. Students stated that they use this board when they collectively listen to curriculum material or authentic material, such as news clips. However, students do not use it as often as other Apple devices because the Arabic Basic Course's curriculum material is already downloaded into the MacBook, and somewhat into the iPad. Also,

most students argued that SMART Board occasionally encounters technical malfunctions. This, in turn, hinders the learning environment of the students.

Sakai (Blackboard) is a widely used Web-based learning course management system (CMS). Even though Sakai is available to all Arabic students, students at Middle East School II tend to not use it. No specific reason was given for Sakai's lack of use.

Blackboard was first introduced at DLIFLC in 2003. Then, in 2011, it was replaced with a different name called "Sakai." Sakai is based on collaborative learning and empowers students to be active learners, while the instructor acts only as facilitator. This tool can be incorporated into any teaching hour at DLIFLC. It has multiple benefits for the instructors, as well as the students. Sakai allows the instructor to provide multiple content formats, including text, images, audio, and animation, which allow the students to find materials based on their preferred style.

Students' Comments on Three Surveys

Almost all students made comments on the three surveys after filling out of all questionnaires of the surveys regarding the use of Apple devices, Web-based tools, and technology in general. Some of their comments are listed as follows:

iPod Touch

1. The majority of students were neutral when they were asked whether the iPod Touch will help them in acquiring proficiency in the Arabic language. This was likely due to the fact that the iPod Touch was not issued to students when they started learning the Arabic Basic Course.

2. Despite this, more than half of the students would like to see the iPod Touch re-issued to students. The reason for this is that the students said it will help them increase their proficiency in speaking skills.
3. One student stated, "I would have loved to have an iPod Touch for recording my speech and having the teachers listen to it. I hope that maybe even soon we will be able to utilize this technology."

iPad

1. Students believe that the iPad is the most effective device as a learning tool in helping them to learn new Arabic vocabulary, because of a digital program called "Rapid Rote." One student comment that "the iPad makes using the flash card apps such as 'Quizlet,' another vocabulary digital program very convenient, and I prefer using this device over the MacBook," going on to say that the " iPad is the most important tool device that we have used to acquire new vocabulary."
2. "It is very useful to use it daily in studying the Arabic language."
3. Other students commented that the "iPad is a great for listening skill."

MacBook

1. The majority of students believe that the MacBook is a very important device for accessing authentic material, curriculum lessons, and listening to current events, commenting that it "will assist them in acquiring proficiency in listening and speaking skill."
2. One student commented that the **"**Macbook has been my backbone in this course. On the top of the course material, I use it for news, authentic material and more resource to enhance my learning."

3. Other students commented that the "Macbook has helped me greatly in this course."
4. "My overall experience in using Macbook has been very positive."
5. "MacBook allows for easier multitasking than iPad."
6. However, one student argued that "he relies too much on technology as tool to learn the Arabic language."

SMART Board and Sakai

1. One student stated "SMART Board helped me greatly with listening through teachers' transcription of the audio in the class on the board."
2. Another student said that "I would like to see interaction between the SMART Board and our computers like being able to type responses and have it shown on the SMART Board."
3. However, another student said that "in the beginning there was malfunction in the SMART Board which as result delayed the process of learning."
4. In regards to Sakai, most students stated that they did not use Sakai in their classroom.

Technology in General

1. Most students felt that technology, in general, played a big role in helping learn the Arabic language and making learning more effective.
2. One student said, "I cannot imagine learning a foreign language without it, and cannot imagine what life will be at DLI without it."

3. Other student said, "I cannot imagine how much more difficult this course would be before the advent of computer technology. Having this sort of technology was extremely helpful in learning the language."

Results

Following a restatement of the research questions, this chapter is divided into four sections. Section One presents descriptive statistics of student familiarity with Apple technology (the iPod Touch, iPad, and MacBook), the frequency of their use of the iPod Touch, iPad, and MacBook (Table 1) before they started the Arabic class, and their subsequent perceptions (Tables 2 - 4) after they took the class. Section Two presents data pertinent to research question one. Section Three presents data pertinent to research question two. Section Four presents data pertinent to research question three. For consistency, the order of Apple products is consistent throughout this chapter, as follows: iPod Touch, iPad and MacBook. Throughout the text, survey statements are shown in italics to distinguish them from the rest of the text. Percentages are rounded off to whole numbers.

Descriptive Statistics on Familiarity with, Frequency of Use and Perceptions of Computer Technology when Learning Arabic

In order to put the student evaluations of technology as per research questions one through three into perspective, this descriptive statistics section is divided into three parts. The first part of this section presents information regarding students' familiarity with Apple products (iPod Touch, iPad, and MacBook) before they started the Arabic class. The second part of this section presents information regarding how often students

used the Apple products. The third part of this section presents data from the survey instruments.

Familiarity with Apple Technology

This section illustrates the student participants' familiarity with the Apple products examined in this study, before the course began.

Familiarity with iPod Touch before taking the course. Figure 1 shows the student answers regarding their degree of familiarity with the iPod Touch before starting the course, in response to the survey statement*, I was familiar with iPod Touch before taking the Arabic Basic Course.* In Figure 1, just over half of the students were familiar with it, or 59%, one 25% did not have an opinion, 16% disagreed, and M = 3.77, SD = 1.22.

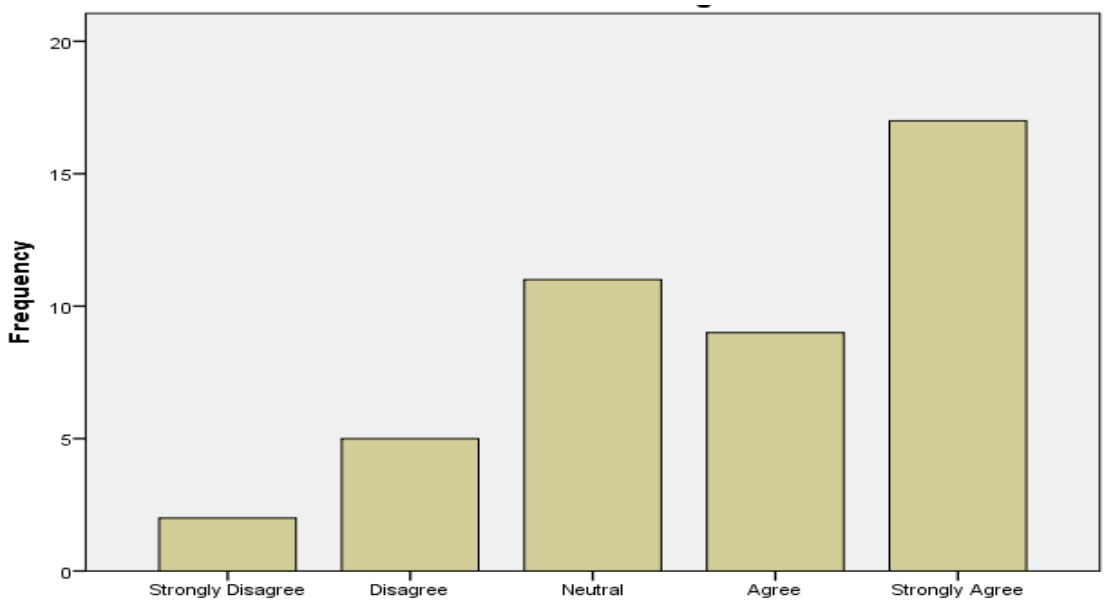

Figure 1. Level of agreement about familiarity with iPod Touch technology before taking the Arabic Basic Course.

Familiarity with the iPad before taking the course. Seventy-five percent of the students, agreed with the survey statement, *I was familiar with iPad before taking the Arabic Basic Course* (Figure 2). Less than a fifth, just 18% of students, disagreed and only 7% did not have an opinion. M = 3.89, SD = 1.30.

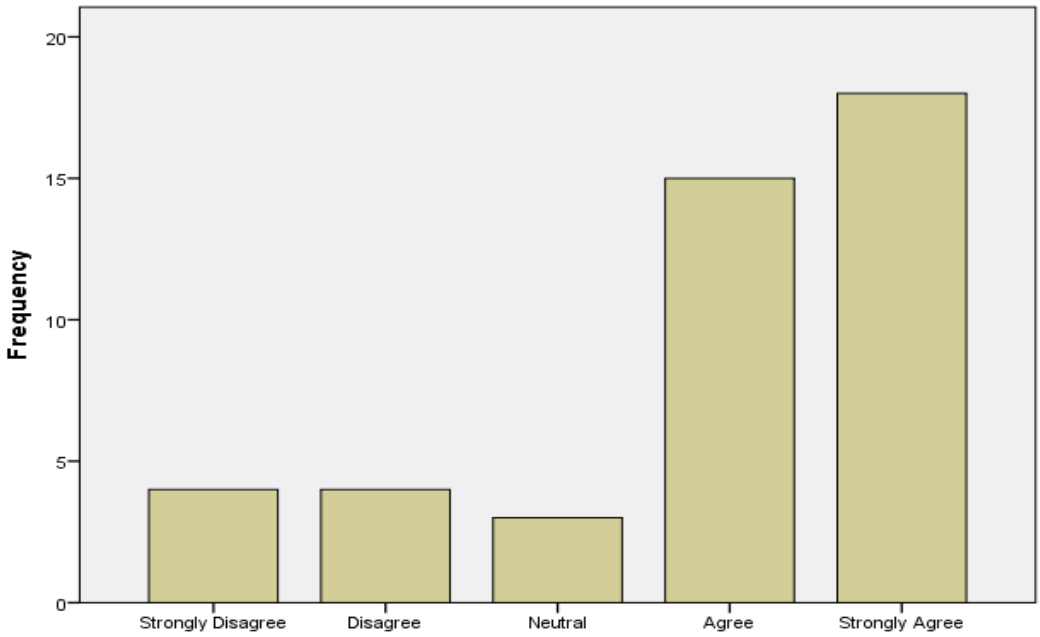

Figure 2. Familiarity with iPad before taking the Arabic Basic Course

Familiarity with the MacBook before taking the course. The students were split evenly regarding knowledge of the MacBook before starting the course. Figure 3 shows that about half (43%) were familiar with the MacBook, while another 43% were unfamiliar with it, while the remaining students did not have an opinion (M = 3.09, SD = 1.53).

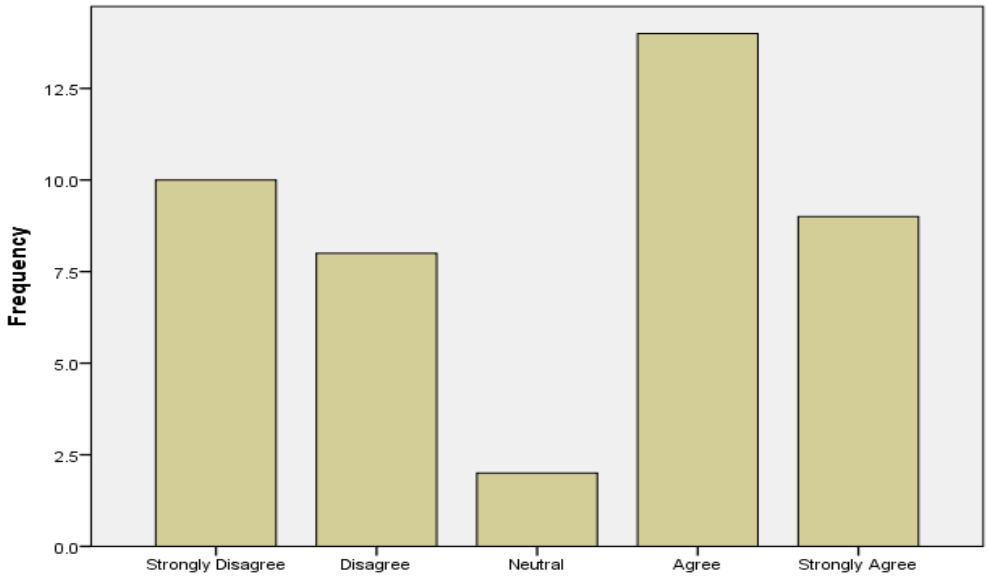

Figure 3. Familiarity with MacBook before taking the Arabic Basic Course

The students were then asked if they thought it was hard to find the classroom material using technology.

Difficulty finding classroom content with iPod Touch. Students were asked about their agreement with the statement: *It was difficult to find the classroom content on the iPod Touch.* Figure 4 shows that most of the students (83%) did not have an opinion (note to reader: because the iPod Touch was never issued to them), while 16% disagreed and one person agreed. M=3.9, SD= 1.53.

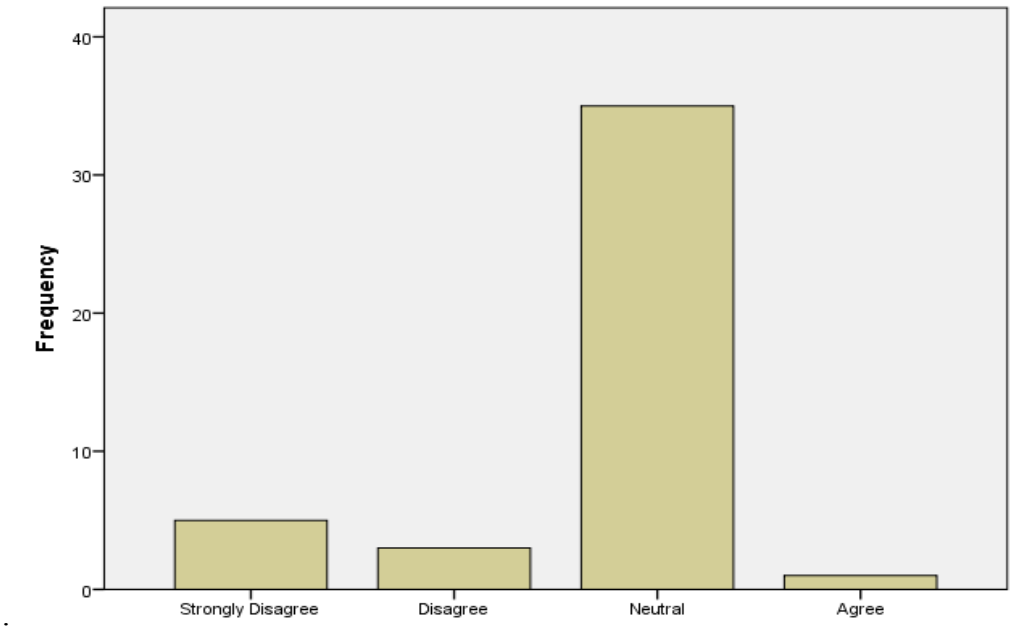

Figure 4. Difficulty finding classroom content on the iPod Touch

Difficulty finding classroom content with iPad. Figure 5 shows how students responded to the survey statement: *It was difficult to find the classroom content on the iPad*. The majority of students (64%) disagreed with the notion that it was difficult to find content on the iPad. However, 21% agreed and 16% did not have an opinion (M = 2.41, SD = 1.00).

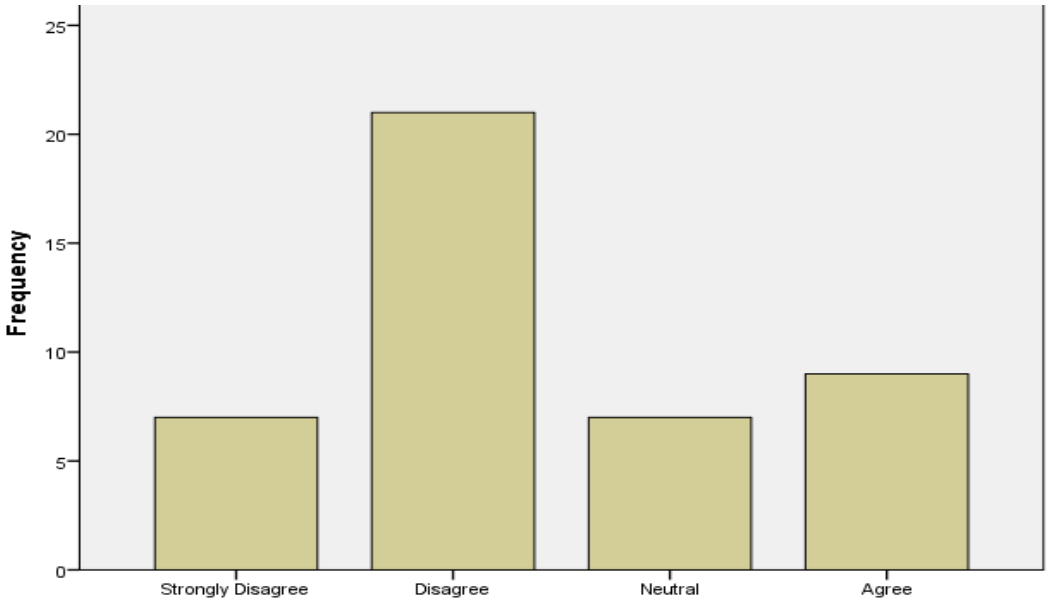

Figure 5. Difficulty finding classroom content with iPad

Difficulty finding classroom content on MacBook. Figure 6 illustrates the range of responses to the survey statement: *It was difficult to find the classroom content on the MacBook.* The majority disagreed (73%), while nine percent did not have an opinion and 14% agreed (M = 2.09, SD = 0.96).

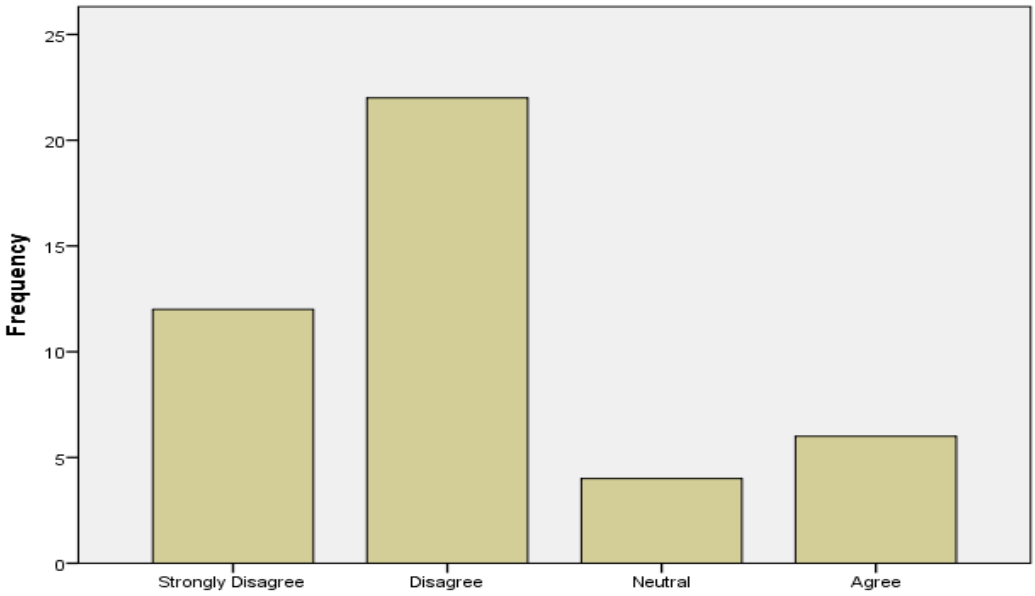

Figure 6. Difficulty finding classroom content on the MacBook

iPod and memorization of vocabulary in the speaking skills. When asked to comment on the survey statement: *iPod Touch was helpful to me in memorization of vocabulary in the speaking skills*. In Figure 7, most students (82%) did not have an opinion, while the other 18% were evenly divided between agreeing and disagreeing (M = 2.93, SD = 0.63).

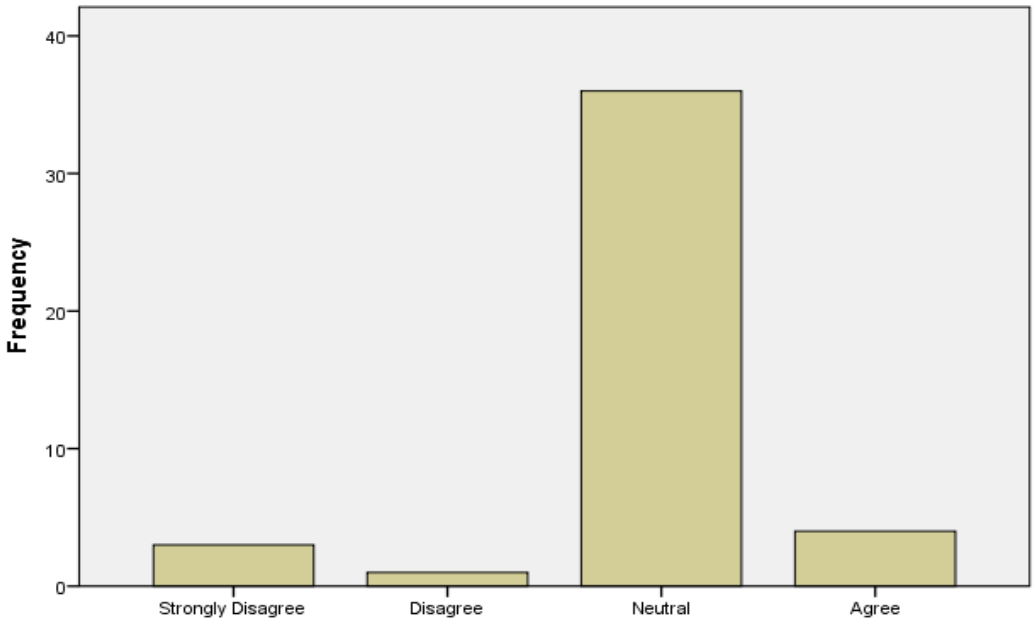

Figure 7. iPod and memorization of vocabulary in the speaking skills

iPad and memorization of vocabulary in the speaking skills. Students were asked about their agreement with the statement: *iPad was helpful to me in memorization of vocabulary in the speaking skills.* In Figure 8, about two-thirds, or 65%, agreed that the iPad was useful for memorizing vocabulary, while 16% disagreed and 18% were neutral (M = 3.63, SD = 1.00).

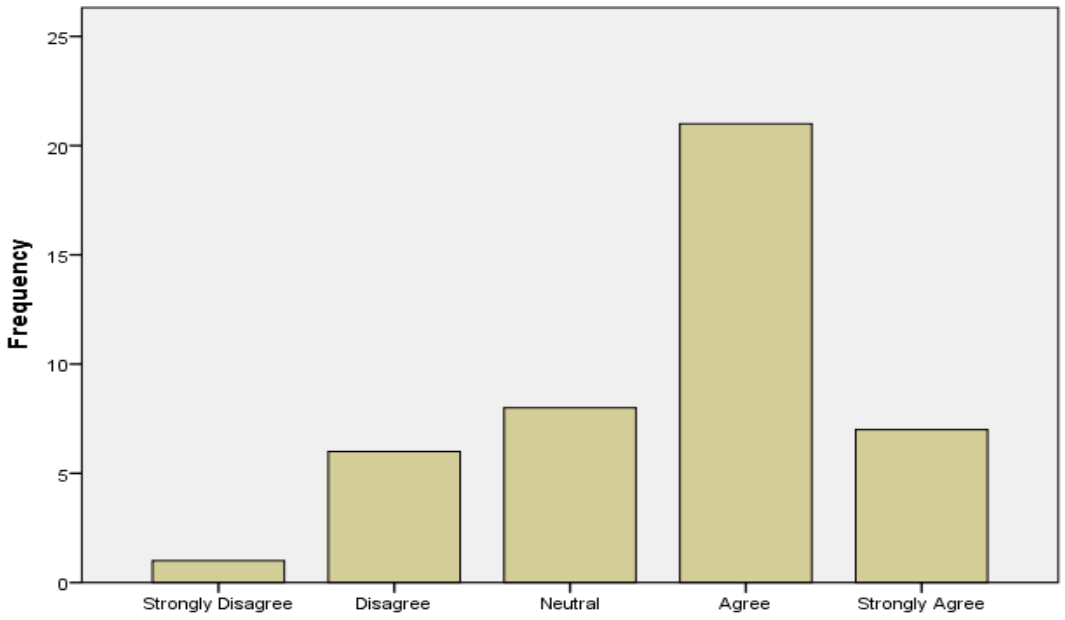

Figure 8. iPad as helpful in memorization of vocabulary in speaking skills

MacBook and memorization of vocabulary in the speaking skills. Finally, students were asked if they agreed with the statement: *MacBook was helpful to me in memorization of vocabulary in the speaking skills.* Figure 9 shows that two-thirds, or 66%, agreed that the MacBook was useful for memorizing vocabulary, while 18% disagreed and 20% did not have an opinion (M = 3.66, SD = 1.03).

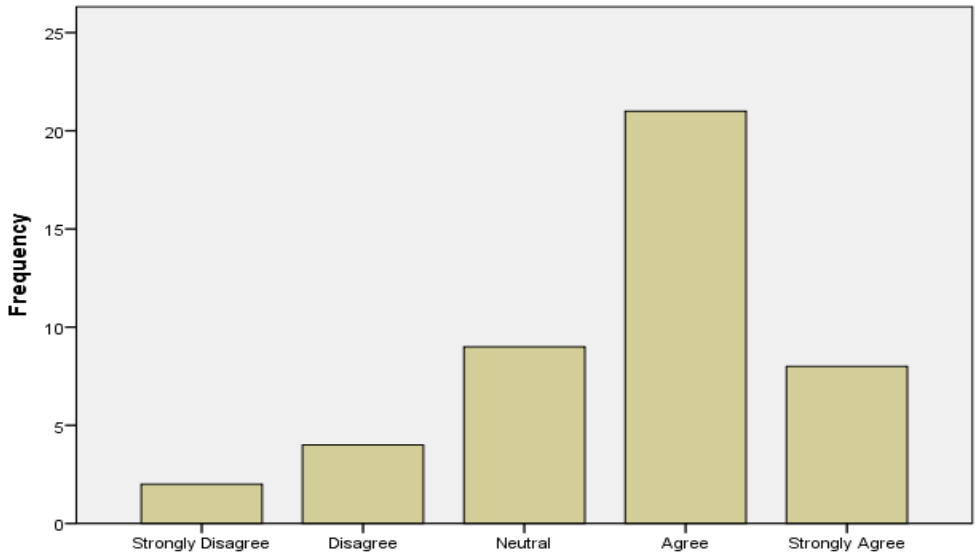

Figure 9. MacBook as helpful in memorization of vocabulary in speaking skills

Frequency of Using Apple Technology during Class

Frequency data for the Apple iPod Touch, iPad, and MacBook are shown below in two different circumstances - during class and outside of class. Frequency was measured on a five-point Likert scale (1 = never, 2 = rarely, 3 = occasionally, 4 = frequently, 5 = always). The percent distribution of responses is summarized in Table 1.

Ordered from most to least frequently used technology during class, we have the MacBook, iPad, and then the iPod Touch (Table 1). Students did not use the iPod Touch; Table One shows that only three out of 44 students used this device, and two of them used it only rarely or occasionally (M = 1.16, SD = 0.68). In contrast, half of the students used iPads and over three-quarter of them used MacBooks frequently or always during class (Table 1). Outside of class, an almost identical distribution of responses emerged

Table 1

Percent Distribution of Frequency of Use of Apple Technology Products (percent symbols are not shown)

TECHNOLOGY	NEVER	RARELY	OCCASIONALLY	FREQUENTLY	ALWAYS	TOTAL
FREQUENCY OF USE DURING CLASS						
IPOD TOUCH	94	2	2	-	2	100%
IPAD	14	21	23	30	12	100%
MACBOOK	-	11	5	11	73	100%
FREQUENCY OF USE OUTSIDE OF CLASS						
IPOD TOUCH	94	2	2	-	2	100%
IPAD	14	20	25	18	23	100%
MACBOOK	2	9	11	23	55	100%

Descriptive Statistics on the Level of Agreement to Survey Statements about Apple Computer Products

Table 2 shows the descriptive statistics on the level of agreement to survey statements about Apple computer products for use when learning Arabic. All (N = 44) students who took the survey answered most of the questions. The highest levels of agreement were with the statements about using MacBook in the classroom assisted me to finish listening activities (survey statement 12), the MacBook will help me in the future to be more proficient in listening skills (survey statement 24), my overall experience with listening activities loaded on the MacBook was positive (survey statement 21) and my overall experience with listening activities loaded on the iPad was positive (survey statement 20).

The four statements that the students agreed with the least were: It was difficult to find the classroom content on the iPad (survey statement 5), the MacBook was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills (survey statement 15), it was difficult to find the classroom content on the MacBook (survey statement 16), and the iPad was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills (survey statement 14). The only two survey statements with neutral or no opinion were the highest agreement levels referred to with Sakai technology.

Table 2

Descriptive Statistics for Instrument A on the Advantages and Disadvantages of Using the iPod Touch, iPad and MacBook to Acquire Listening and Speaking Proficiency in the Arabic Language

Survey Statements	N	MIN	MAX	MEAN	SD
1.1 was familiar with the iPad Touch before taking the arabic basic course.	44	1	5	3.77	1.22
2. I was familiar with the iPad before taking the arabic basic course.	44	1	5	3.89	1.30
3. I was familiar with the MacBook before taking the arabic basic course.	43	1	5	3.09	1.53
4. It was difficult to find the classroom content on the iPod Touch.	43	1	4	2.73	0.69
5. It was difficult to find the classroom content on the iPad.	44	1	4	2.41	1.00
6. It was difficult to find the classroom content on the MacBook.	44	1	4	2.09	0.96
7. IPod Touch was helpful to me in memorization of vocabulary in the speaking skills.	44	1	4	2.93	0.63
8. IPad was helpful to me in memorization of vocabulary in the speaking skills.	43	1	5	3.63	1.00
9. Macbook was helpful to me in memorization of vocabulary in the speaking skills.	44	1	5	3.66	1.03
10. Using iPod Touch in the classroom assisted me to finish listening activities.	44	1	5	2.89	0.66
11. Using iPad in the classroom assisted me to finish listening activities.	44	1	5	3.73	0.66
12. Using MacBook in the classroom assisted me to finish listening activities.	44	2	5	4.61	1.25
13. The iPod Touch was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	44	1	3	2.77	0.61
14. The iPad was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	44	1	4	2.05	0.91
15. The MacBook was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	44	1	5	2.22	1.25
16. Using the SMART Board increased my listening skills.	44	1	5	2.70	1.15
17. Using Sakai increased my listening skills.	44	1	3	2.70	0.71
18. Using Sakai increased my listening skills more	43	1	3	2.86	0.50

than iPod Touch.					
19. My overall experience with listening activities loaded on the iPod Touch was positive.	43	1	5	3.02	0.64
20. My overall experience with listening activities loaded on the iPad was positive.	44	2	5	4.00	0.99
21. My overall experience with listening activities loaded on the MacBook was positive.	44	2	5	4.02	0.90
22. The iPod Touch will help me in the future to be more proficient in listening skills.	43	1	5	3.00	0.70
23. The IPad will help me in the future to be more proficient in listening skills.	44	1	5	3.98	0.98
24. The MacBook will help me in the future to be more proficient in listening skills.	44	1	5	4.30	0.88
25. The iPod Touch recording apps will help me in the future to be more proficient in speaking skills.	43	1	5	2.98	0.57
26. The iPad recording apps will help me in the future to be more proficient in speaking skills.	44	2	5	3.91	0.88
27. The MacBook recording apps will help me in the future to be more proficient in speaking skills.	44	1	5	3.09	0.98

Note. Min = minimum data point value. Max = maximum data point value.

Table 3 shows descriptive statistics that reveal that the students perceived Apple devices as instrumental tools, because the technology motivated the students who, in turn, were more participative in their daily classroom activities. The two survey statements with which students agreed most strongly were: *I paid more attention to the listening task(s) when using the MacBook device* (survey statement 30) and *I paid more attention to the listening task(s) when using the iPad device* (survey statement 28). The two survey statements that students disagreed with the most were: *The authentic material presented by MacBook facilitated my learning of Arabic course material better than face- to-face interaction* (survey statement 36) and *the authentic material presented by iPad facilitated my learning of Arabic course material better than face- to-face interaction* (survey statement 34)

Table 3

Descriptive Statistics for Instrument B on Student Perceptions of Classroom Activities and Learning Using iPad, iPod Touch, and MacBook

Survey Statements	N	Min	Max	Mean	SD
28. I paid more attention to the listening task(s) when using the iPad device.	44	1	5	3.36	1.04
29. I paid more attention to the listening task(s) when using the iPod Touch	44	1	4	2.91	0.42
30. I paid more attention to the listening task(s) when using the MacBook device.	44	2	5	3.93	0.93
31. The iPad recording apps helped me participate in the speaking activities in ways enhanced my learning.	44	1	5	3.34	0.86
32. The iPod Touch recording apps helped me participate in the speaking activities in ways that enhanced my learning.	44	1	4	2.89	0.58
33. The MacBook recording apps helped me participate in the speaking activities in ways that enhanced my learning.	44	1	5	2.77	0.89
34. The authentic material presented by iPad facilitated my learning of Arabic course material better than face- to-face interaction.	43	1	5	2.40	0.93
35. The authentic material presented by iPod Touch facilitated my learning of Arabic course material better than face- to-face interaction.	43	1	4	2.70	0.71
36. The authentic material presented by MacBook facilitated my learning of Arabic course material better than face- to-face interaction.	44	1	5	2.52	1.19

Table 4 shows the descriptive statistics resulting from student ratings of their personal viewpoints on the use of technology in learning Arabic. The three survey statements with which the students agreed most strongly were that *overall, technology makes my life learning Arabic easier* (survey statement 41), *I feel I accomplish more in the class because of technology* (survey statement 40), and *in general, I feel that using MacBook for the Arabic course was very effective* (survey statement 44).

Table 4

Descriptive Statistics for Instrument C on iPad, iPod Touch, and MacBook as Learning Tools

Survey Statements	N	Min	Max	Mean	SD
37. I believe that using the iPad device in class encouraged me to interact more than I normally would with online course materials in the classroom.	44	1	5	3.20	0.95
38. I believe that using the iPod Touch device in class encouraged me to interact more than I normally would with online course materials in the classroom.	44	1	4	2.82	0.54
39. I believe that using the MacBook device in class encouraged me to interact more than I normally would with online course materials in the classroom.	44	2	5	3.73	0.97
40. I feel I accomplish more in the class because of technology.	43	3	5	4.42	0.73
41. Overall, technology makes my life learning Arabic easier.	44	3	5	4.57	0.70
42. In general, I feel that using iPad for the Arabic course was very effective.	44	1	5	3.91	1.07
43. In general, I feel that using iPod Touch for the Arabic course was very effective.	44	1	5	2.98	0.51
44. In general, I feel that using MacBook for the Arabic course was very effective.	44	1	5	4.39	0.81
45. How often did you use the iPod Touch during class for the Basic Arabic Course?	44	1	5	1.16	0.68
46. How often did you use the iPad during class for the Basic Arabic Course?	44	1	5	3.00	1.28
47. How often did you use the MacBook during class for the Basic Arabic Course?	44	2	5	4.45	1.02
48. How often did you use the iPod Touch outside of class for the Basic Arabic course?	43	1	5	1.16	0.69
49. How often did you use the iPad outside of class for the Basic Arabic Course?	44	1	5	3.16	1.36
50. How often did you use the MacBook outside of class for the Basic Arabic Course?	44	1	5	4.18	1.11

Section 2

Research Question 1: How do students perceive the effectiveness of the incorporation of the latest technological innovations into their daily learning of the Arabic language?

The data that was used to address research question one was measured using a five-point Likert scale for the level of agreement (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). Survey statements embedded in the text are italicized to ease of recognition.

This question was addressed by five specific survey statements. Each statement is presented in its own subsection below. Subsections refer to the role of technology in enhancing listening activities in the classroom, current and future listening skills, speaking skills, as well as technology as a nuisance to learning Arabic. This section illustrates student views using figures.

Technology as an Aid to Finishing Listening Activities

iPod Touch as an aid to finishing listening activities. Student participants were asked about the extent to which they agreed that *using iPod Touch in the classroom assisted me to finish listening activities* (survey statement 10). Figure 10 shows that the majority (84%) gave a neutral response (did not have an opinion). Of the few remaining students, 11% disagreed and five percent agreed (M = 2.89, SD = 0.66).

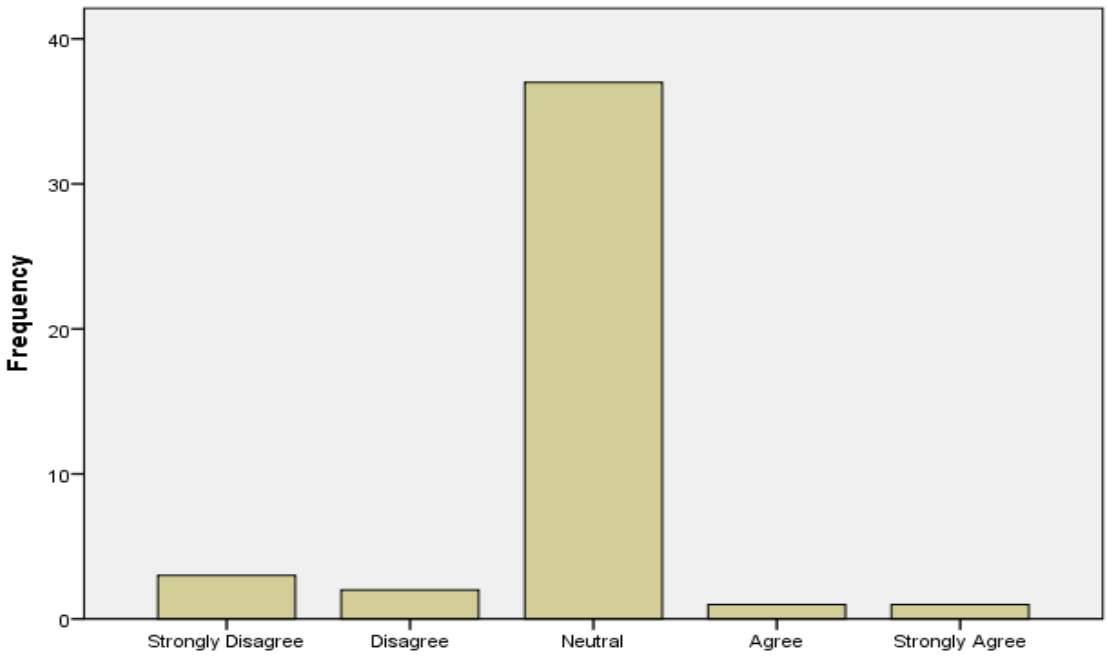

Figure 10. Level of agreement with using an iPod Touch helped students to finish listening activities when studying Arabic

iPad as an aid to finishing listening activities. In response to the survey statement - *Using iPad in the classroom assisted me to finish listening activities* (survey statement 11) - a little over half of the students, 57% exactly, agreed or strongly agreed that the iPad helped them finish their listening activities (Figure 11). In contrast, 24% were neutral and 19% disagreed or strongly disagreed (M = 3.73, SD = 0.66).

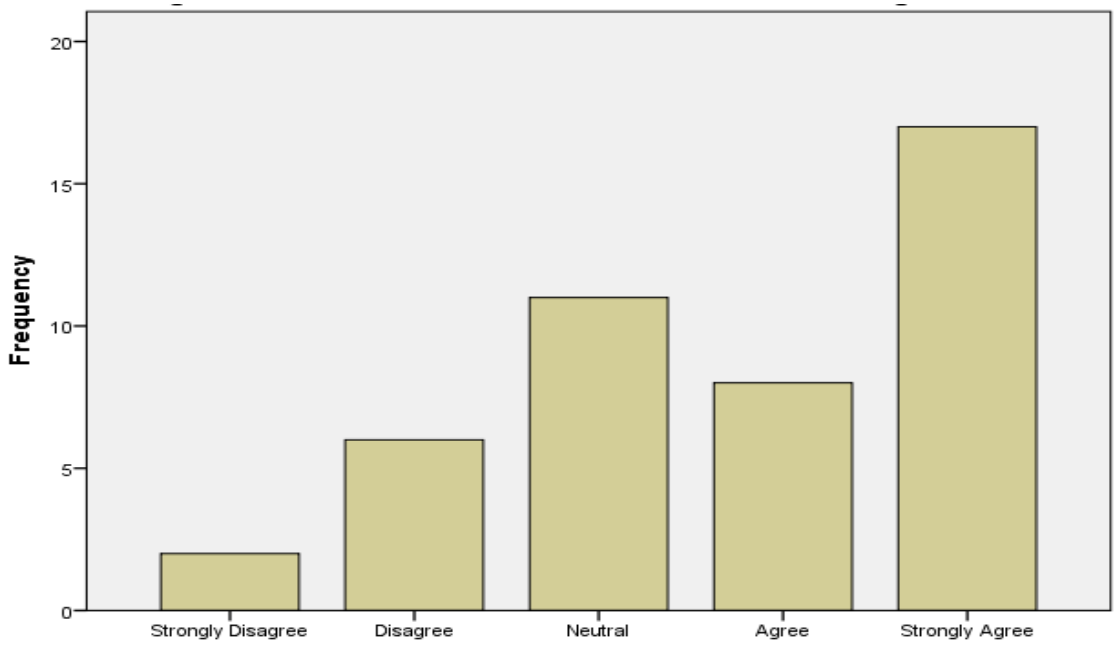

Figure 11. Level of agreement with which using an iPad helped students to finish listening activities when studying Arabic

MacBook as an aid to finishing listening activities. The majority of student participants (95%) agreed or strongly agreed that the MacBook helped them to finish their listening activities (Figure 12). The remaining five percent either did not have an opinion or disagreed with the statement (M = 4.61, SD = 1.25).

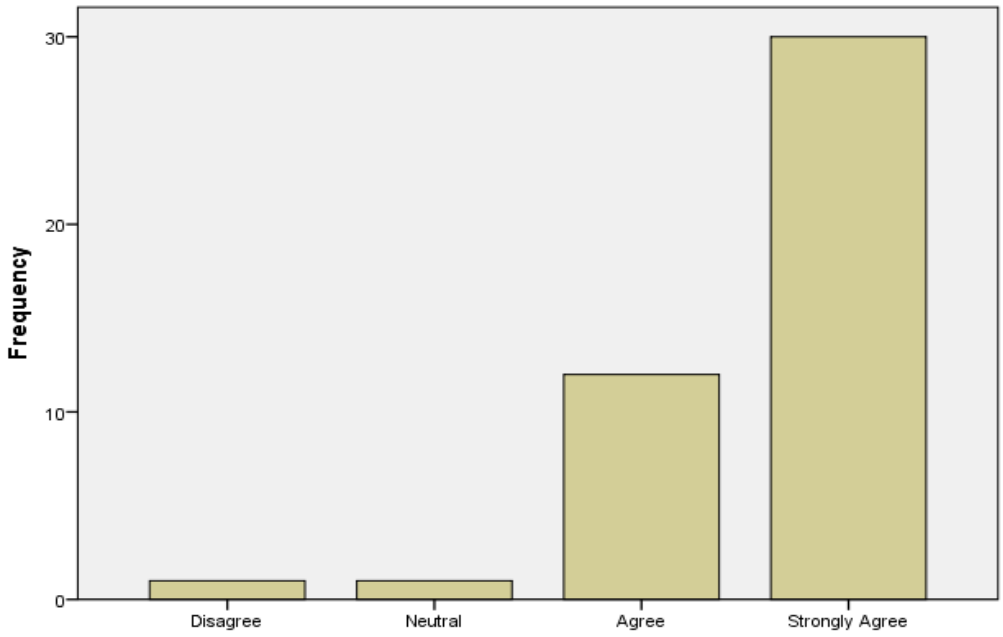

Figure 12. Level of agreement that using a MacBook helped students to finish listening activities when studying Arabic

Listening Activities and the Overall Experience of using Technology

iPod Touch as positive for listening activities. Student participants were asked about their level of agreement with the statement: *My overall experience with listening activities loaded on the iPod Touch was positive.* Similar to their perceptions of the iPod Touch in helping them finish their learning activities, 88% reported that their *overall experience with listening activities loaded on the iPod Touch* was neutral (Figure 13). Only seven percent found that it was negative and five percent related that it was positive (M = 3.02, SD = 0.64).

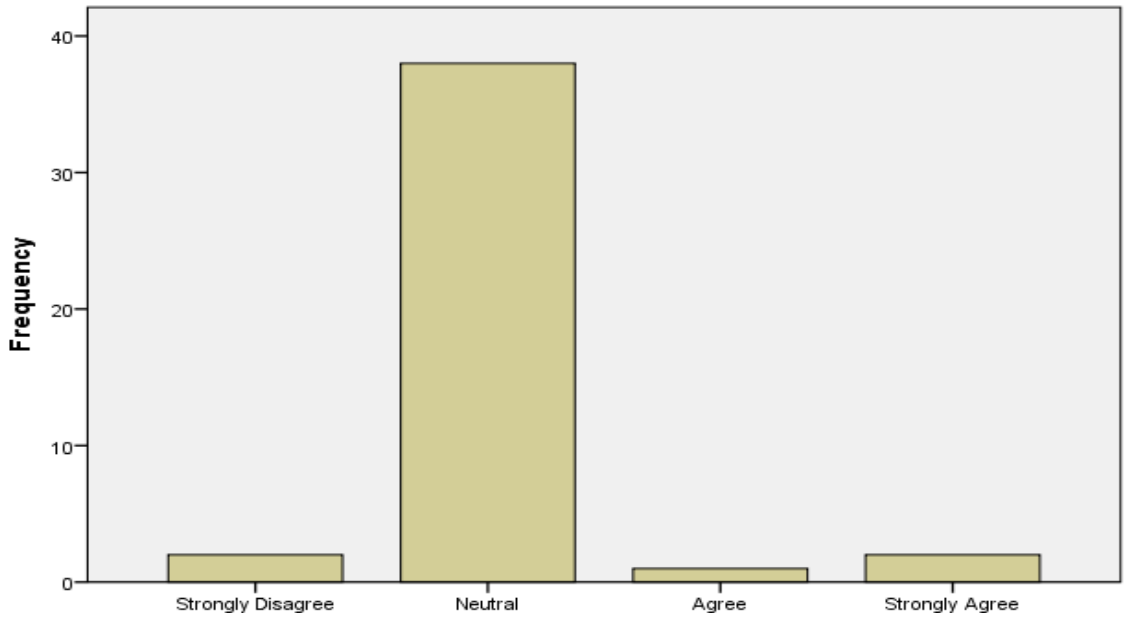

Figure 13. Level of agreement that the overall student experience with listening activities loaded on the iPod Touch was positive when studying Arabic

iPad as positive for listening activities. Figure 14 shows the distribution of responses to the survey statement: *My overall experience with listening activities loaded on the iPad was positive*. Most of the students (70%) agreed or strongly agreed that the overall experience using an iPad for listening activities was positive. Of the remaining students, 20% did not have an opinion and about half as many (nine percent) found that the experience was negative (M = 4.00, SD = 0.99).

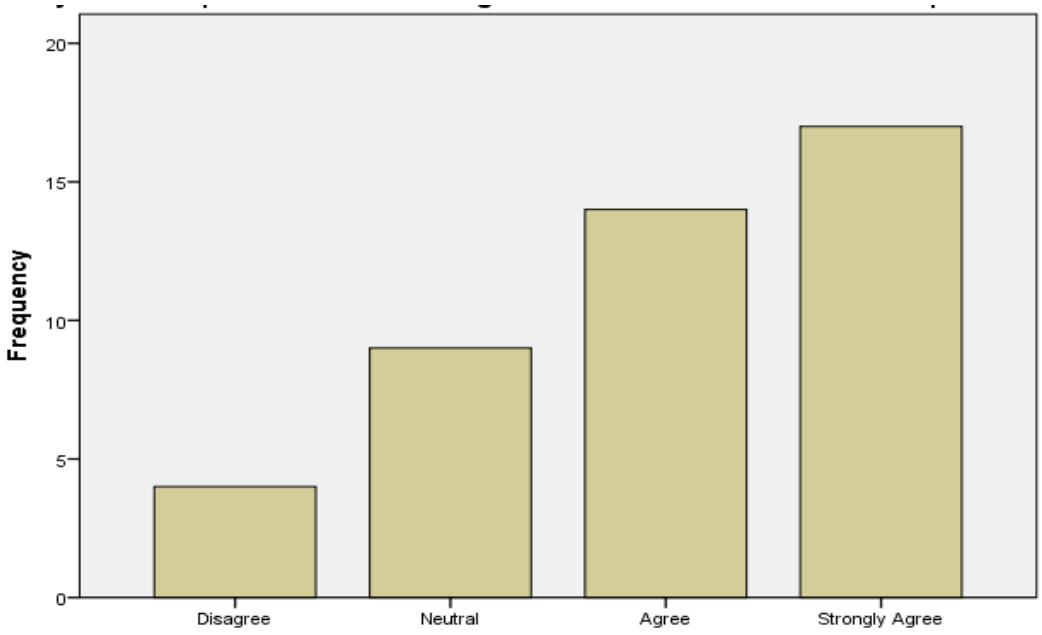

Figure 14. Level of agreement that the overall student experience with listening activities loaded on the iPad was positive when studying Arabic

MacBook as positive for listening activities. Figure 15 shows student participants' levels of agreement to the statement: *My overall experience with listening activities loaded on the MacBook was positive.* The majority (84%) agreed or strongly agreed that using a MacBook with listening activities associated with learning Arabic was positive. Only 5% disagreed and 11 % were neutral (M = 4.02, SD = 0.90).

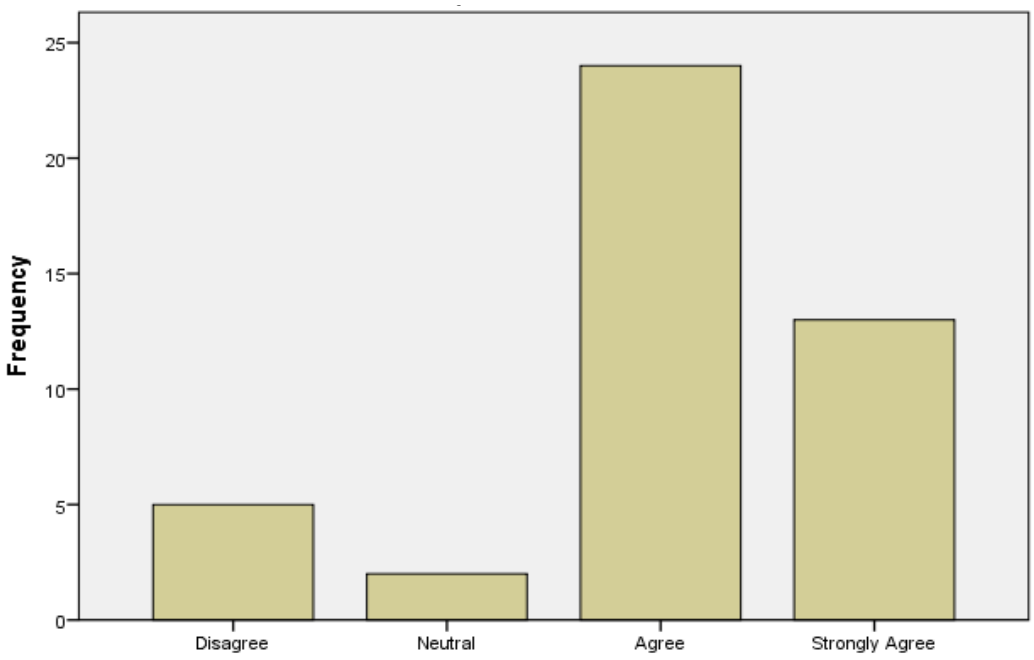

Figure 15. Level of agreement that the overall student experience with listening activities loaded on a MacBook was positive when studying Arabic

Technology and Increasing Listening Skills

Related survey statements asked about the extent to which technology helped students increase their listening skills. One of these referred to SMART Boards and the other referred to Sakai.

SMART Boards as tools for increasing listening skills. The statement was: *Using the SMART Board increased my listening skills.* Figure 16 shows that more participants disagreed or strongly disagreed (41%) than otherwise. About a third, or 30%, agreed that SMART Boards increased listening skills, while the remaining 29% did not have an opinion. Note that on Figure 16 only one person strongly agreed that using the SMART Board increased their listening skills (M = 2.70, SD = 1.15).

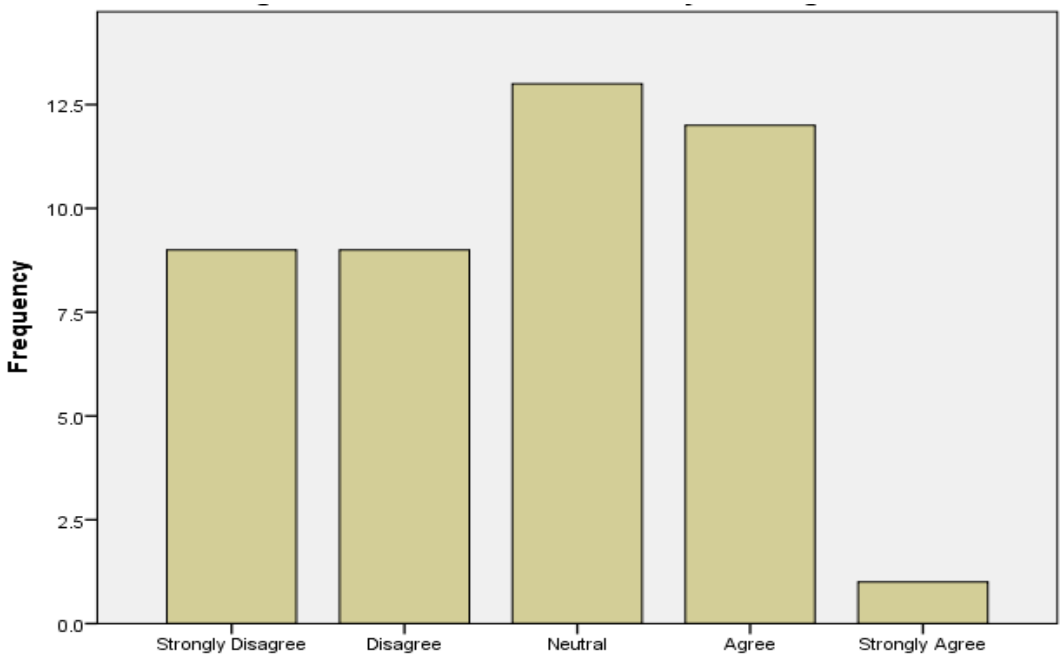

Figure 16. Level of agreement on SMART Boards as a tool for increasing listening skills

Sakai as a tool for increasing listening skills. A related survey statement was: *Using Sakai increased my listening skills.* Figure 17 shows that none of the participants agreed with this statement. The majority (84%) were neutral. The remaining participants strongly disagreed with the statement and only one person simply disagreed with it (M = 2.70, SD = 0.71).

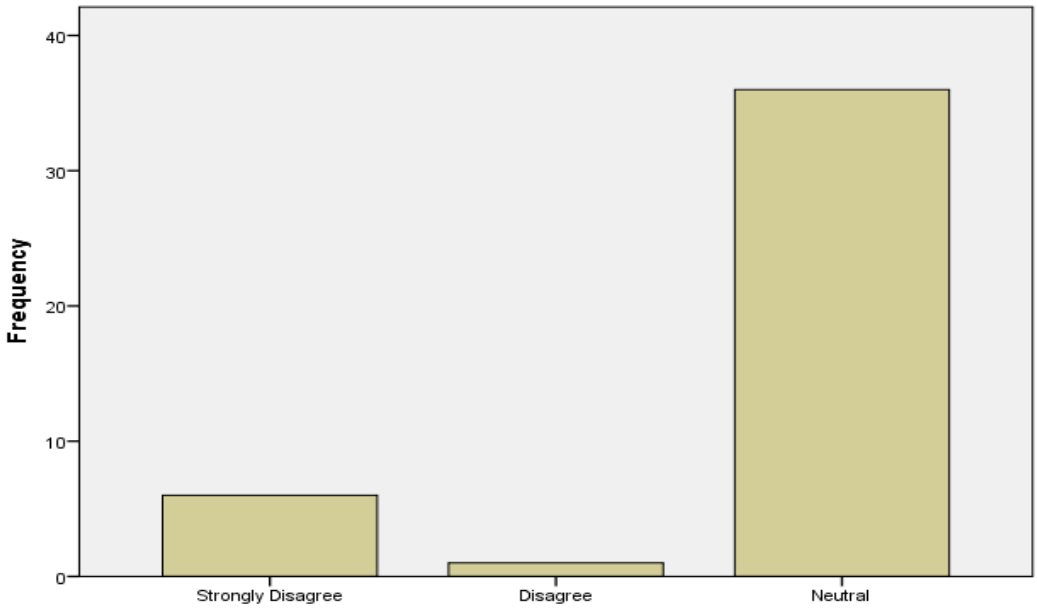

Figure 17. Level of agreement on Sakai as a tool for increasing listening skills

Sakai as a tool for increasing listening skills compared to iPod Touch. One of the survey statements asked student participants to compare Sakai to the iPod Touch as useful tools for increasing listening skills when learning Arabic: *Using Sakai increased my listening skills more than iPod Touch*. Figure 18 shows that virtually all of the students (95%) gave a neutral response, indicating that they did not have an opinion. Just five percent strongly disagreed that Sakai increased listening skills more than iPod Touch (M = 2.86, SD = 0.51).

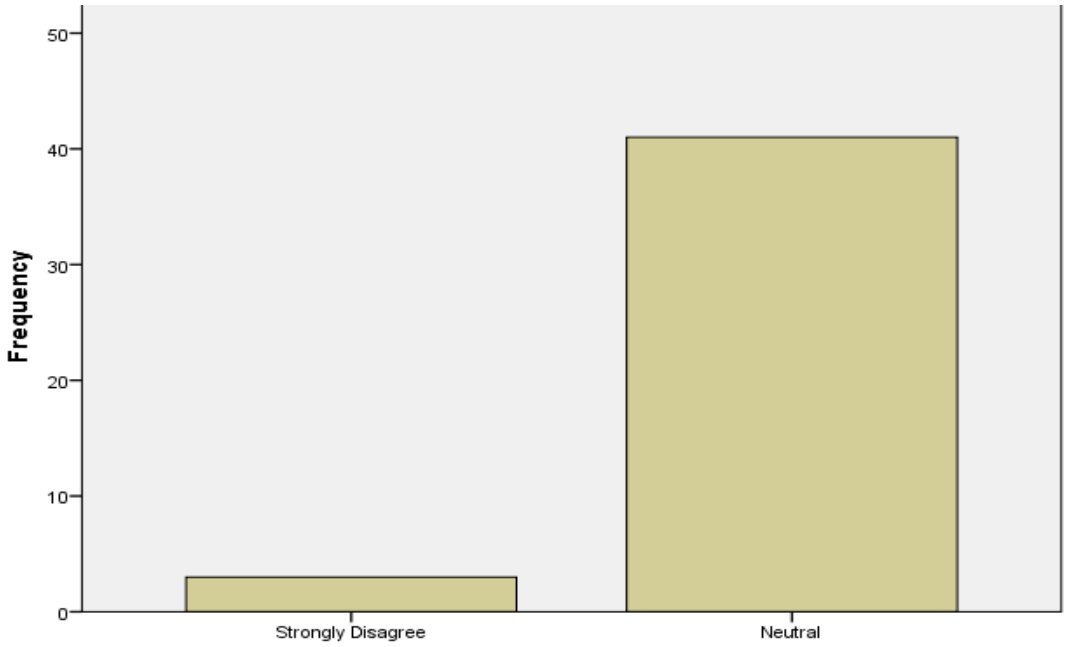

Figure 18. Agreement that Sakai increases listening skills better than iPod Touch

Technology as Tools for Improving Proficiency in Future Listening Skills

A set of survey statements asked student participants to evaluate various forms of technology as tools that could help with future proficiency in listening skills. The technologies included were the iPod Touch, iPad, and MacBook.

iPod Touch as tool for improving proficiency in future listening skills. This survey statement was: *The iPod Touch will help me in the future to be more proficient in listening skills.* Approximately 90% of the students chose neutral as their response, with just one person each selecting the remaining categories (Figure 19; M = 3.00, SD = 0.69).

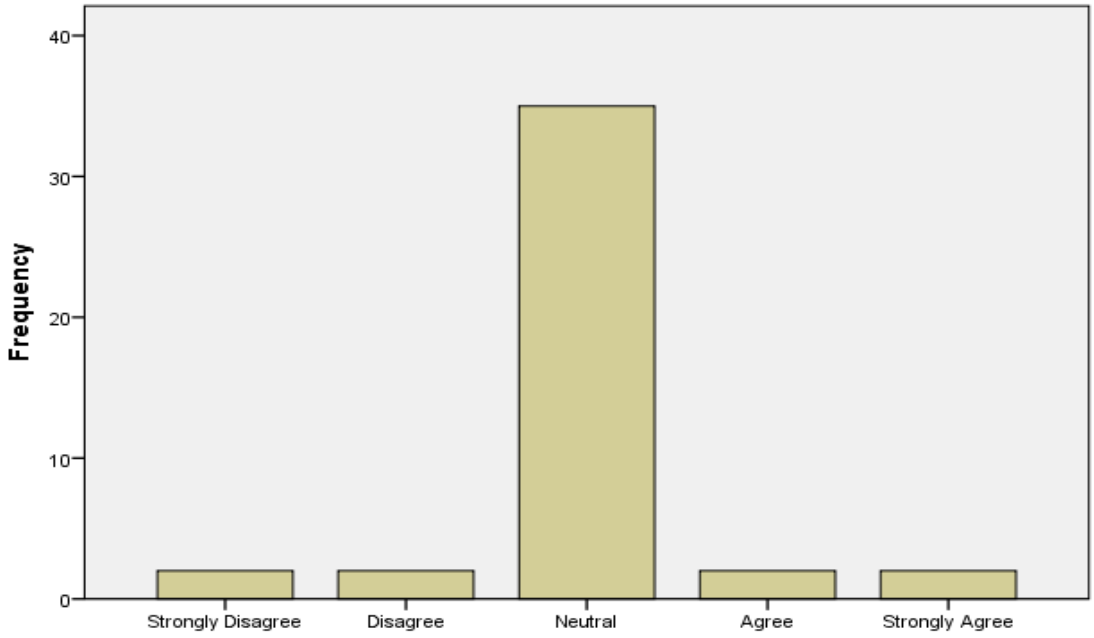

Figure 19. Level of agreement that an iPod Touch will help develop greater listening skills in the future

iPad as tool for improving proficiency in future listening skills. Figure 20 illustrates the distribution of levels of agreement to the statement - *the iPad will help me in the future to be more proficient in listening skills* - and shows that student participants strongly favor the iPad as a tool for developing future proficiency in listening skills. Most of them (77%) agreed or strongly agreed with the statement, which was eight times as many as those who disagreed, which was just nine percent. Only 14% gave a neutral response (M = 3.98, SD = 0.98).

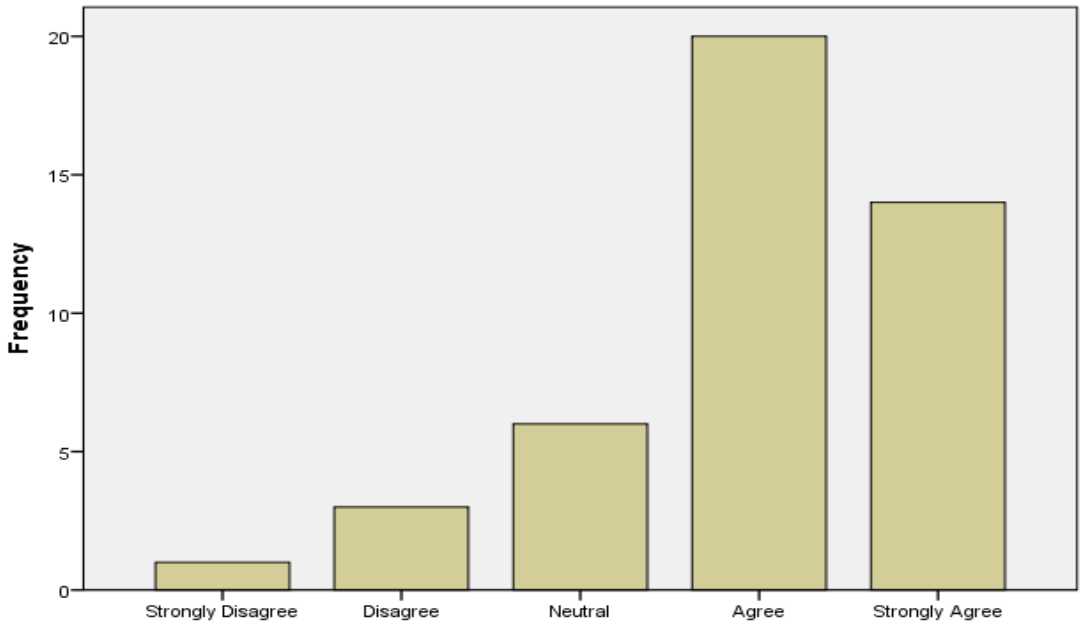

Figure 20. Level of agreement that an iPad will help develop greater listening skills in the future.

MacBook as tool for improving proficiency in future listening skills. Figure 21 illustrates the range of responses to the survey statement: *The MacBook will help me in the future to be more proficient in listening skills.* Almost all of the students (88%) agreed or strongly agreed that the MacBook will help them become proficient in these listening skills in the future. Just five percent disagreed and seven percent did not have an opinion (M = 4.30, SD = 0.88).

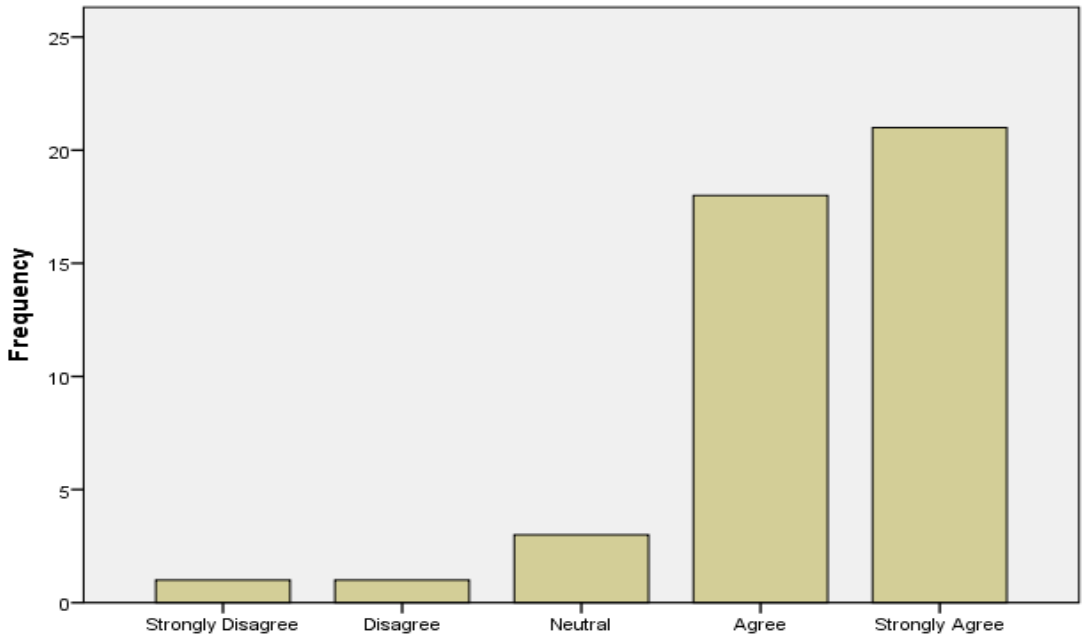

Figure 21. Level of agreement that a MacBook will help develop greater listening skills in the future

Technology in the Development of Speaking Skills

To this point in the results, data has referred to listening skills. In this section, data will refer to the utilization of technology, specifically recording applications (recording apps), in the development of future speaking skills. Student reviews of the iPod Touch, iPad, and MacBook are given.

iPod Touch recording apps as a tool for future proficiency in speaking skills. The associated survey statement was: *The iPod Touch recording apps will help me in the future to be more proficient in speaking skills*. Figure 22 shows that almost all the students (90%) indicated that they were neutral, five percent disagreed, and five percent agreed (M = 2.98, SD = 0.56).

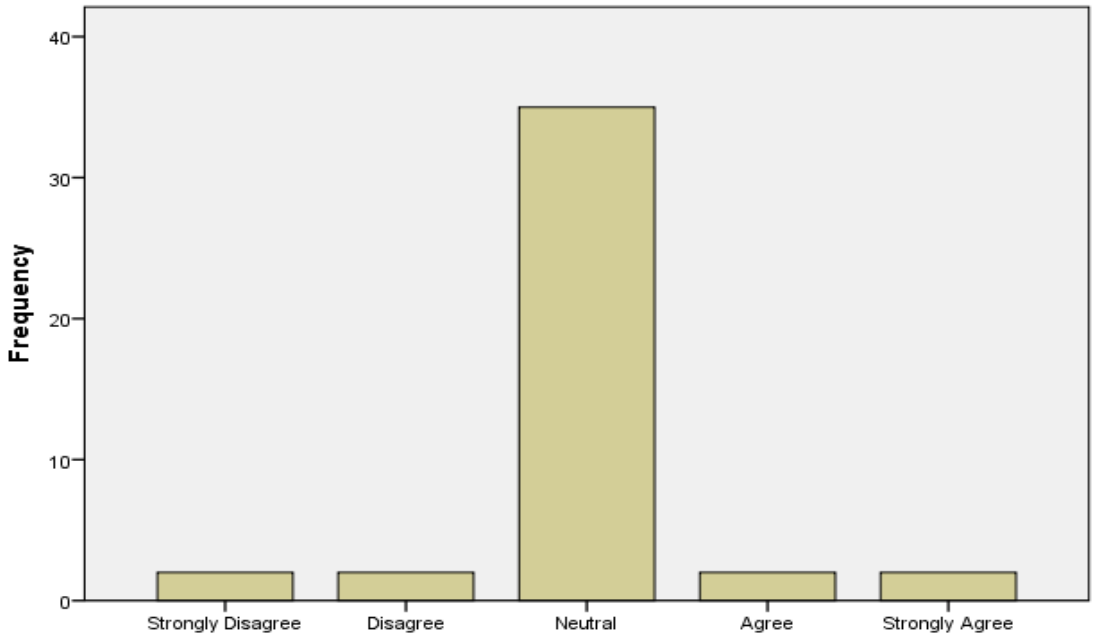

Figure 22. Level of agreement that iPod Touch recording apps will help me develop greater proficiency in speaking skills in the future

iPad recording apps as a tool for future proficiency in speaking skills.

Students responded to the following survey statements - *the iPad recording apps will help me in the future to be more proficient in speaking skills* - as shown in Figure 23. Two-thirds of the students, or 67%, agreed or strongly agreed that the iPad recording app will help them develop more proficient listening skills in the future. About a third, or 29%, had no opinion while just four percent disagreed (M = 3.91, SD = 0.88).

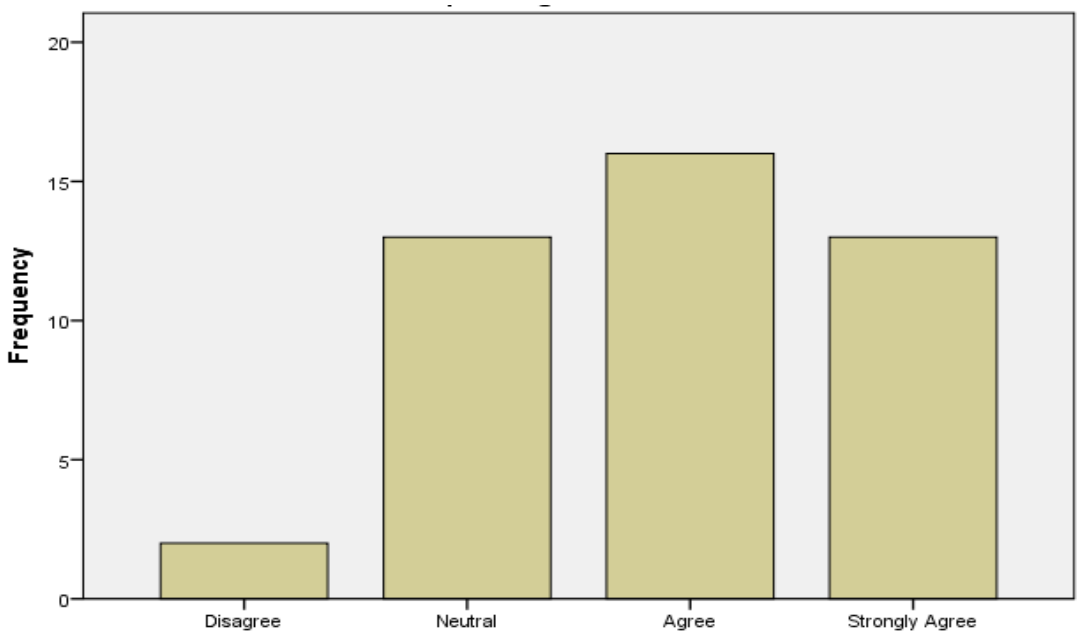

Figure 23. Level of agreement that an iPad recording apps will help me develop greater proficiency in speaking skills in the future

MacBook recording apps as a tool for future proficiency in speaking skills.

Students responded to the following survey statement - *the MacBook recording apps will help me in the future to be more proficient in speaking skills* . Figure 24 shows that almost all of the students approximately 78% agreed, or strongly agreed about the utility of MacBook recording apps as tools for developing future proficiency in speaking a foreign language, 18% had no opinion and 4% disagreed. (M = 3.09, SD = 0.98).

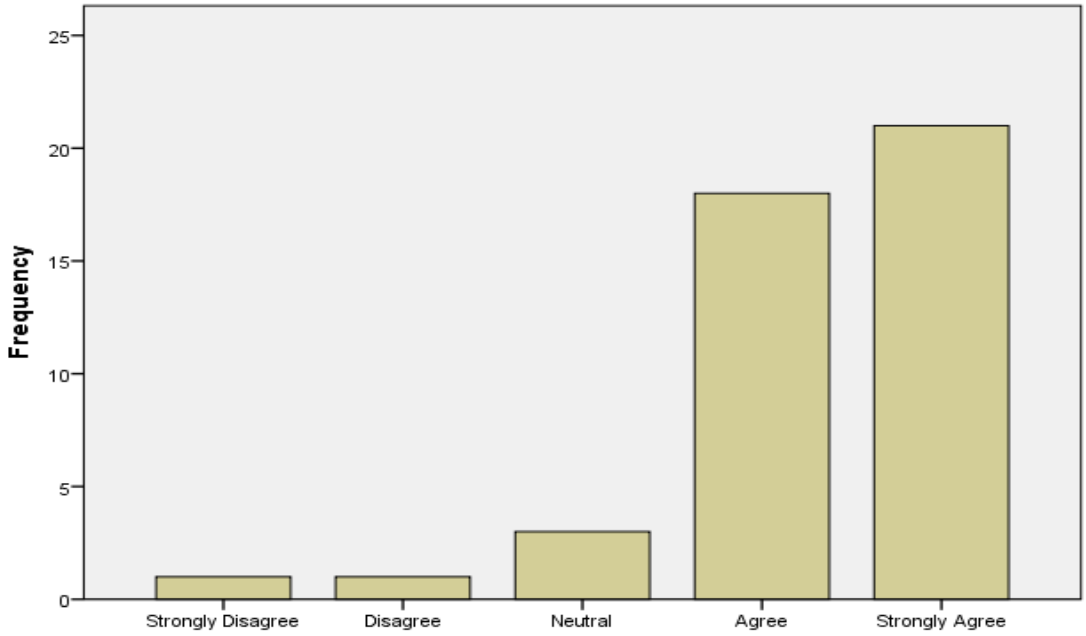

Figure 24. Level of agreement that MacBook recording apps will help me develop greater proficiency in speaking skills in the future

Technology as a Nuisance

To this point, research question one was addressed by asking about the positive side of technology in learning Arabic. This section asks if technology is a nuisance when it is in the form of the iPod Touch or iPad.

iPod Touch as a nuisance. Student participants were asked about their level of agreement with the statement: *The iPod Touch was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills*. Figure 25 shows that 93% of students did not have an opinion. The remaining seven percent disagreed or strongly disagreed (M = 2.77, SD = 0.61).

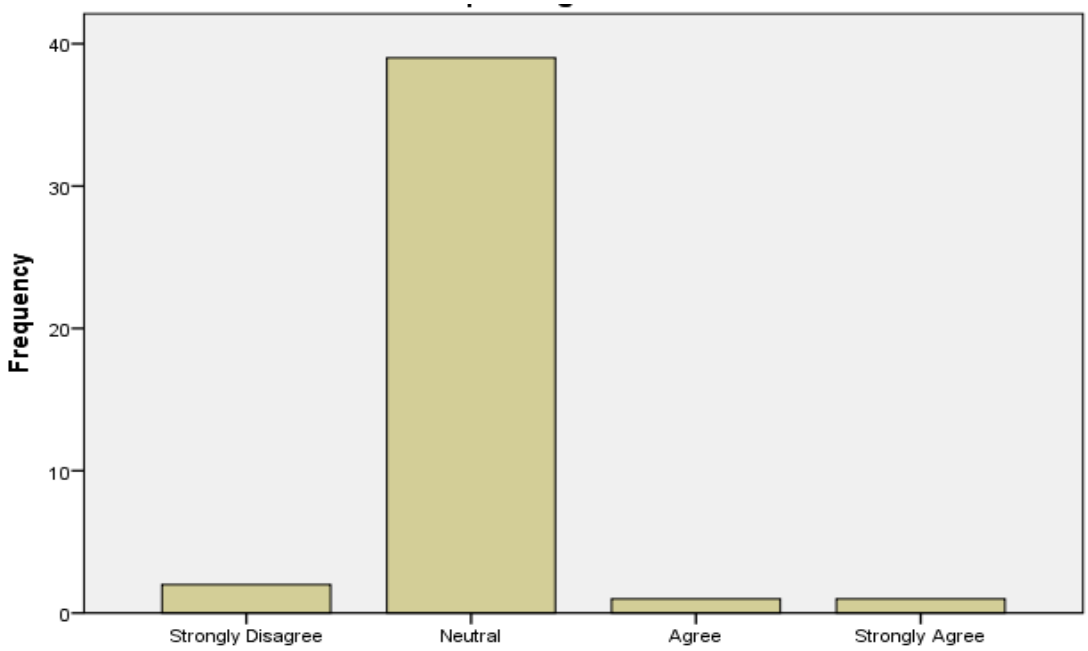

Figure 25. Level of agreement that iPod Touch was a nuisance in learning Arabic

iPad as a nuisance. Nearly three-quarters, or 70%, of the student participants disagreed or strongly disagreed that *the iPad was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills* (Figure 26). About a quarter, or 23%, were neutral and just seven percent agreed that the iPad was a nuisance (M = 2.05, SD = 0.91).

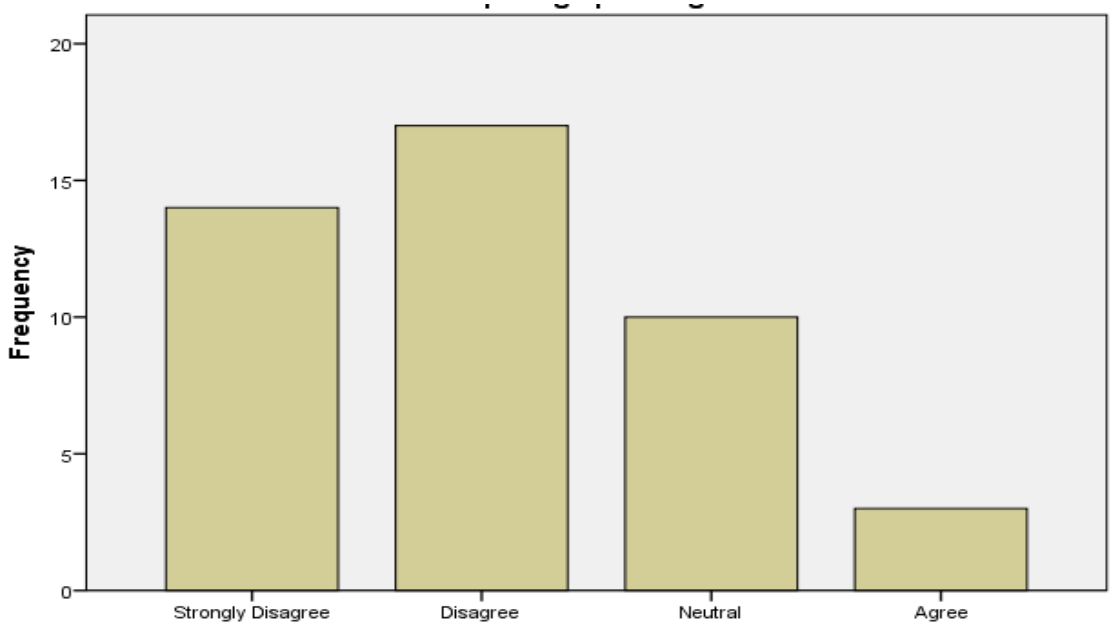

Figure 26. Level of agreement that iPad was a nuisance in learning Arabic

MacBook as a nuisance. Nearly 61% of the student participants disagreed or strongly disagreed that *the MacBook was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills* (Figure 27). About 12% agreed and 27% were neutral. For this question, the mean was 2.20 and the standard deviation was 1.26.

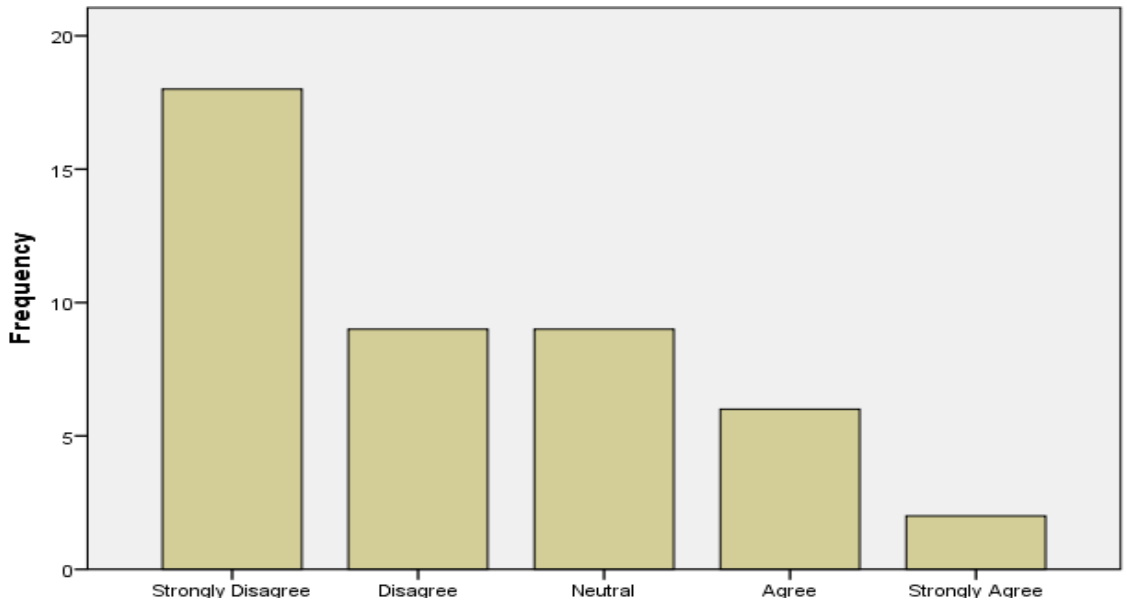

Figure 27. Level of agreement that MacBook was a nuisance in learning Arabic.

Section 3

Research Question 2: What devices and tools do students think best promote language proficiency in listening and speaking?

This question is addressed below in three subsections. Each subsection is associated with a specific question. Specific questions refer to the role of technology in enhancing student attention to listening tasks, in enhancing student participation in speaking activities, and in the utility of using authentic Arabic material.

The data that was used to address research question two was measured on a five-point Likert scale of level of agreement (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). Survey statements embedded in the text are italicized to ease recognition.

Technology as Enhancing Student Attention to Listening Tasks

iPod Touch as enhancing student attention to listening tasks. The survey statement in this section was: *I paid more attention to the listening task(s) when using the iPod Touch device.* In Figure 28, it is shown that the majority of students (89%) did not have an opinion. Nine percent of the students disagreed and only two percent agreed (M = 2.91, SD = 0.42).

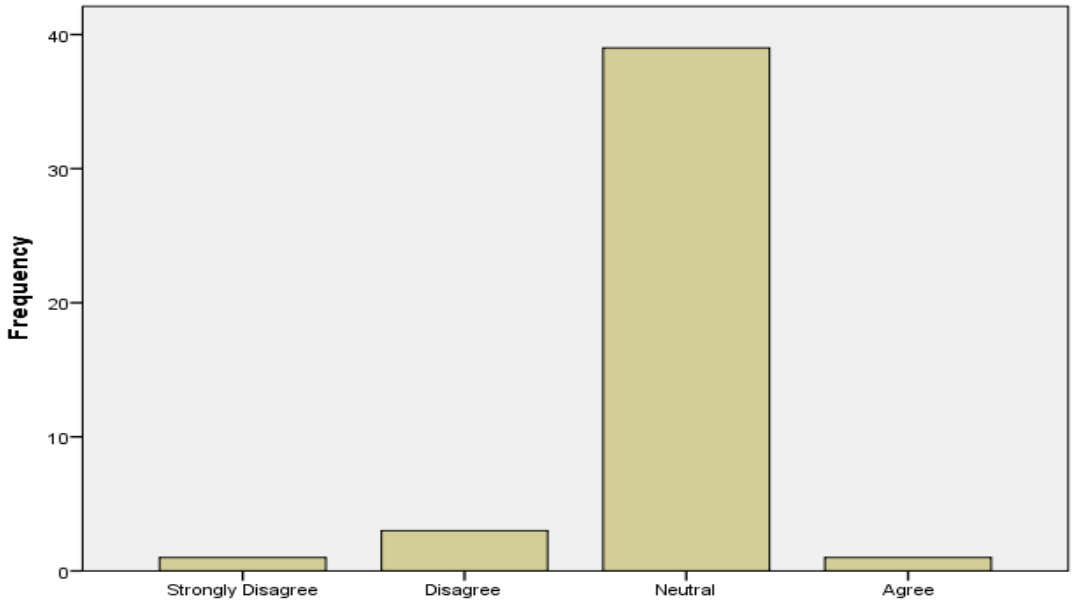

Figure 28. Level of agreement that an iPod Touch increased student attention to listening tasks when learning Arabic

iPads as enhancing student attention to listening tasks. The survey statement in this section was, *I paid more attention to the listening task(s) when using the iPad device.* Forty-four percent of the students agreed, 20% disagreed, and 36% did not have an opinion (Figure 29; M = 3.36, SD = 1.04).

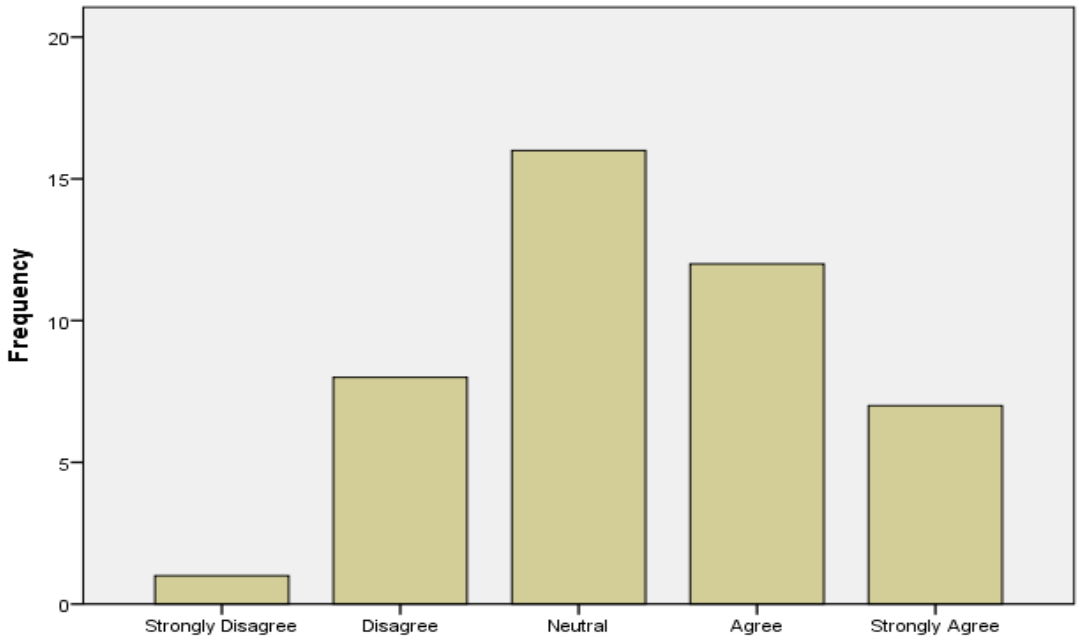

Figure 29. Level of agreement that iPads increased student attention to listening tasks when learning Arabic

MacBooks as enhancing student attention to listening tasks. Figure 30 shows student responses to the survey statement: *I paid more attention to the listening task(s) when using the MacBook device.* Most agreed or strongly agreed (68%), compared to a quarter, or 25%, who did not have an opinion and seven percent who disagreed with the statement (M = 3.93, SD = 0.93).

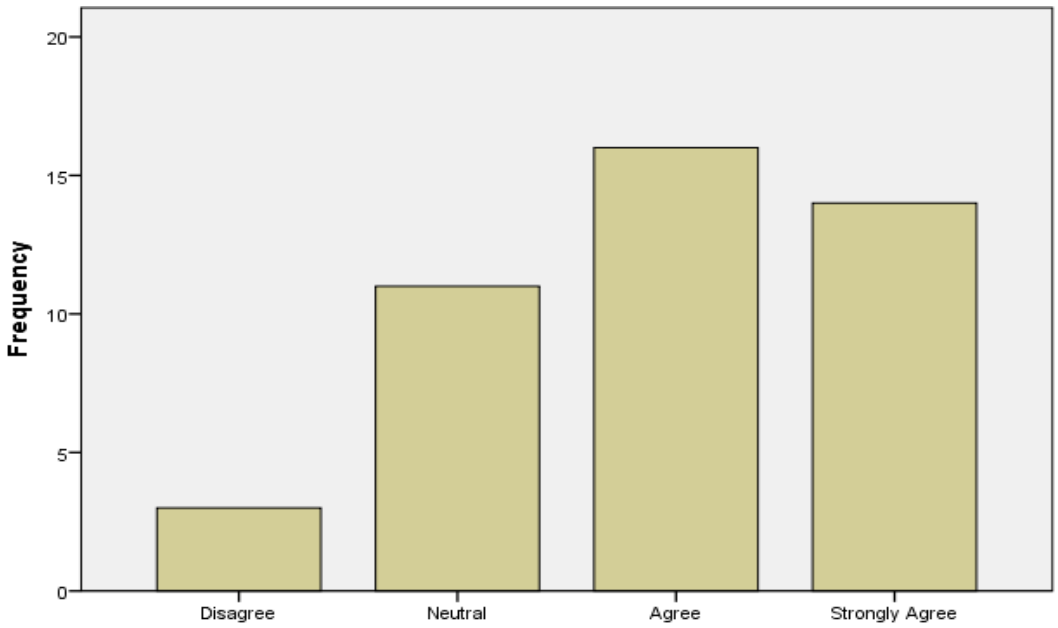

Figure 30. Level of agreement that MacBooks increased student attention to listening tasks when learning Arabic

Technology Recording Applications Encouraging Participation in Speaking Activities

iPod Touch recording apps encouraging student participation in speaking activities. The survey statement was: *The iPod Touch recording apps helped me participate in the speaking activities in ways that enhanced my learning*. Figure 31 shows that the majority of students (86%) reported that they had no opinion about the iPod Touch recording apps, compared to five percent who agreed with the statement and nine percent who disagreed (M = 2.89, SD = 0.58).

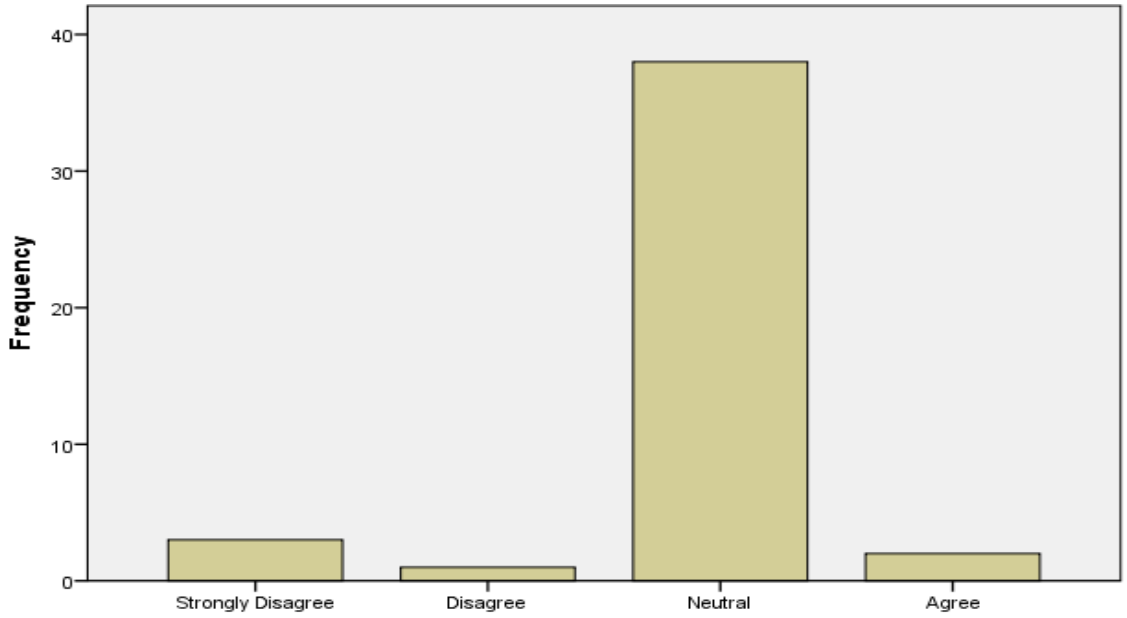

Figure 31. Level of agreement on iPod Touch recording applications helping students participate in speaking activities that enhanced learning the Arabic language

iPad recording apps encouraging student participation in speaking activities.

The survey statement was: *The iPad recording apps helped me participate in the speaking activities in ways that enhanced my learning*. Figure 32 shows that students were approximately split between having no opinion (41%) and agreeing or strongly agreeing (45%) about iPad recording apps enhancing their participation in speaking activities while learning Arabic. Just 14% disagreed with the statement (M = 3.34, SD = 0.86).

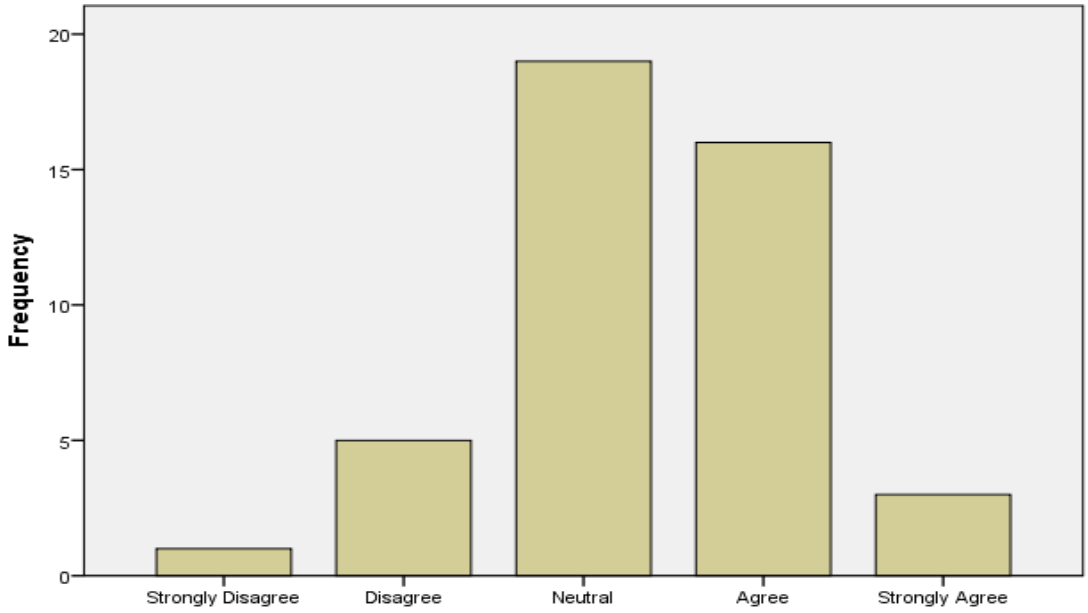

Figure 32. Level of agreement on iPad recoding applications helping students participate in speaking activities that enhanced learning the Arabic language

MacBook recording apps encouraging student participation in speaking activities. This section shows the students' agreement to the survey statement: *The MacBook recording apps helped me to participate in the speaking activities in ways that enhanced my learning*. In figure 33, about half of the students (52%) did not have an opinion, whereas 32% disagreed and half as many more (16%) agreed (M = 2.77, SD = 0.89).

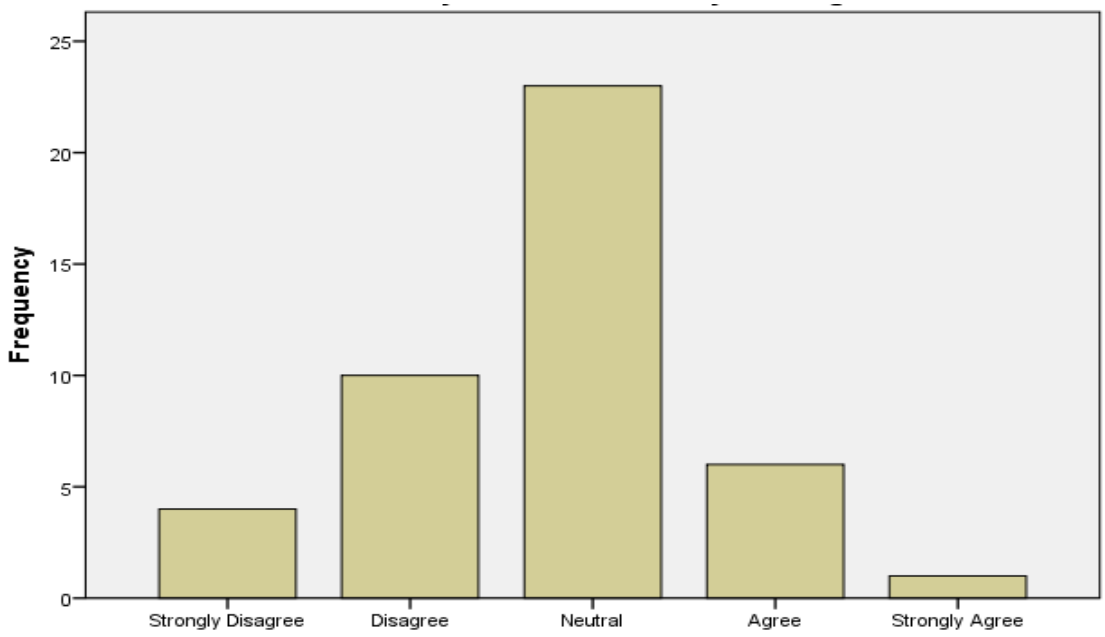

Figure 33. Level of agreement on MacBook recoding applications helping students participate in speaking activities that enhanced learning the Arabic language

Technology-based Authentic Material as Facilitator of Learning Arabic

This subsection presents student perspectives on the idea that technology provides more authentic material that facilitates learning Arabic. In order, "technology" consists of the iPod Touch, iPad, and Macbook products, respectively.

iPod Touch-based authentic material as facilitator of learning Arabic. Figure 34 shows the levels of agreement with the survey statement: *The authentic material presented by iPod Touch facilitated my learning of Arabic course material better than face-to-face interaction.* Almost all of the students (77%) had no opinion. In comparison, 21% disagreed and only two percent agreed (M = 2.70, SD = 0.71).

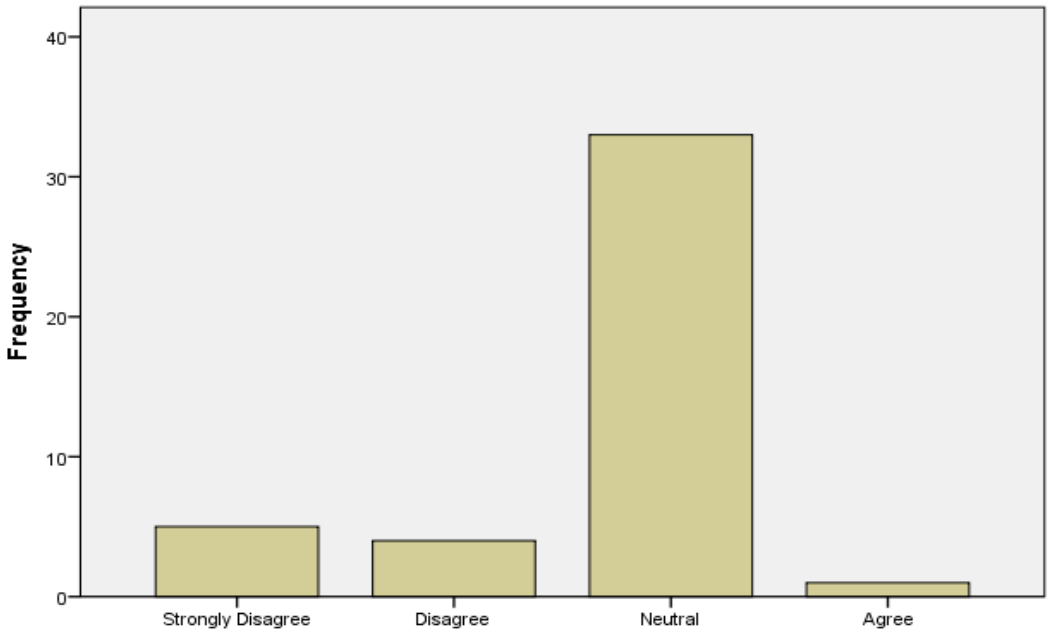

Figure 34. Levels of agreement with iPod Touch providing authentic Arabic material compared to face-to-face learning

iPad-based authentic material as facilitator of learning Arabic. Figure 35 illustrates the extent to which the participants agreed with the survey statement: *The authentic material presented by iPad facilitated my learning of Arabic course material better than face- to-face interaction*. Approximately 65% reported that they disagreed. In comparison, just 14% agreed and 21% had no opinion (M = 2.40, SD = 0.93).

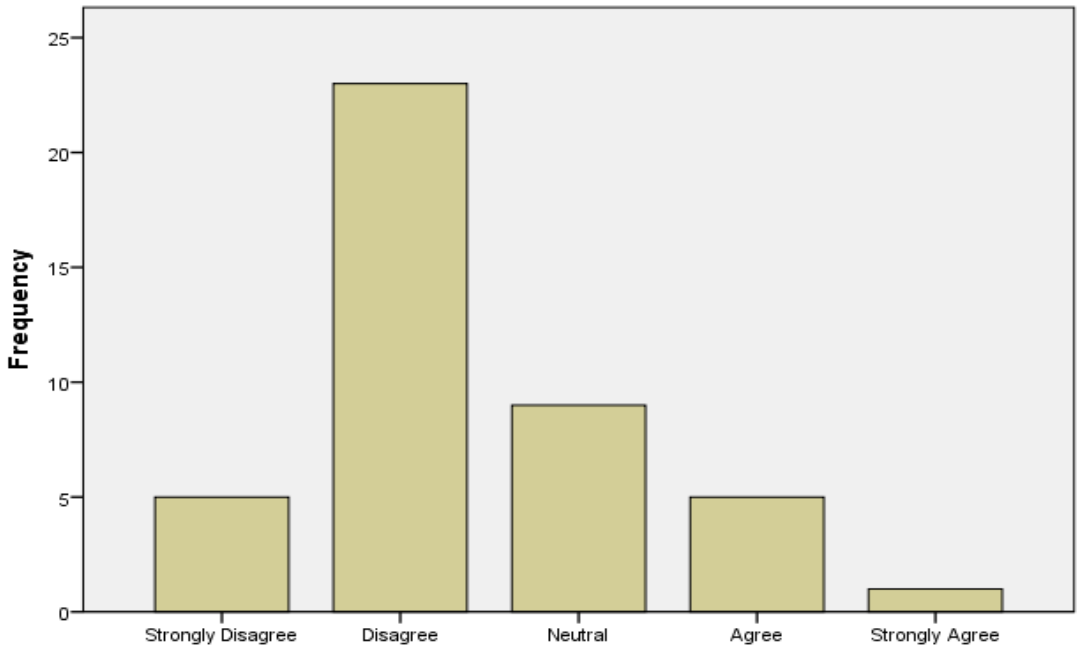

Figure 35. Levels of agreement with iPad providing authentic Arabic material compared to face-to-face learning

MacBook-based authentic material as facilitator of learning Arabic. Figure 36 illustrates the students' responses to the survey statement: *The authentic material presented by MacBook facilitated my learning of Arabic course material better than face-to-face interaction*. Approximately 61% of the students disagreed, whereas just 25% agreed and 14% had no opinion (M = 2.52, SD = 1.19).

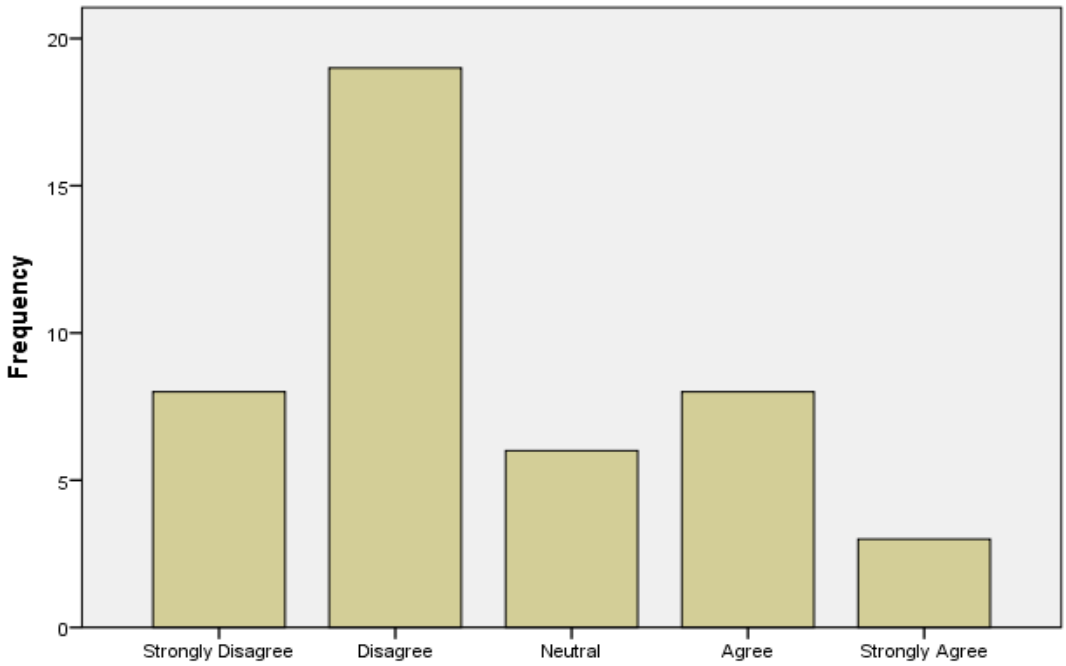

Figure 36. Levels of agreement with MacBook providing authentic Arabic material compared to face-to-face learning

Section 4

Research Question 3: How is the usefulness of Apple devices perceived in comparison to Web-based tools in developing listening and speaking skills? This section shows how students responded to statements that technology encouraged them to exhibit a greater interaction with online course materials. The data for research question three was measured on a five-point Likert scale of level of agreement (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). Survey statements embedded in the text are italicized to ease recognition.

iPod Touch as encouragement to exhibit greater participation. Figure 37 shows student responses to the survey statement: *I believe that using the iPod touch device in class encouraged me to interact more than I normally would with online course materials in the classroom*. Most of the students (82%) stated that they did not have an

opinion. More students disagreed (16%) than agreed (two percent), and no responses agreed strongly (M = 2.82, SD = 0.54).

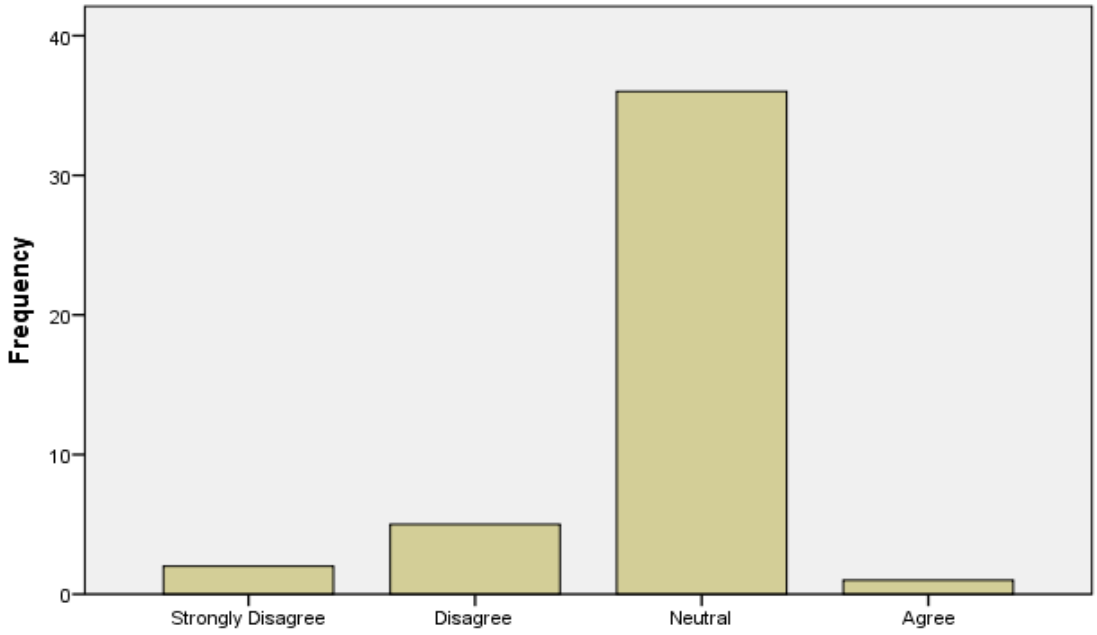

Figure 37. Level of agreement that iPod Touch encouraged greater student interaction with course material when learning Arabic

iPad as encouragement to exhibit greater participation. Figure 38 shows that nearly twice as many students agreed (41%) as disagreed (25%) with the survey statement: *I believe that using the iPad device in class encouraged me to interact more than I normally would with online course materials in the classroom*. Meanwhile, 34% of students did not have an opinion (M = 3.20, SD = 0.95).

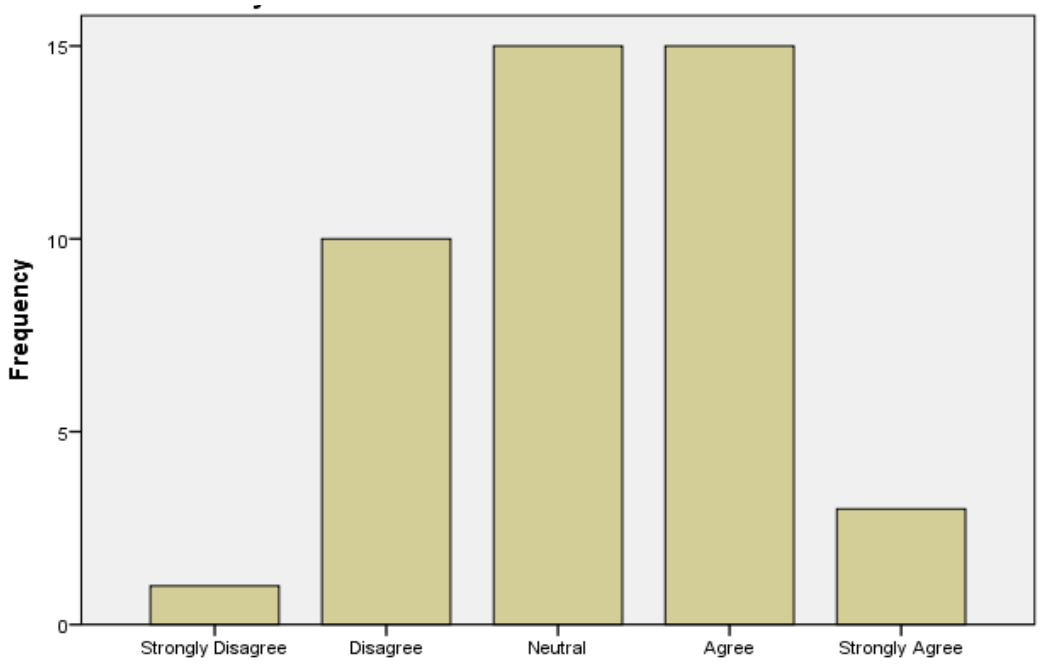

Figure 38. Level of agreement that iPad encouraged greater student interaction with course material when learning Arabic

MacBook as encouragement to exhibit greater participation. Students were asked to report their level of agreement with the survey statement: *I believe that using the MacBook device in class encouraged me to interact more than I normally would with online course materials in the classroom*. Figure 39 shows that 63% agreed or strongly agreed, whereas 14% disagreed and 23% did not have an opinion (M = 3.73, SD = 0.98).

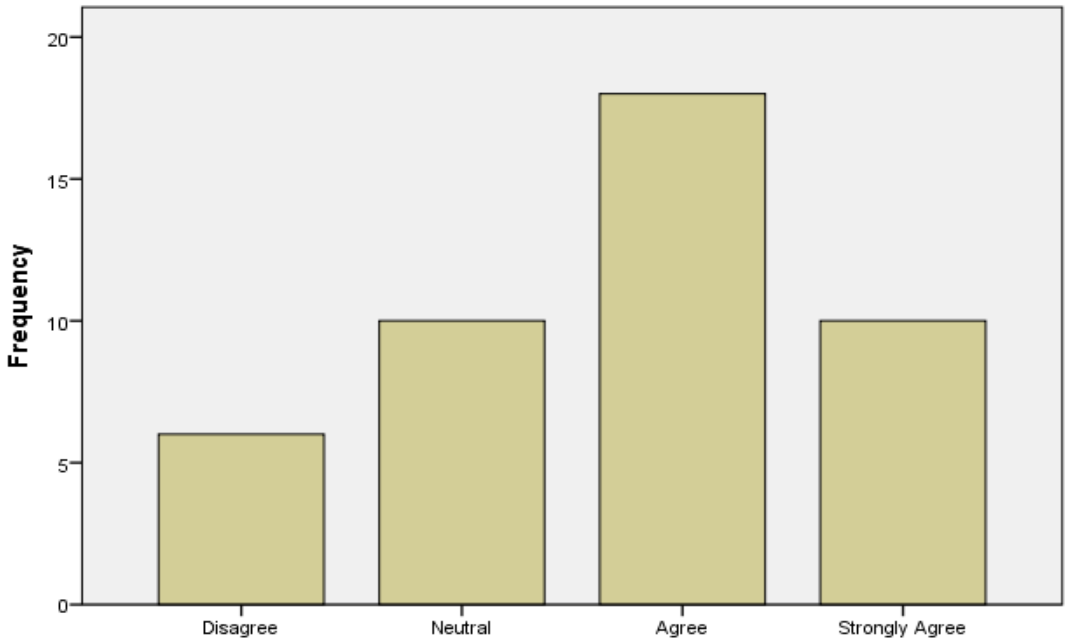

Figure 39. Level of agreement that MacBook encouraged greater student interaction with course material when learning Arabic

Technology Leading to Greater Student Accomplishment in Class

Students were asked about their level of agreement with the survey statement: *I feel I accomplish more in the class because of technology.* This question did not cite any particular technology. In Figure 40, most of the students (87%) agreed or strongly agreed that the MacBook helped them accomplish more, while 13% did not have an opinion (M = 4.42, SD = 0.73).

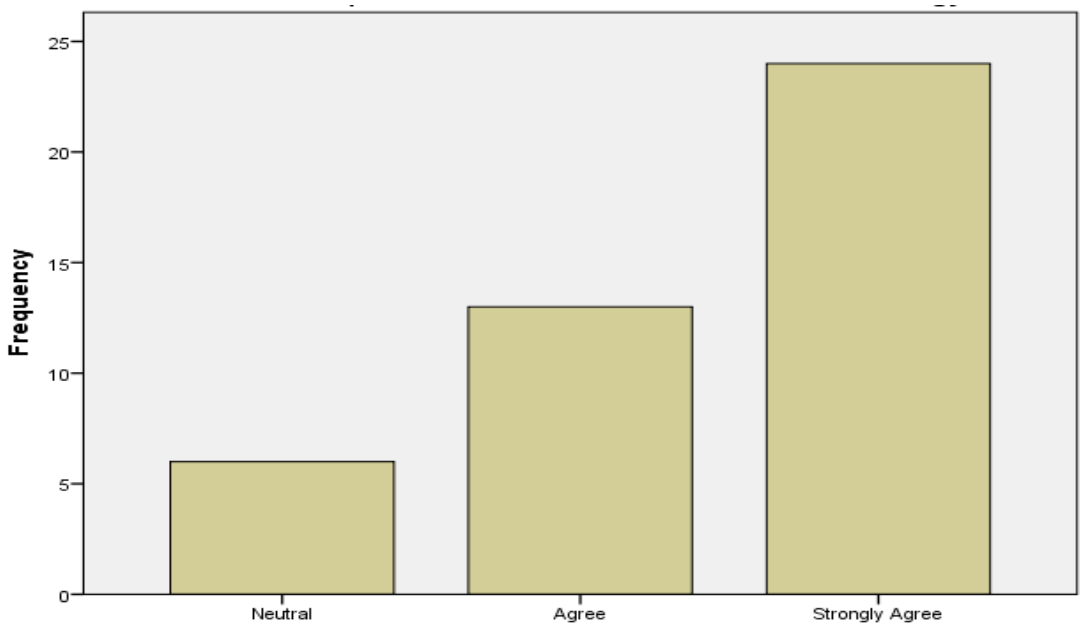

Figure 40. Levels of agreement that technology helps a student accomplish more in class

Technology Expedites Learning Arabic

A related survey statement asked specifically about Arabic whether: *Overall, technology makes my life learning Arabic easier.* In Figure 41, most of the students (89%) agreed or strongly agreed that technology made their life learning Arabic easier (Figure 41). Only 11% did not have an opinion (M = 4.57, SD = 0.70).

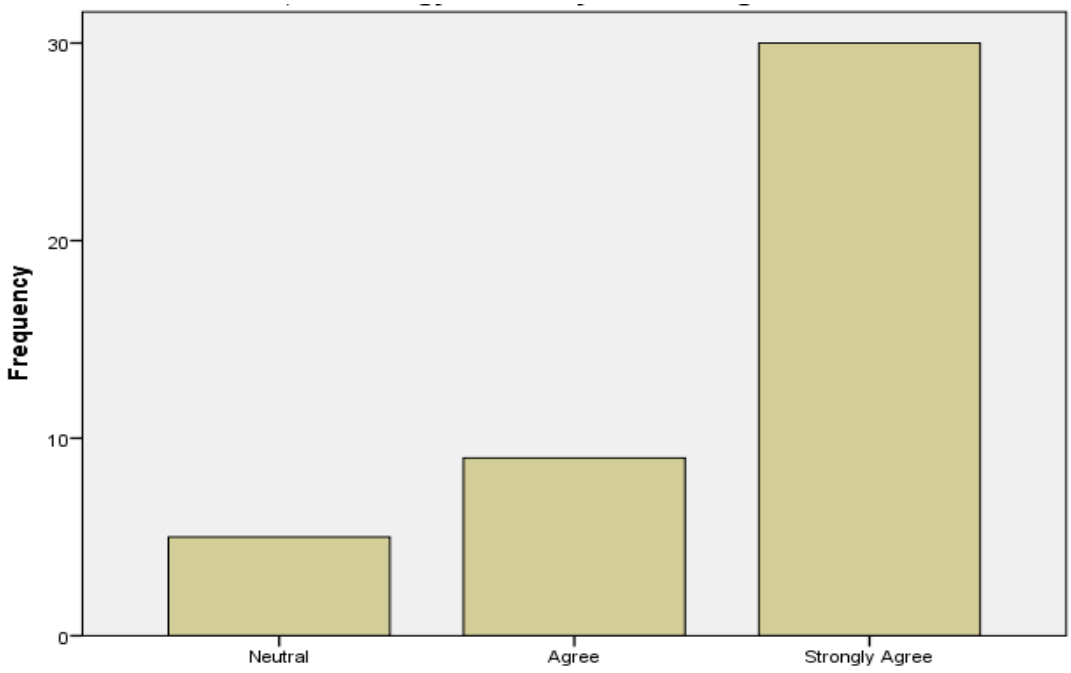

Figure 41. Levels of agreement that technology makes life learning Arabic easier

Effectiveness of iPod Touch in Learning Arabic

One of the survey statements specifically concerned the usefulness of iPod Touch technology in learning Arabic: *In general, I feel that using iPod Touch for the Arabic course was very effective.* Figure 42 shows that 89% of students reported that they were neutral on the topic, while five percent agreed and seven percent disagreed (M = 2.98, SD =0.51).

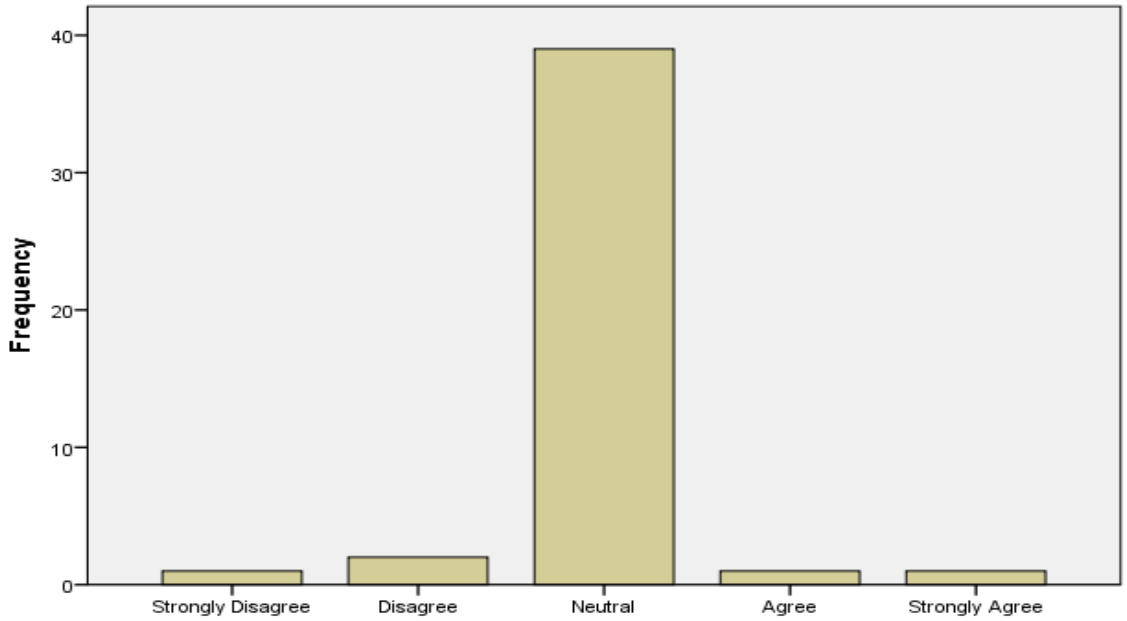

Figure 42. Levels of agreement that iPod Touch is very effective in learning Arabic

Effectiveness of iPad in Learning Arabic

Another survey statement named the iPad specifically, relating: *In general, I feel that using iPad for the Arabic course was very effective.* As shown in Figure 43, nearly three-quarters of the students, or 73%, agreed that the iPad is very effective in helping learn the Arabic language, whereas the remaining students were split, with 14% disagreeing and 14% without opinions (M = 3.91, SD = 1.07).

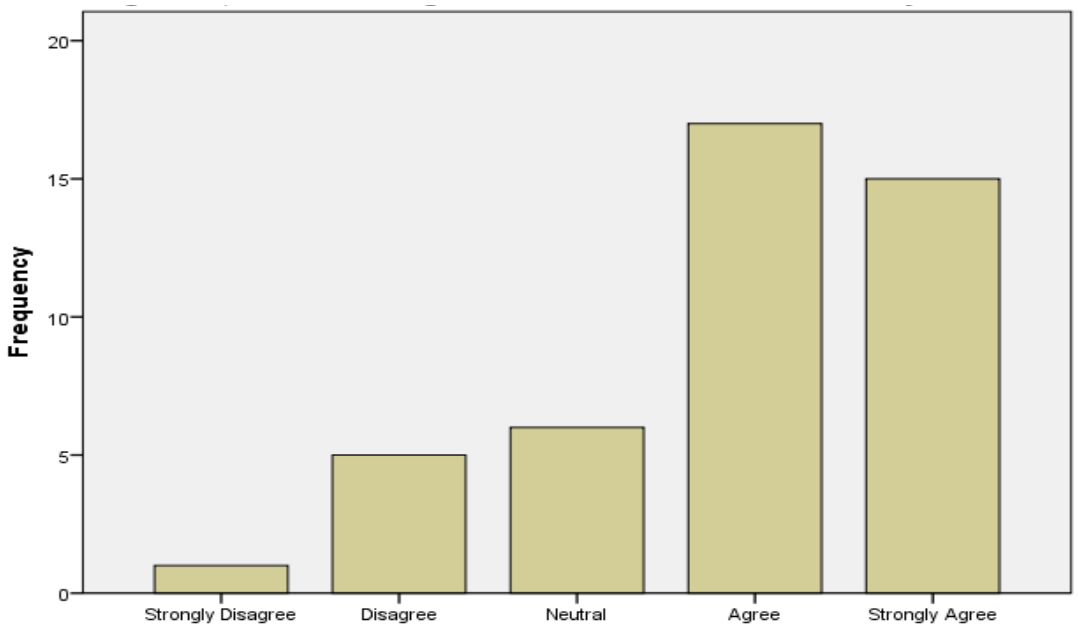

Figure 43. Levels of agreement that iPad is very effective in learning Arabic

Effectiveness of MacBook in Learning Arabic

Most of the students agreed with the statement that: *In general, I feel that using MacBook for the Arabic course was very effective.* Figure 44 shows that 91% agreed, just two percent disagreed, and the remaining seven percent did not have an opinion (M = 4.39, SD = 0.81).

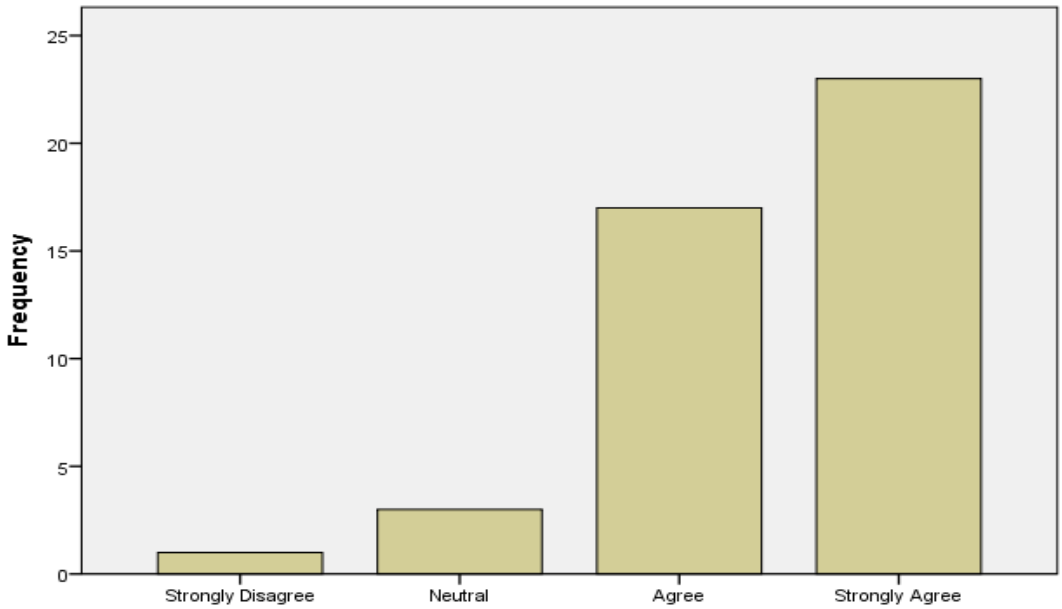

Figure 44. Levels of agreement that MacBook is very effective in learning Arabic

MANOVA's Analysis

Also, the research questions were tested using MANOVA's, with each question tested separately.

Research Question One

RQI: How do students perceive the effectiveness of incorporation of the latest technological innovations in their daily learning of the Arabic language? Results are given for Instrument B. The dependent variables include the iPod Touch, iPad, and MacBook, and the independent variable is students' perceptions on the effectiveness of technology in the classroom.

MANOVA was used for question one in order to examine students' perceptions of the effectiveness of three dependent variables, the iPod Touch, iPad, and MacBook, into their daily learning of the Arabic language. Research question one's statistical results showed significant differences in students' attitudes toward the Apple devices. Almost all students expressed their happiness that DLIFLC provided them with these devices,

because it was instrumental in acquiring proficiency in the Arabic language, as shown in Table Five.

Table 5 displays the main results from a MANOVA, which informs us whether or not there were differences in the students' perceptions of the effectiveness of the Apple devices in helping them acquire proficiency in Arabic listening and speaking skills. Hence, all test statistics are significant, with $p = .095$ (> .05), which is less than 0.5. One can conclude from this result that the three groups actually differ in terms of which one is the most effective in enhancing student performance in the classroom.

Table 5

Comparative Effectiveness of Technological Innovations for Learning Arabic: Results from MANOVA for Instrument B

			Multivariate			
Variables	*N*	*M* (*SD*)	Value	*df*	*F*	*p*
Technologies			Pillai's Trace .106	2, 42	2.495	.095
IPODB	44	2.83 (0.48)	Wilks' Lambda .894	2, 42	2.495	.095
IPADB	44	3.04 (0.69)	Hotelling's Trace .119	2, 42	2.495	.095
MacbookB	44	3.08 (0.65)	Roy's Largest Root .119	2, 42	2.495	.095

Note. Likert scale scores rated 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Multivariate Test-Within-Subject Effects were used for Table Six to investigate any significant differences in the students' perception of the effectiveness of integrating Apple devices into the classroom. Results concluded that there was no statistically significant difference in the mean ratings of the three utilized technologies (iPad, MacBook, and iPod Touch). 2- 2.195, P. > .05 (P - 118).

Table 6

Tests of Within-Subjects Effects

Tests of Within-Subjects Effects

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Instrument B	Sphericity Assumed	1.516	2	.758	2.195	.118
	Greenhouse-Geisser	1.516	1.950	.777	2.195	.119
	Huynh-Feldt	1.516	2.000	.758	2.195	.118
	Lower-bound	1.516	1.000	1.516	2.195	.146
Error(Instrument B)	Sphericity Assumed	29.688	86	.345		
	Greenhouse-Geisser	29.688	83.845	.354		
	Huynh-Feldt	29.688	86.000	.345		
	Lower-bound	29.688	43.000	.690		

Figure 45 discusses the students' perceptions of the effectiveness of the incorporation of the latest technological innovations in their daily learning of Arabic. This figure-shows an agreement that Apple devices, particularly iPads and MacBooks, promote language proficiency in listening and speaking skills. For example, students viewed MacBook as 3.1% very important in acquiring listening and speaking skills. It is followed by the iPad at 2.9%, whereas the iPod Touch, at approximately 2.8%, was considered the least important.

When students were asked about the effectiveness of using the iPod Touch in their daily classrooms, the majority of students' responses were neutral. They had no viewpoints on the benefits of the iPod Touch, because they did not have it when they started learning the Arabic language in the middle of 2014. DLIFLC's administration discontinued providing this device to students in early 2014, and replaced it with the iPad and MacBook.

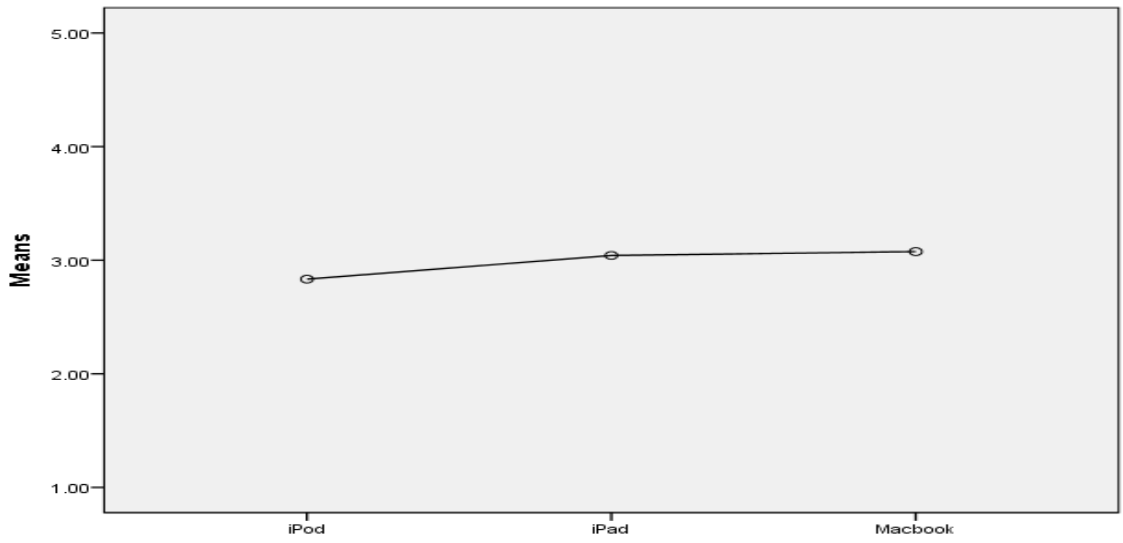

Figure 45. Students' perceptions of the effectiveness of the incorporation of the latest technological innovations in their daily learning of Arabic

Research Question Two

RQ2: What devices or tools do students think promote language proficiency in listening and speaking? Results are given for Instrument A.

The dependent variables are the iPod Touch, iPad, and MacBook, as well as SMART Board and Sakai. The independent variable is the students' perceptions of the effectiveness of technology in the classroom.

Table 7 displays results from MANOVA, which informs us of whether or not there were differences in the students' perceptions of the effectiveness of Apple devices and Web-based tools, such as SMART Board and Sakai (Blackboard), in helping students acquire proficiency in the Arabic language. The column that really matters is the one containing the significant results of the F-ratio. For this data, *Pillai's Trace* (p =.00), *Wilks' Lambda* (p =.00), *Hotelling's Trace* (p =.00), and *Roy's Largest Root* (p =.00). Hence, all test statistics are significant with test statistics of `p =.00 (which is less than .05) indicating a significant differences in agreement regarding which device is the most effective in enhancing students' performances in the classroom. One can conclude from these results that students preferred using Apple devices over Web-based tools because they are proven to have a positive effect on the acquisition of proficiency in listening and speaking in the Arabic language.

Table 7

Comparative Effectiveness of Technological Innovations for Learning Arabic: Results from MANOVA for Instrument A

			Multivariate			
Variables	*N*	*M* (*SD*)	Value	*df*	*F*	*p*
Technologies			Pillai's Trace .723	3, 41	35.675	.000
IPODA	44	3.14 (0.39)	Wilks' Lambda .277	3, 41	35.675	.000
IPADA	44	3.83 (0.65)	Hotelling's Trace 2.610	3, 41	35.675	.000
MacbookA	44	3.81 (0.65)	Roy's Largest Root 2.610	3, 41	35.675	.000
OtherA	44	2.75 (0.60)				

Note. Likert scale scores rated 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Multivariate Test-Within-Subject Effects were used in Table Eight to investigate any significant differences in the students' perceptions comparing Apple devices with Web-based tools when promoting language proficiency in the Arabic language. The results show that students preferred to use Apple devices over Web-based tools in their classrooms. The results concluded that there was a statistically significant difference among the four means. 3- 41.368, P. < .05 (P - .000).

Table 8

Tests of Within-Subjects Effects

Tests of Within-Subjects Effects

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Instrument A	Sphericity Assumed	37.108	3	12.369	41.368	.000
	Greenhouse-Geisser	37.108	2.424	15.310	41.368	.000
	Huynh-Feldt	37.108	2.579	14.389	41.368	.000
	Lower-bound	37.108	1.000	37.108	41.368	.000
Error(Instrument A)	Sphericity Assumed	38.572	129	.299		
	Greenhouse-Geisser	38.572	104.220	.370		
	Huynh-Feldt	38.572	110.895	.348		
	Lower-bound	38.572	43.000	.897		

Figure 46 shows a pattern of difference between students' perceptions of the three groups of Apple devices and the fourth group - Web-based tools. This figure also points out that students have always preferred to use Apple devices instead of Web-based tools in their daily classrooms, possibly due to the fact that the MacBook and iPad are already uploaded with the Basic Arabic Course curriculum and all other material related to this course. For example, approximately 3.9% students believed that the MacBook, promotes

language proficiency in listening and speaking skills, the iPad promotes 3.8%, and the iPod promotes 3.3%, whereas SMART Board and Sakai promote only 2.7 % and were the least used device. In addition, students use iPads and MacBooks regularly, both inside and outside of the classroom, to access course material.

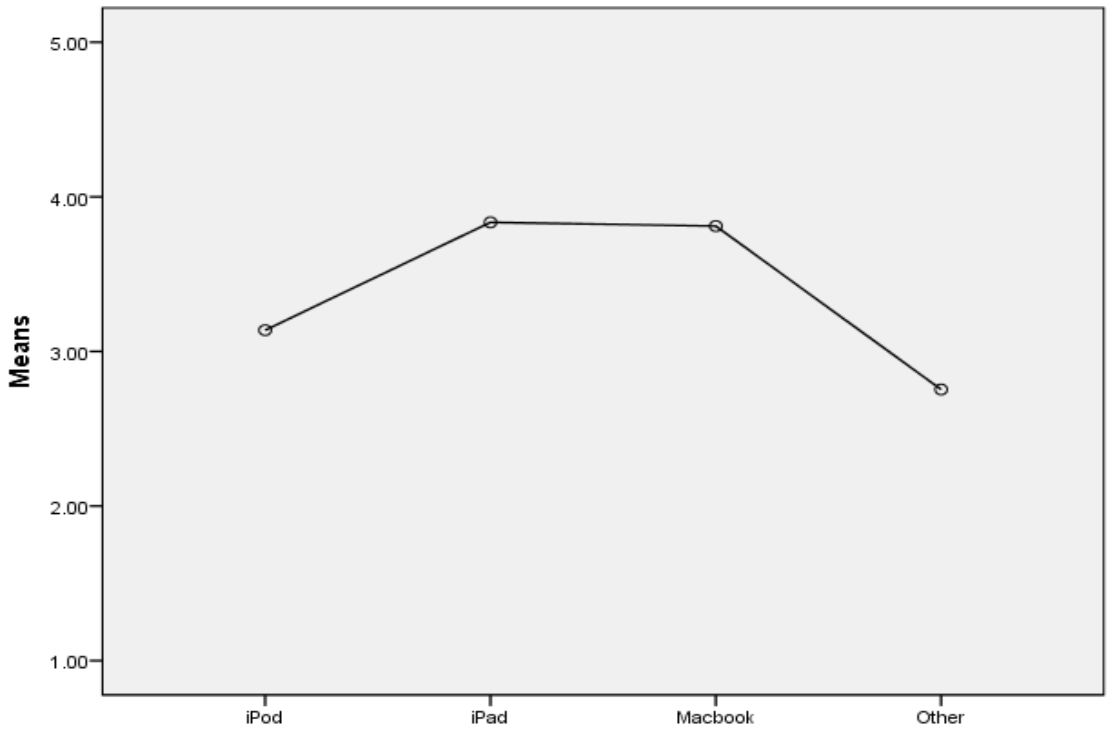

Figure 46. Pattern of difference between students' perceptions of the three groups of Apple devices and the fourth group - Web-based tools

In regards to SMART Board, most students indicated that even though SMART Board was a useful tool for increasing their listening skills when they collectively listened, in the classroom, to a curriculum passage of authentic material from the Internet, when a teacher is present, the board occasionally encountered technical malfunctions, which hindered the learning process. Pertaining to Sakai (Blackboard), although students have access to this tool, the data results indicate that students hardly used it during their study of the Arabic language. No reason was given.

Research Question Three

RQ3: How is the usefulness of Apple devices perceived in comparison to Web-based tools in developing listening and speaking skills?

Results are given for Instrument C (Table Nine). The dependent variables are the iPod Touch, iPad, MacBook, SMART Board, and Sakai). The independent variable is the students' perceptions of the effectiveness of technology in the classroom.

Table 9 displays results from a MANOVA, which inform us as towhether or not there were differences in the students' perceptions of the frequency of use for several devices (iPod Touch, iPad, and Macbook, in comparison with SMART Board and Sakai) in helping students acquire proficiency in the Arabic language. Hence, all test statistics are significant pertaining to the test statistics of $p < .001$ (all < .05), which indicated significant differences in the perceptions of which device was the most frequently used for acquiring proficiency in the listening and speaking skills.

Table 9

Comparative Frequency of Use of Technological Innovations for Learning Arabic: Results from MANOVA for Instrument C

			Multivariate				
Variables	*N*	*M* (*SD*)	Value		*df*	*F*	*p*
Technologies			Pillai's Trace	.928	3, 41	176.105	.000
IPODC	44	2.03 (0.49)	Wilks' Lambda	.072	3, 41	176.105	.000
IPADC	44	3.32 (1.00)	Hotelling's Trace	12.886	3, 41	176.105	.000
MacbookC	44	4.19 (0.76)	Roy's Largest Root	12.886	3, 41	176.105	.000
OtherC	44	4.49 (0.69)					

Multivariate in Test-Within-Subject Effects were used for Table10 to investigate any significant differences in the students' perceptions comparing Apple devices with Web-based tools in promoting language proficiency in the Arabic language. The results show that the students preferred to use other technology more than Apple devices and Web-based tools in their classrooms. The data concluded that there was a statistically significant difference among the four means as well. 3- 99.78, P. < .05 (P - .000).

Table 10

Tests of Within-Subject Effects

Tests of Within-Subjects Effects

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.
Instrument C	Sphericity Assumed	160.537	3	53.512	99.782	.000
	Greenhouse-Geisser	160.537	1.928	83.252	99.782	.000
	Huynh-Feldt	160.537	2.017	79.587	99.782	.000
	Lower-bound	160.537	1.000	160.537	99.782	.000
Error(Instrument C)	Sphericity Assumed	69.182	129	.536		
	Greenhouse-Geisser	69.182	82.918	.834		
	Huynh-Feldt	69.182	86.736	.798		
	Lower-bound	69.182	43.000	1.609		

Figure 47 also shows a pattern of difference in the students' perceptions of Apple devices, Web-based tools, and other technological innovations. This figure shows that students have always preferred to use technology because they believe that it has improved their listening and speaking skills in both the long and short term. Also, technology was extremely helpful in learning the Arabic language. For example, others technology accounted for approximately 4.7 %, next was MacBook at 4.3%, iPad at 3.4%, followed by iPod Touch at 2.0%, which was the least used.

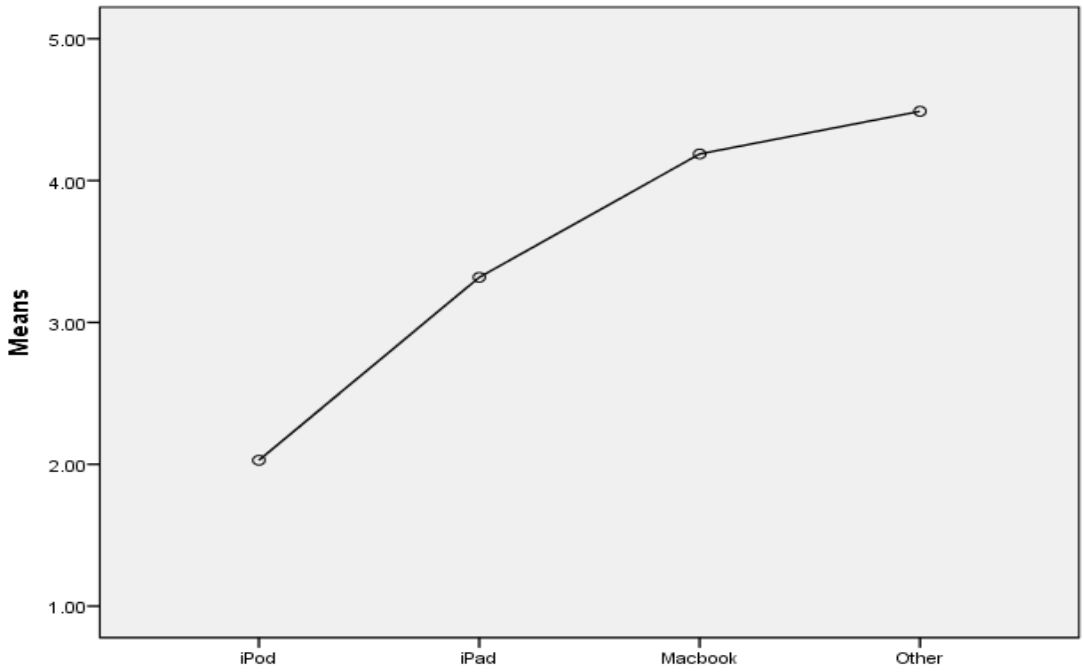

Figure 47. Pattern of difference in the students' perceptions of Apple devices, Web-based tools, and other technological innovations

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS, RECOMMENDATIONS, AND SUMMARY

Overview

The purpose of this study was to examine student perceptions of the effectiveness of using Apple devices—such as the iPod, iPad, and MacBook—and Web-based tools—such as the SMART Board and Sakai (Blackboard)—in acquiring listening and speaking skills in the Arabic Basic Course at DLIFLC.

This study was designed to determine if significant differences exist among students' perceptions of the integration of Apple devices and Web-based tools into the classroom, as well as to see which technologies students prefers and which were more effective than others for acquiring proficiency in listening and speaking skills.

Discussion

The research method used in this study was quantitative. The research design used Survey Monkey to collect data. Descriptive statistics and MANOVA were used for analysis. A sample of 45 students who were studying the Arabic Basic Course at Middle East School II in DLIFLC made up the participant pool. This study used three instruments - A, B, and C.

The first survey instrument (see Appendix A) was developed in 2011 by Dr. Carmelita Graham in her dissertation, *Strategies for Using iPods to Support Student Learning in the Millville School District,* in New Jersey. This instrument was based on a five-point Likert scale. The objective of Dr. Graham's student survey was to identify how iPods can support student learning at elementary and middle schools in the Millville School District.

The second instrument (see Appendix B) was developed by Diemer, Fernandez, and Streepey (2012) at Indiana University-Purdue University, in Indianapolis, Indiana. This survey instrument, like the first, was based on a five-point Likert scale. In 2012, Diemer et al. published an article entitled *Student Perceptions of Classroom Engagement and Learning using iPads*. The purpose of this article was to describe factors influencing the positive impact of iPad activities on students' perceptions of learning and engagement.

The third instrument (see Appendix C) is called the *iPad Research Study*. The Pepperdine University Information Technology staff developed this study in 2011, in Los Angeles, California. This survey instrument was also based on a five-point Likert scale. The purpose of the iPad research team was to determine whether the iPad has the potential to enhance student performance for course learning objectives (Pepperdine University, 2011). These instruments were modified for this study. Both descriptive and inferential statistics were used to address each of the three research questions.

The results indicated that the incorporation of technology into the classroom in order to acquire proficiency in the Arabic language was perceived as an essential factor by students at DLIFLC. The Arabic students expressed their positive perceptions of incorporating technology into the classrooms. The following section will discuss the results for each of the research questions. This will be followed by my conclusion, recommendations, and summary.

Conclusions

Research Question One

RQI: How do students perceive the effectiveness of incorporation of the latest technological innovations in their daily learning of the Arabic language?

Research question one's statistical results showed significant differences among students' attitude toward the Apple devices. Almost all of the students indicated that the iPad and MacBook were instrumental in acquiring proficiency in the Arabic language, and that these two Apple devices had contributed to the acquisition of the Arabic language, with Table 3 supporting this finding. Most students argued that out of the nine items which assessed students' perceptions of classroom learning using Apple devices to help learn the Arabic language, the MacBook and iPad were both very useful in studying the language and very effective in acquiring listening and speaking skills.

In regards to the iPod Touch, all students voiced a neutral opinion when they were asked about the effectiveness of the iPod Touch in the classroom. This was due to the fact that they did not have iPod Touch when they started studying the Arabic Basic Course. Research question one's statistical analysis results also showed no significant statistical difference in the mean ratings of the three apple devices regarding the students' perceptions of the effectiveness of these devices on the learning of the Arabic language.

This finding supported previous research regarding the effectiveness of Apple devices in the classroom. For example, Warschauer (2012) conducted a pilot study using iPads at St. Margaret's Episcopal School in California. Warschauer investigated by using two methods - observations and interviews. The students used the iPads at the school's

laboratory, noting that "students use the iPad to read a free open source Earth sciences textbook from CK-12" (p. 40). The iPad allowed students to take notes freely and Warschauer observed that the iPad is a highly beneficial tool for laboratory work, as students "carry the devices around to input data on the move" (ibid).

Some school leaders stated that the iPad is not only a valuable new device but also a rather powerful and multipurpose tool "with a multitude of applications, including thousands with educational uses" (Hu, 2011, p. 2). Wolfe, the principal of Roslyn High School in New York, believes that the iPad "could be the biggest thing to hit the school technology since the overhead projector" (Hu, 2011, p. 2). "It is not about a cool application, we are talking about changing the way we do business in the classroom" (ibid).

Barbour (2012) stated that the iPad will also benefit teachers in the classroom by allowing teachers to integrate technology on an individual student basis. As the teachers navigate their classroom and facilitate student learning, iPads allow them to search for resources, display stimulation, or scroll to a specific section of an electronic book or website, without having to return to their desks or electronic whiteboards at the front of the room. Essentially, it is as if a teacher is able to tuck that electronic whiteboard underneath their [sic] arm and use it with the same mobility as a teacher would use a textbook in years past. Barbour (2012) concluded by saying that the iPad and other tablet devices are currently considered the next "great device to have a purported impact on classroom teaching" (p. 25).

Research Question Two

RQ2: What devices and tools do students think best promote language proficiency in listening and speaking?

Research question two's statistical results showed significant differences in the students' perceptions of using Apple devices as opposed to Web-based tools (SMART Board and Sakai) in classrooms. Also, students indicated that the Apple devices are much better than Web-based tools for acquiring proficiency in the listening skills because the MacBook and iPad are already uploaded with the Basic Arabic Course curriculum and all other materials related to the course. Therefore, these devices were more effective than SMART Board and Sakai for learning the Arabic language. Table Two supported this finding. Most students argued that out of the 27 items which assessed the advantages and disadvantages of using the Apple devices to acquire listening and speaking proficiency in the Arabic language, the two aforementioned devices were very important in acquiring the Arabic language. Research question two's statistical results showed that there was statistically significant difference among the four means in students' attitudes towards the Apple devices and Web-based tools.

In regards to SMART Board, a tool that is available in all Middle East School II classrooms, students indicated that they used this board when they collectively listen to curriculum material or authentic material, like news clips in the classroom, when a teacher is present. Otherwise, they preferred using Apple devices because the entire Arabic curriculum material is uploaded onto their MacBooks, and for some, on their iPads. Also, most students agreed that SMART Board occasionally encountered numerous technical difficulties. This, in turn, impedes their efforts in learning the Arabic

language. Sakai is a Web-based learning Course Management System (CMS) that is based on collaborative learning. Even though Sakai is available to all students at Middle East School II, students tend to not use it for no discernible reason.

The findings of this study supported previous research concerning the effectiveness of using Apple devices in the classroom for promoting language learning. For instance, according to Wilen-Daugenti (2009), researchers suggest that, in the future, the delivery of higher education will require both students and faculty members to have wireless mobile phones (p. 32). The latest technological innovation devices, such as Apple's iPhone, iPod, and MacBook, will allow learners to access the material with the touch of a finger through user-friendly interfaces and a big screen (p. 33). These mobile devices "show the potential for enhanced, multimedia-enriched, and convenient just-in-time learning" (p. 33).

Research Question Three

RQ3: How is the usefulness of Apple devices perceived in comparison to Web-based tools in developing listening and speaking skills?

The data results show that almost all students believed that technology, in general, improved their learning environment and played a big role in helping to acquire listening and speaking skills. Furthermore, students believe that technology improves their daily learning of the Arabic language, which is supported by the findings in Table 4. All of the students regarded the 14 items which assessed Apple devices and technology, in general, as very effective for learning the Arabic language. Research question three's results showed that there was a significant statistical difference between the Apple devices, Web-based tools, and technology in general.

This finding supported previous research regarding the effectiveness of using technology, in general, in the classroom. According to Koç (2005), technology may allow us to better serve the students' different learning styles and equip them with an expanded knowledge base of intelligence. Every student has a different learning style, meaning that teachers cannot tailor to all students' needs in the traditional classroom. However, with the incorporation of technology into the classroom, "we can design learning environments in which students can manage and conduct their own representations of knowledge in their minds" (Koc, 2004, p. 2).

Noeth and Volkov (2004) supported the above statement by saying that although technology enhances the learning environment, it has shown limited success in improving the academic performances of all students. Certainly, more research is needed to clarify the results of this study.

Recommendations for the Profession

Based on the findings of the study, the following recommendations will be presented to the administrations of DLIFLC in the technology department.

(1) The Technology Integration Division at DLIFLC should carefully take into consideration the types of instructional technology that they purchase. For example, SMART Board (interactive white board) should be replaced with an alternative teaching tool, because it occasionally encounters technical difficulties in the classroom.

(2) Students should be trained regarding how to use iPad and MacBook before starting to study the Arabic language. Not all students are proficient in the latest technological innovations.

(3) DLIFLC administration should provide the iPod Touch to all Arabic students.

The majority of students stated in their survey responses that they would like to have the iPod Touch before starting the Arabic course because it will give students the chance to improve their speaking skills by recording their own voice on a typical speaking task, and proceed to give the iPod Touch to their respective teachers in order to receive feedback and note how much progress they are making in terms of pronunciations, grammar, and sentence structure.

(4) Sakai (Blackboard) students at Middle East School II should seize the opportunity and use it in their daily classrooms. Sakai is a great resource tool because it allows the instructor to provide students with handouts, syllabi, quizzes, and discussions online. Also, Sakai provides an area to place information regarding course assignments and exams in multiple locations. The "assignments" tool allows the instructor to view files, post comments for both students and themselves, and resubmit the file.

(5) More training should be provided to all teachers regarding how to maximize the using of the latest technological innovations in the classroom.

Recommendations for Further Research

(1) This was a strictly quantitative study, using mainly a survey (questionnaires) for data collection. Therefore, it is recommended to utilize a qualitative method, with either the same population or others kinds of populations. For example, interviews, focus groups, and observations may shed some light on in-depth information that cannot be found when using a survey.

(2) Future studies should replicate this study with different groups in other higher education institutions, matching these participants in age, to verify the effectiveness of using the iPod Touch and Sakai in the classroom.

Summary

While the current study suggested that DLIFLC is the premier and largest foreign language institute in the world (DLIFLC.edu) when it comes to providing the latest instructional technological innovations to students and teachers, the findings concluded that most students prefer to use Apple devices as opposed to Web-based tools because they believe that the integration of the latest technological innovations into the classroom, particularly iPads and MacBooks, is instrumental in acquiring proficiency in listening and speaking skills. Also, the overall views of students on technology are very positive. This approach is supported by the *Constructivist Theory*. This theory states that students learn better once they are exposed to technology; it not only encourages interaction, but enhances the learning environment as well. Given the positive benefits of this theory, it is safe to conclude that technology must be present in the classroom. Additionally, another important factor that assists students in using these tools in the classroom - as well as serves students' interests in the long run - is teachers' familiarity with technology.

All teachers should keep up with the latest innovations in technology to benefit, not only themselves, but their students as well. Teachers can also use new technologies to help become more efficient in their classrooms. Essentially, a teacher's knowledge of technology is crucial because technology will continue to grow as an innovative aspect of teaching. Technology-based classroom assessment can provide teachers with an immediate overview of students' performances. Technology is reflected through the Constructivist Theory by integrating collaborative skills with technological software and programs.

There are some teachers who still do not embrace technology to its fullest capacity in ways that assist students in promoting student-center learning, namely by collaborating and interacting with one another in the classroom. For example, some teachers at DLIFLC do not use new forms of technology because of the unfamiliarity that comes with the new arrivals.

Technology enables teachers to keep all students working productively, as well as offer them time to work with the students individually or in small groups. Therefore, in order to be an effective and productive teacher in the 21st century, one must know how to use technology in order to enhance the learning environment of the students. Luke and Britten (2007) agreed with the above statement, relating that, "current and future foreign language educators must learn to effectively and meaningfully merge technology with instructional practices and activities" (p. 253).

Because technology improves as time goes on, it will only continue to get better, leading to more effective methods of teaching; technology has proven to improve with time. Technology pervades all aspects of life and will continue to do so, having the infinite potential to enrich language learning. As Bush (1997) put it, "the effect of technology would likely be far reaching, noting that, there is no aspect of foreign language learning that will not be influenced by the technological revolution" (as cited in Luke & Britten, 2007, p. 254).

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APPENDICES

APPENDIX A

Instrumentation: Questionnaire

The Survey Questionnaire

The purpose of this study is to examine student perceptions of the effectiveness of using instructional technology such as Apple devices—iPod Touch, iPad, and MacBook—as well as web-based tools—SMART Board and Sakai (Blackboard)—in acquiring listening and speaking proficiency in the Arabic Basic Course at the Defense Language Institute Foreign Language Center (DLIFLC). The collected data will be analyzed and will illustrate the study's findings.

Instructions to Participants:

Below are three instruments (questionnaires) in Appendices A, B, and C**,** that will be used in this study and were designed to elicit perceptions of the effectiveness of using instructional technology in acquiring listening and speaking proficiency in Arabic. Please do not write your name on the questionnaires, so that your responses will be completely anonymous. Please answer the questions as frankly as you can, and please be certain to answer all the questions.

Read each statement below carefully and circle the appropriate number to indicate the extent to which you agree with the statement.
Circle 1 if you **strongly disagree** with the statement.
Circle 2 if you **disagree** with the statement.
Circle 3 if you **neither agree nor disagree** with the statement.
Circle 4 if you **agree** with the statement.
Circle 5 if you **strongly agree** with the statement.

Instrument A

The Advantages and Disadvantages of Using the iPod Touch, iPad, and MacBook to Acquire Listening and Speaking Proficiency in the Arabic Language

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I was familiar with the iPod Touch before taking the Arabic Basic Course.	1	2	3	4	5
2. I was familiar with the iPad before taking the Arabic Basic Course.	1	2	3	4	5
3. I was familiar with the MacBook before taking the Arabic Basic Course.	1	2	3	4	5
4. It was difficult to find the classroom content on the iPod Touch.	1	2	3	4	5
5. It was difficult to find the classroom content on the iPad.	1	2	3	4	5
6. It was difficult to find the classroom content on the MacBook.	1	2	3	4	5
7. IPod Touch was helpful to me in memorization of vocabulary in the speaking skills.	1	2	3	4	5
8. iPad was helpful to me in memorization of vocabulary in the speaking skills.	1	2	3	4	5
9. MacBook was helpful to me in memorization of vocabulary in the speaking skills.	1	2	3	4	5
10. Using iPod Touch in the classroom assisted me to finish listening activities.	1	2	3	4	5
11. Using iPad in the classroom assisted me to finish listening activities.	1	2	3	4	5
12. Using MacBook in the classroom assisted me to finish listening activities.	1	2	3	4	5
13. The iPod Touch was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	1	2	3	4	5
14. The iPad was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	1	2	3	4	5

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15. The MacBook was a nuisance, due to lack of experience in using this type of device in acquiring speaking skills.	1	2	3	4	5
16. Using the SMART Board increased my listening skills.	1	2	3	4	5
17. Using Sakai increased my listening skills.	1	2	3	4	5
18. Using Sakai increased my listening skills more than iPod Touch.					
19. My overall experience with listening activities loaded on the iPod Touch was positive.	1	2	3	4	5
20. My overall experience with listening activities loaded on the iPad was positive.	1	2	3	4	5
21. My overall experience with listening activities loaded on the MacBook was positive.	1	2	3	4	5
22. The iPod Touch will help me in the future to be more proficient in listening skills.	1	2	3	4	5
23. The iPad will help me in the future to be more proficient in listening skills.	1	2	3	4	5
24. The MacBook will help me in the future to be more proficient in listening skills.					
25. The iPod Touch recording apps will help me in the future to be more proficient in speaking skills.	1	2	3	4	5
26. The iPad recording apps will help me in the future to be more proficient in speaking skills.	1	2	3	4	5
27. The MacBook recording apps will help me in the future to be more proficient in speaking skills.					

Source: Graham, C, C. (2011). *Strategies for using iPods to support student learning in the Millville school district.* (Doctoral Dissertation). Retrieved from Pro Quest, UMI 3498215.

Comment:

APPENDIX B

Instrumentation: Questionnaire

Instrument B

Student Perceptions of Classroom Activities and Learning Using iPad, iPod Touch, and MacBook

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I paid more attention to the listening task(s) when using the iPad device.	1	2	3	4	5
2. I paid more attention to the listening task(s) when using the iPod Touch device.	1	2	3	4	5
3. I paid more attention to the listening task(s) when using the MacBook device.	1	2	3	4	5
4. The iPad recording apps helped me participate in the speaking activities in ways that enhanced my learning.	1	2	3	4	5
5. The iPod Touch recording apps helped me participate in the speaking activities in ways that enhanced my learning.	1	2	3	4	5
6. The MacBook recording apps helped me participate in the speaking activities in ways that enhanced my learning.	1	2	3	4	5
7. The authentic material presented by iPad facilitated my learning of Arabic course material better than face- to-face interaction.	1	2	3	4	5
8. The authentic material presented by iPod Touch facilitated my learning of Arabic course material better than face- to-face interaction.	1	2	3	4	5
9. The authentic material presented by MacBook facilitated my learning of Arabic course material better than face- to-face interaction.	1	2	3	4	5

Source: Diemer, T., Fernandez, E., & Streepey, J. (2012). Student Perception of Classroom Engagement and Learning Using iPads. *Journal of Teaching and Learning with Technology,* pp. 13-25.

Comment:

APPENDIX C

Instrumentation: Questionnaire

Instrument C

iPad, iPod Touch, and MacBook as Learning Tools

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I believe that using the iPad device in class encouraged me to interact more than I normally would with online course materials in the classroom.	1	2	3	4	5
2. I believe that using the iPod Touch device in class encouraged me to interact more than I normally would with online course materials in the classroom.	1	2	3	4	5
3. I believe that using the MacBook device in class encouraged me to interact more than I normally would with online course materials in the classroom.	1	2	3	4	5
4. I feel I accomplish more in the class because of technology.	1	2	3	4	5
5. Overall, technology makes my life learning Arabic easier.	1	2	3	4	5
6. In general, I feel that using iPad for the Arabic course was very effective.	1	2	3	4	5
7. In general, I feel that using iPod Touch for the Arabic course was very effective.	1	2	3	4	5
8. In general, I feel that using MacBook for the Arabic course was very effective.	1	2	3	4	5

Instrument C

Circle 1 for **never**
Circle 2 for **rarely**
Circle 3 for **occasionally**
Circle 4 for **frequently**
Circle 5 for **always**

Statement	Never	Rarely	Occasionally	Frequently	Always
9. How often did you use the iPod Touch **during class** for the Basic Arabic Course?	1	2	3	4	5
10. How often did you use the iPad **during class** for the Basic Arabic Course?	1	2	3	4	5
11. How often did you use the MacBook **during class** for the Basic Arabic Course?	1	2	3	4	5
12. How often did you use the iPod Touch **outside of class** for the Basic Arabic course?	1	2	3	4	5
13. How often did you use the iPad **outside of class** for the Basic Arabic Course?	1	2	3	4	5
14. How often did you use the MacBook **outside of class** for the Basic Arabic Course?	1	2	3	4	5

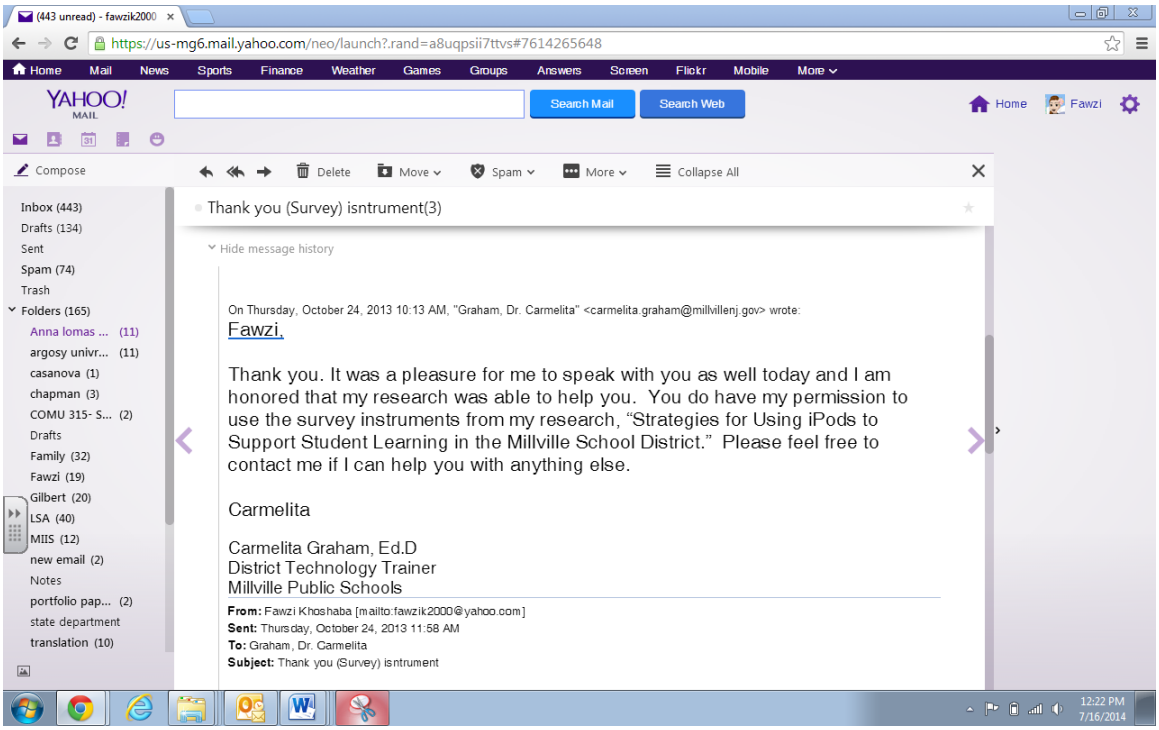
Source: Pepperdine University. *Technology follow-up survey for the iPad students* (2011). Retrieved from community.pepperdine.edu/it/tools/ipad/...nonipad_survey.

Comment:

APPENDIX D

Dr. Graham's Permission Letter to Use the Instrument

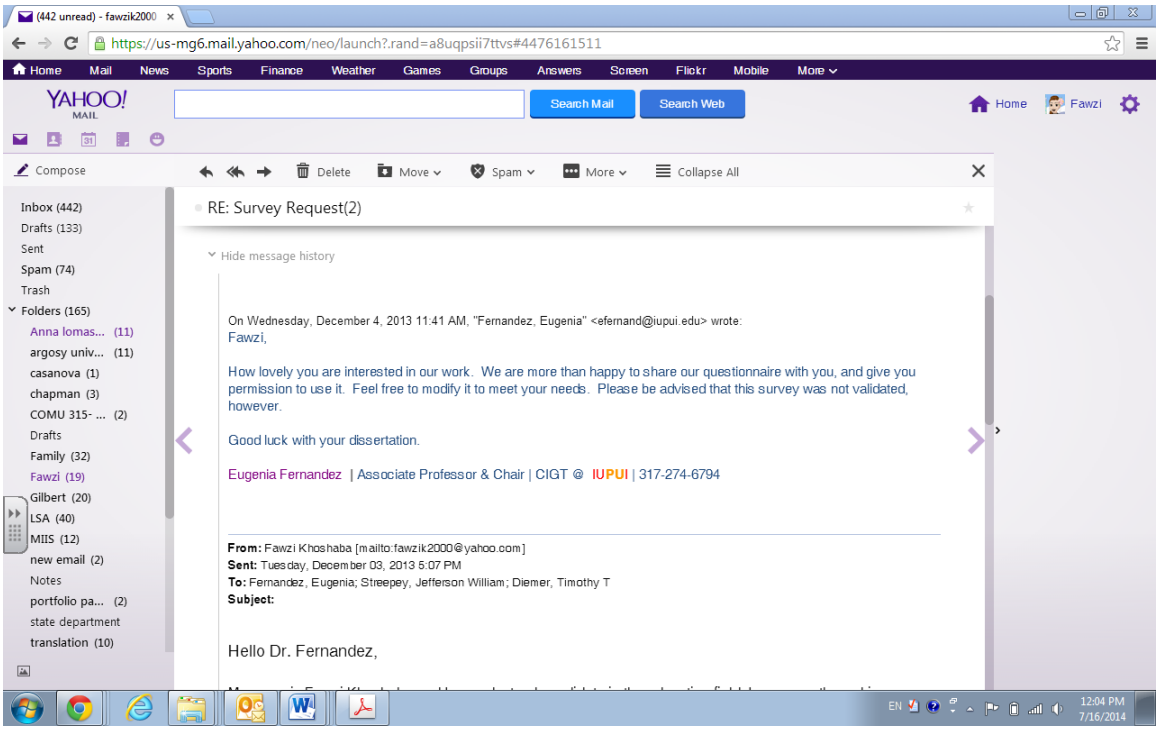
Dr. Graham's Permission Letter to Use the Instrument



APPENDIX E

Dr. Eugenia Fernandez's Permission Letter to Use the Instrument

Dr. Eugenia Fernandez's Permission Letter to Use the Instrument



(442 unread) - fawzik2000

https://us-mg6.mail.yahoo.com/neo/launch?.rand=a8uqpsii7ttvs#4476161511

Home Mail News Sports Finance Weather Games Groups Answers Screen Flickr Mobile More

YAHOO! MAIL

Search Mail Search Web

Home Fawzi

Compose Delete Move Spam More Collapse All

Inbox (442)
Drafts (133)
Sent
Spam (74)
Trash
Folders (165)
Anna lomas... (11)
argosy univ... (11)
casanova (1)
chapman (3)
COMU 315- ... (2)
Drafts
Family (32)
Fawzi (19)
Gilbert (20)
LSA (40)
MIIS (12)
new email (2)
Notes
portfolio pa... (2)
state department
translation (10)

RE: Survey Request(2)

Hide message history

On Wednesday, December 4, 2013 11:41 AM, "Fernandez, Eugenia" <efernand@iupui.edu> wrote:
Fawzi,

How lovely you are interested in our work. We are more than happy to share our questionnaire with you, and give you permission to use it. Feel free to modify it to meet your needs. Please be advised that this survey was not validated, however.

Good luck with your dissertation.

Eugenia Fernandez | Associate Professor & Chair | CIGT @ IUPUI | 317-274-6794

From: Fawzi Khoshaba [mailto:fawzik2000@yahoo.com]
Sent: Tuesday, December 03, 2013 5:07 PM
To: Fernandez, Eugenia; Streepey, Jefferson William; Diemer, Timothy T
Subject:

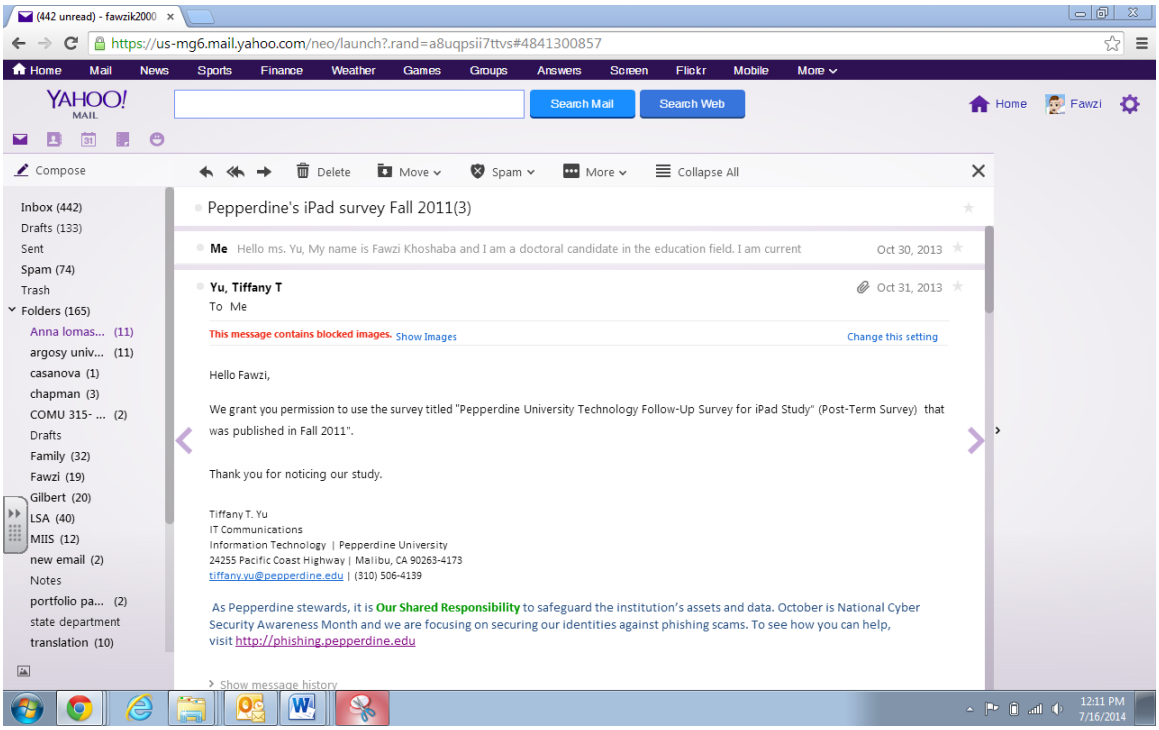
Hello Dr. Fernandez,

EN 12:04 PM 7/16/2014

APPENDIX F

Ms. Tiffany T. Yu's Permission Letter to Use the Instrument

Ms. Tiffany T. Yu's Permission Letter to Use the Instrument



APPENDIX G

Interagency Language Roundtable

Interagency Language Roundtable (ILR)

Language Skill Level Descriptions

Part One: Listening

Preface

The following proficiency level descriptions characterize comprehension of the spoken language. Each of the six "base levels" (coded 00, 10, 20, 30, 40, and 50) implies control of any previous "base levels" functions and accuracy. The "plus level" designation (coded 06, 16, 26, etc.) will be assigned when proficiency substantially exceeds one base skill level and does not fully meet the criteria for the next "base level." The "plus level" descriptions are therefore supplementary to the "base level" descriptions. A skill level is assigned to a person through an authorized language examination. Examiners assign a level on a variety of performance criteria exemplified in the descriptive statements. Therefore, the examples given here illustrate, but do not exhaustively describe, either the skills a person may possess or situations in which he/she may function effectively. Statements describing accuracy refer to typical stages in the development of competence in the most commonly taught languages in formal training programs. In other languages, emerging competence parallels these characterizations, but often with different details. Unless otherwise specified, the term "native listener" refers to native speakers and listeners of a standard dialect. "Well-educated," in the context of these proficiency descriptions, does not necessarily imply formal higher education. However, in cultures where formal higher education is common, the language-use abilities of persons who have had such education is considered the standard. That is, such a person meets contemporary expectations for the formal, careful style of the language, as well as a range of less formal varieties of the language.

Listening 0 (No Proficiency) No practical understanding of the spoken language. Understanding is limited to occasional isolated words with essentially no ability to comprehend communication. (Has been coded L-0 in some nonautomated applications. [Data Code 00]

Listening 0+ (Memorized Proficiency) Sufficient comprehension to understand a

number of memorized utterances in areas of immediate needs. Slight increase in utterance length understood but requires frequent long pauses between understood phrases and repeated requests on the listener's part for repetition. Understands with reasonable accuracy only when this involves short memorized utterances or formulae. Utterances understood are relatively short in length. Misunderstandings arise due to ignoring or inaccurately hearing sounds or word endings (both inflectional and non-inflectional), distorting the original meaning. Can understand only with difficulty even such people as teachers who are used to speaking with non-native speakers. Can understand best those statements where context strongly supports the utterance's meaning. Gets some main ideas (Has been coded L-0+ in some nonautomated applications). [Data Code 06]

Listening 1 (Elementary Proficiency) Sufficient comprehension to understand utterances about basic survival needs and minimum courtesy and travel requirements in areas of immediate need or on very familiar topics, can understand simple questions and answers, simple statements and very simple face-to-face conversations in a standard dialect. These must often be delivered more clearly than normal at a rate slower than normal with frequent repetitions or paraphrase (that is, by a native used to dealing with foreigners). Once learned, these sentences can be varied for similar level vocabulary and grammar and still be understood. In the majority of utterances, misunderstandings arise due to overlooked or misunderstood syntax and other grammatical clues. Comprehension vocabulary inadequate to understand anything but the most elementary needs. Strong interference from the candidate's native language occurs. Little precision in the information understood owing to the tentative state of passive grammar and lack of vocabulary. Comprehension areas include basic needs such as: meals, lodging, transportation, time and simple directions (including both route instructions and orders from customs officials, policemen, etc.). Understands main ideas (Has been coded L-1 in some nonautomated applications). [Data Code 10]

Listening 1+ (Elementary Proficiency, Plus) Sufficient comprehension to understand short conversations about all survival needs and limited social demands. Developing flexibility evident in understanding a range of circumstances beyond immediate survival needs. Shows spontaneity in understanding by speed, although consistency of understanding is uneven. Limited vocabulary range necessitates repetition for

understanding. Understands more common time forms and most question forms, some word order patterns, but miscommunication still occurs with more complex patterns. Cannot sustain understanding of coherent structures in longer utterances or in unfamiliar situations. Understanding of descriptions and the giving of precise information is limited. Aware of basic cohesive features (e.g., pronouns, verb inflections) but many are unreliably understood, especially if less immediate in reference. Understanding is largely limited to a series of short, discrete utterances. Still has to ask for utterances to be repeated. Some ability to understand facts. (Has been coded L-1+ in some nonautomated applications). [Data Code 16]

Listening 2 (Limited Working Proficiency) Sufficient comprehension to understand conversations on routine social demands and limited job requirements. Able to understand face-to-face speech in a standard dialect, delivered at a normal rate with some repetition and rewording, by a native speaker not used to dealing with foreigners, about everyday topics, common personal and family news, well-known current events and routine office matters through descriptions and narration about current, past and future events; can follow essential points of discussion or speech at an elementary level on topics in his/her special professional field. Only understands occasional words and phrases of statements made in unfavorable conditions, for example through loudspeakers outdoors. Understands factual content. Native language causes less interference in listening comprehension. Able to understand facts; i.e., the lines but not between or beyond the lines (Has been coded L-2 in some nonautomated applications). [Data Code 20]

Listening 2+ (Limited Working Proficiency, Plus) Sufficient comprehension to understand most routine social demands and most conversations on work requirements as well as some discussions on concrete topics related to particular interests and special fields of competence. Often shows remarkable ability and ease of understanding, but under tension or pressure may break down. Candidate may display weakness or deficiency due to inadequate vocabulary base or less than secure knowledge of grammar and syntax. Normally understands general vocabulary with some hesitant understanding of everyday vocabulary still evident. Can sometimes detect emotional overtones. Some

ability to understand implications (Has been Coded L-2+ in some nonautomated applications). [Data Code 26]

Listening 3 (General Professional Proficiency) Able to understand the essentials of all speech in a standard dialect including technical discussions within a special field. Has effective understanding of face-to-face speech, delivered with normal clarity and speed in a standard dialect on general topics and areas of special interest; understands hypothesizing and supported opinions. Has broad enough vocabulary that rarely has to ask for paraphrasing or explanation. Can follow accurately the essentials of conversations between educated native speakers, reasonably clear telephone calls, radio broadcasts, news stories similar to wire service reports, oral reports, some oral technical reports and public addresses on non-technical subjects; can understand without difficulty all forms of standard speech concerning a special professional field. Does not understand native speakers if they speak very quickly or use some slang or dialect. Can often detect emotional overtones. Can understand implications (Has been coded L-3 in some nonautomated applications). [Data Code 30]

Listening 3+ (General Professional Proficiency, Plus) Comprehends most of the content and intent of a variety of forms and styles of speech pertinent to professional needs, as well as general topics and social conversation. Ability to comprehend many sociolinguistic and cultural references. However, may miss some subtleties and nuances. Increased ability to comprehend unusually complex structures in lengthy utterances and to comprehend many distinctions in language tailored for different audiences. Increased ability to understand native speakers talking quickly, using nonstandard dialect or slang; however, comprehension is not complete. Can discern some relationships among sophisticated listening materials in the context of broad experience. Can follow some unpredictable turns of thought readily, for example, in informal and formal speeches covering editorial, conjectural and literary material in subject matter areas directed to the general listener (Has been coded L-3+ in some nonautomated applications). [Data Code 36]

Listening 4 (Advanced Professional Proficiency) Able to understand all forms and styles of speech pertinent to professional needs. Able to understand fully all speech with extensive and precise vocabulary, subtleties and nuances in all standard dialects on any

subject relevant to professional needs within the range of his/her experience, including social conversations; all intelligible broadcasts and telephone calls; and many kinds of technical discussions and discourse. Understands language specifically tailored (including persuasion, representation, counseling and negotiating) to different audiences. Able to understand the essentials of speech in some non-standard dialects. Has difficulty in understanding extreme dialect and slang, also in understanding speech in unfavorable conditions, for example through bad loudspeakers outdoors. Can discern relationships among sophisticated listening materials in the context of broad experience. Can follow unpredictable turns of thought readily, for example, in informal and formal speeches covering editorial, conjectural and literary material in any subject matter directed to the general listener (Has been coded L-4 in some nonautomated applications). [Data Code 40]

Listening 4+ (Advanced Professional Proficiency, Plus) Increased ability to understand extremely difficult and abstract speech as well as ability to understand all forms and styles of speech pertinent to professional needs, including social conversations. Increased ability to comprehend native speakers using extreme nonstandard dialects and slang, as well as to understand speech in unfavorable conditions. Strong sensitivity to sociolinguistic and cultural references. Accuracy is close to that of the well-educated native listener but still not equivalent (Has been coded L-4+ in some nonautomated applications). [Data Code 46]

Listening 5 (Functionally Native Proficiency) Comprehension equivalent to that of the well-educated native listener. Able to understand fully all forms and styles of speech intelligible to the well-educated native listener, including a number of regional and illiterate dialects, highly colloquial speech and conversations and discourse distorted by marked interference from other noise. Able to understand how natives think as they create discourse. Able to understand extremely difficult and abstract speech (Has been coded L-5 in some nonautomated applications). [Data C]

Interagency Language Roundtable(listening).
Retrieved from: http://www.govtilr.org/

Interagency Language Roundtable (ILR) Language Skill Level Descriptions

Part Two: Speaking

Preface.

The following proficiency level descriptions characterize spoken language use. Each of the six "base levels" (coded 00, 10, 20, 30, 40, and 50) implies control of any previous "base level's" functions and accuracy. The "plus level" designation (coded 06, 16, 26, etc.) will be assigned when proficiency substantially exceeds one base skill level and does not fully meet the criteria for the next "base level." The "plus level" descriptions are therefore supplementary to the "base level" descriptions. A skill level is assigned to a person through an authorized language examination. Examiners assign a level on a variety of performance criteria exemplified in the descriptive statements. Therefore, the examples given here illustrate, but do not exhaustively describe, either the skills a person may possess or situations in which he/she may function effectively. Statements describing accuracy refer to typical stages in the development of competence in the most commonly taught languages in formal training programs. In other languages, emerging competence parallels these characterizations, but often with different details. Unless otherwise specified, the term "native speaker" refers to native speakers of a standard dialect. "Well-educated," in the context of these proficiency descriptions, does not necessarily imply formal higher education; however, in cultures where formal higher education is common, the language-use abilities of persons who have had such education is considered the standard. That is, such a person meets contemporary expectations for the formal, careful style of the language, as well as a range of less formal varieties of the language.

Speaking 0 (No Proficiency) Unable to function in the spoken language. Oral production is limited to occasional isolated words. Has essentially no communicative ability (Has been coded L-0 in some nonautomated applications). [Data Code 0]

Speaking 0+ (Memorized Proficiency) Able to satisfy immediate needs using rehearsed utterances. Shows little real autonomy of expression, flexibility or spontaneity. Can ask questions or make statements with reasonable accuracy only with memorized utterances or formulae. Attempts at creating speech are usually unsuccessful. **Examples:** The

individual's vocabulary is usually limited to areas of immediate survival needs. Most utterances are telegraphic; that is, functors (linking words, markers and the like) are omitted, confused or distorted. An individual can usually differentiate most significant sounds when produced in isolation but, when combined in words or groups of words, errors may be frequent. Even with repetition, communication is severely limited even with people used to dealing with foreigners. Stress, intonation, tone, etc. are usually quite faulty (Has been coded S-0+ in some nonautomated applications). [Data Code 06]

Speaking 1 (Elementary Proficiency) Able to satisfy minimum courtesy requirements and maintain very simple face-to-face conversations on familiar topics. A native speaker must often use slowed speech, repetition, paraphrase, or a combination of these to be understood by this individual. Similarly, the native speaker must strain and employ real-world knowledge to understand even simple statements/questions from this individual. This speaker has a functional, but limited proficiency. Misunderstandings are frequent, but the individual is able to ask for help and to verify comprehension of native speech in face-to-face interaction. The individual is unable to produce continuous discourse except with rehearsed material. **Examples:** Structural accuracy is likely to be random or severely limited. Time concepts are vague. Vocabulary is inaccurate, and its range is very narrow. The individual often speaks with great difficulty. By repeating, such speakers can make themselves understood to native speakers who are in regular contact with foreigners but there is little precision in the information conveyed. Needs, experience or training may vary greatly from individual to individual; for example, speakers at this level may have encountered quite different vocabulary areas. However, the individual can typically satisfy predictable, simple, personal and accommodation needs; can generally meet courtesy, introduction, and identification requirements; exchange greetings; elicit and provide, for example, predictable and skeletal biographical information. He/she might give information about business hours, explain routine procedures in a limited way and state in a simple manner what actions will be taken. He/she is able to formulate some questions even in languages with complicated question constructions. Almost every utterance may be characterized by structural errors and errors in basic grammatical relations. Vocabulary is extremely limited and characteristically does not include modifiers. Pronunciation, stress, and intonation are generally poor, often heavily

influenced by another language. Use of structure and vocabulary is highly imprecise (Has been coded S-1 in some nonautomated applications). [Data Code 10]

Speaking 1+ (Elementary Proficiency, Plus) Can initiate and maintain predictable face-to-face conversations and satisfy limited social demands. He/she may, however, have little understanding of the social conventions of conversation. The interlocutor is generally required to strain and employ real-world knowledge to understand even some simple speech. The speaker at this level may hesitate and may have to change subjects due to lack of language resources. Range and control of the language are limited. Speech largely consists of a series of short, discrete utterances. **Examples:** The individual is able to satisfy most travel and accommodation needs and a limited range of social demands beyond exchange of skeletal biographic information. Speaking ability may extend beyond immediate survival needs. Accuracy in basic grammatical relations is evident, although not consistent. May exhibit the more common forms of verb tenses, for example, but may make frequent errors in formation and selection. While some structures are established, errors occur in more complex patterns. The individual typically cannot sustain coherent structures in longer utterances or unfamiliar situations. Ability to describe and give precise information is limited. Person, space and time references are often used incorrectly. Pronunciation is understandable to natives used to dealing with foreigners. Can combine most significant sounds with reasonable comprehensibility, but has difficulty in producing certain sounds in certain positions or in certain combinations. Speech will usually be labored. Frequently has to repeat utterances to be understood by the general public (Has been coded S-1+ in some nonautomated applications). [Data Code 16]

Speaking 2 (Limited Working Proficiency) Able to satisfy routine social demands and limited work requirements. Can handle routine work-related interactions that are limited in scope. In more complex and sophisticated work-related tasks, language usage generally disturbs the native speaker. Can handle with confidence, but not with facility, most normal, high-frequency social conversational situations including extensive, but casual conversations about current events, as well as work, family, and autobiographical information. The individual can get the gist of most everyday conversations but has some difficulty understanding native speakers in situations that require specialized or

sophisticated knowledge. The individual's utterances are minimally cohesive. Linguistic structure is usually not very elaborate and not thoroughly controlled; errors are frequent. Vocabulary use is appropriate for high-frequency utterances, but unusual or imprecise elsewhere. **Examples:** While these interactions will vary widely from individual to individual, the individual can typically ask and answer predictable questions in the workplace and give straightforward instructions to subordinates. Additionally, the individual can participate in personal and accommodation-type interactions with elaboration and facility; that is, can give and understand complicated, detailed, and extensive directions and make non-routine changes in travel and accommodation arrangements. Simple structures and basic grammatical relations are typically controlled; however, there are areas of weakness. In the commonly taught languages, these may be simple markings such as plurals, articles, linking words, and negatives or more complex structures such as tense/aspect usage, case morphology, passive constructions, word order, and embedding (Has been coded S-2 in some nonautomated applications). [Data Code 20]

Speaking 2+ (Limited Working Proficiency, Plus) Able to satisfy most work requirements with language usage that is often, but not always, acceptable and effective. The individual shows considerable ability to communicate effectively on topics relating to particular interests and special fields of competence. Often shows a high degree of fluency and ease of speech, yet when under tension or pressure, the ability to use the language effectively may deteriorate. Comprehension of normal native speech is typically nearly complete. The individual may miss cultural and local references and may require a native speaker to adjust to his/her limitations in some ways. Native speakers often perceive the individual's speech to contain awkward or inaccurate phrasing of ideas, mistaken time, space and person references, or to be in some way inappropriate, if not strictly incorrect. **Examples:** Typically the individual can participate in most social, formal, and informal interactions, but limitations either in range of contexts, types of tasks or level of accuracy hinder effectiveness. The individual may be ill at ease with the use of the language either in social interaction or in speaking at length in professional contexts. He/she is generally strong in either structural precision or vocabulary, but not in both. Weakness or unevenness in one of the foregoing, or in pronunciation, occasionally

results in miscommunication. Normally controls, but cannot always easily produce general vocabulary. Discourse is often incohesive (Has been coded S-2+ in some nonautomated applications). [Data Code 26]

Speaking 3 (General Professional Proficiency) Able to speak the language with sufficient structural accuracy and vocabulary to participate effectively in most formal and informal conversations in practical, social and professional topics. Nevertheless, the individual's limitations generally restrict the professional contexts of language use to matters of shared knowledge and/or international convention. Discourse is cohesive. The individual uses the language acceptably, but with some noticeable imperfections; yet, errors virtually never interfere with understanding and rarely disturb the native speaker. The individual can effectively combine structure and vocabulary to convey his/her meaning accurately. The individual speaks readily and fills pauses suitably. In face-to-face conversation with natives speaking the standard dialect at a normal rate of speech, comprehension is quite complete. Although cultural references, proverbs and the implications of nuances and idiom may not be fully understood, the individual can easily repair the conversation. Pronunciation may be obviously foreign. Individual sounds are accurate: but stress, intonation and pitch control may be faulty. **Examples:** Can typically discuss particular interests and special fields of competence with reasonable ease. Can use the language as part of normal professional duties such as answering objections, clarifying points, justifying decisions, understanding the essence of challenges, stating and defending policy, conducting meetings, delivering briefings, or other extended and elaborate informative monologues. Can reliably elicit information and informed opinion from native speakers. Structural inaccuracy is rarely the major cause of misunderstanding. Use of structural devices is flexible and elaborate. Without searching for words or phrases, the individual uses the language clearly and relatively naturally to elaborate concepts freely and make ideas easily understandable to native speakers. Errors occur in low-frequency and highly complex structures (Has been coded S-3 in some nonautomated applications). [Data Code 30]

Speaking 3+ (General Professional Proficiency, Plus) Is often able to use the language to satisfy professional needs in a wide range of sophisticated and demanding tasks. **Examples:** Despite obvious strengths, may exhibit some hesitancy, uncertainty,

effort or errors which limit the range of language-use tasks that can be reliably performed. Typically there is particular strength in fluency and one or more, but not all, of the following: breadth of lexicon, including low- and medium-frequency items, especially socio-linguistic/cultural references and nuances of close synonyms; structural precision, with sophisticated features that are readily, accurately and appropriately controlled (such as complex modification and embedding in Indo-European languages); discourse competence in a wide range of contexts and tasks, often matching a native speaker's strategic and organizational abilities and expectations. Occasional patterned errors occur in low frequency and highly-complex structures (Has been coded S-3+ in some nonautomated applications). [Data Code 36]

Speaking 4 (Advanced Professional Proficiency) Able to use the language fluently and accurately on all levels normally pertinent to professional needs. The individual's language usage and ability to function are fully successful. Organizes discourse well, using appropriate rhetorical speech devices, native cultural references and understanding. Language ability only rarely hinders him/her in performing any task requiring language; yet, the individual would seldom be perceived as a native. Speaks effortlessly and smoothly and is able to use the language with a high degree of effectiveness, reliability and precision for all representational purposes within the range of personal and professional experience and scope of responsibilities. Can serve as in informal interpreter in a range of unpredictable circumstances. Can perform extensive, sophisticated language tasks, encompassing most matters of interest to well-educated native speakers, including tasks which do not bear directly on a professional specialty.

Examples: Can discuss in detail concepts which are fundamentally different from those of the target culture and make those concepts clear and accessible to the native speaker. Similarly, the individual can understand the details and ramifications of concepts that are culturally or conceptually different from his/her own. Can set the tone of interpersonal official, semi-official and non-professional verbal exchanges with a representative range of native speakers (in a range of varied audiences, purposes, tasks and settings). Can play an effective role among native speakers in such contexts as conferences, lectures and debates on matters of disagreement. Can advocate a position at length, both formally and in chance encounters, using sophisticated verbal strategies. Understands and reliably

produces shifts of both subject matter and tone. Can understand native speakers of the standard and other major dialects in essentially any face-to-face interaction (Has been coded S-4 in some nonautomated applications). [Data Code 40]

Speaking 4+ (Advanced Professional Proficiency, Plus) Speaking proficiency is regularly superior in all respects, usually equivalent to that of a well-educated, highly articulate native speaker. Language ability does not impede the performance of any language-use task. However, the individual would not necessarily be perceived as culturally native. **Examples:** The individual organizes discourse well, employing functional rhetorical speech devices, native cultural references and understanding. Effectively applies a native speaker's social and circumstantial knowledge; however, cannot sustain that performance under all circumstances. While the individual has a wide range and control of structure, an occasional nonnative slip may occur. The individual has a sophisticated control of vocabulary and phrasing that is rarely imprecise, yet there are occasional weaknesses in idioms, colloquialisms, pronunciation, and cultural references or there may be an occasional failure to interact in a totally native manner (Has been coded S-4+ in some nonautomated applications). [Data Code 46]

Speaking 5 (Functionally Native Proficiency). Speaking proficiency is functionally equivalent to that of a highly articulate well-educated native speaker and reflects the cultural standards of the country where the language is natively spoken. The individual uses the language with complete flexibility and intuition, so that speech on all levels is fully accepted by well-educated native speakers in all of its features, including breadth of vocabulary and idiom, colloquialisms and pertinent cultural references. Pronunciation is typically consistent with that of well-educated native speakers of a non-stigmatized dialect (Has been coded S-5 in some nonautomated applications)   [Data Code 50].

Interagency Language Roundtable(Speaking).

Retrieved from: http://www.govtilr.org/

APPENDIX H

Informed Consent Form

Informed Consent Form

Title of Study:

"Student Perceptions of the Effectiveness of Using Instructional Technology in Acquiring Listening and Speaking Proficiency in Arabic."

Purpose of Study:

The purpose of this study is to examine student perceptions of the effectiveness of using Apple devices—such as the iPod, iPad, and MacBook—and Web-based tools—such as the SMART Board and Sakai (Blackboard)—in acquiring listening and speaking skills in the Arabic Basic Course at DLIFLC**.**

Time Required:

The duration of the three surveys will take approximately 25 minutes to complete.

Confidentiality

Your name will not be mentioned in this researcher's dissertation or in any presentations on the study. Data collected will be used solely for this study. Your name and signature will be kept completely confidential, stored in a double-locked cabinet in a safe and secure place by the researcher. All survey responses will be shredded at the end of the study.

Risk:

There are minimal risks to participating in this study. You may withdraw from the study at any time. Your responses will be anonymous throughout the study and no one will be able to identify you in any way.

Benefits:

Your opinion will be beneficial to this researcher's survey. These opinions will give this researcher specific information about your views on using technology in the classroom during Arabic language learning. Your answers will also reveal whether the technology you currently use in the classroom facilitates your performance in acquiring proficiency in the Arabic language. Also, this research will ask you which software and websites you find most helpful in improving your listening and speaking.

What You Would Do:

If you agree to participate in this study, you will complete three instruments that consist of 50 closed-ended questions regarding the effectiveness of using the latest technological innovations in the classroom.

Participation and Withdrawal:

Your participation in the study is completely voluntary; you may withdraw from the study at any time. The researcher will be able to provide you with your survey score and you can use this information for your own language learning process. If you would like to know your score on three instrumentation questionnaire, please contact me.

Research Contact:

While you are taking the survey, you may ask me any question on the spot. If you have further questions, please contact:

Fawzi Khoshaba

Assistant Professor, Arabic Department–DLIFLC. Telephone number: (831) 242-5540

E-mail: Fawzik2000@yahoo.com.

Research Supervisor: Dr. Scott Griffith slgriffith@argosy.edu

Informed Consent Statement

I am 18 years of age or older. I consent to participate in the study. I understand the procedures listed above. I voluntarily agree to take part in this study. I understand that I may withdraw from this study anytime I want and without any question being asked.

◯ I Agree

◯ I Do Not Wish To Participate

APPENDIX I

The Approval Letter to Conduct the Study at DLIFLC

The Approval Letter to Conduct the Study at DLIFLC

DEPARTMENT OF THE ARMY
DEFENSE LANGUAGE INSTITUTE FOREIGN LANGUAGE CENTER
AND PRESIDIO OF MONTEREY
MONTEREY CA 93944-3236

June 13, 2014

Institutional Review Board (IRB)
U.S. Army Assurance: DOD A20209

Sylnovie Merchant, Ph.D.
IRB Chair
Argosy University
1005 Atlantic Ave.
Alameda, CA 94501

Dear Dr. Merchant:

On behalf of the U.S. Army Defense Language Institute Foreign Language Center (DLIFLC), I am writing to formally indicate our awareness of a research project proposed by Mr. Fawzi Khoshaba, a graduate student (School of Education) at Argosy University.

This research project, tentatively entitled *"Student Perceptions of the Effectiveness of Using Instructional Technology in Acquiring Listening and Speaking Proficiency in Arabic"* has been reviewed and approved by the DLIFLC Scientific & Ethics Review Boards, and by Dr. Jielu Zhao (Associate Provost for Undergraduate Education). Dr. Zhao has endorsed the use of DoD military personnel as participants in Mr. Khoshaba's dissertation research project.

I have been informed that the Argosy IRB will conduct the review and maintain institutional oversight of this project. Once the Argosy IRB has completed its review of the project, I ask that a copy of the outcome of that review (and approval number) be send to me so we may maintain a folder on this project in our file of current research projects.

If you have any questions or concerns, please feel free to contact me.

Sincerely,

J. Jeffrey Crowson, Ph.D.
IRB Chair
Professor, Educational Research
(831) 242-6727
jeffrey.j.crowson.civ@mail.mil