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The Academic Effects of Learning Styles on ESL (English as a Second Language) Students in Intensive English Language Centers

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THE ACADEMIC EFFECTS OF LEARNING STYLES ON ESL (ENGLISH AS A SECOND LANGUAGE) STUDENTS IN INTENSIVE ENGLISH LANGUAGE CENTERS

THE ACADEMIC EFFECTS OF LEARNING STYLES ON ESL (ENGLISH AS A SECOND
LANGUAGE) STUDENTS IN INTENSIVE ENGLISH LANGUAGE CENTERS

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Curriculum and Instruction

By

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December 2012
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ABSTRACT

This study investigated the learning styles of ESL students (students who learn English as a second language). The focus in this study was on the ESL Arab Gulf (Saudi Arabia, Oman, Kuwait, and United Arab Emirates) students who study English as a second language in Intensive English Language Centers (IELCs) in the United States. The study explored the ESL Arab Gulf students' learning style preference and how they are affected by different variables such as cultural background, gender, and language level in IELCs. ESL Arab Gulf students were administered the VARK Learning Styles questionnaire. It measures several sensory types of learning styles such as visual, auditory, kinesthetic, and tactile. The participants in this study were from Saudi Arabia, Oman, United Arab Emirates, and Kuwait. The finding of this quantitative research study showed that ESL Arab Gulf students' learning styles were affected by their cultural backgrounds and their gender as well. The results of this study showed that matching teaching styles to ESL Arab Gulf students' learning styles impacted the ESL Arab Gulf students' academic success positively. It helped students to achieved higher TOEFL scores more than the students who had different learning styles from their teachers'.

This dissertation is approved for recommendation
to the Graduate Council.

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DISSERTATION DUPLICATION RELEASE

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DEDICATION

This work is dedicated to my father, Mahmood, my mother, Rasmiah, my lovely daughter, Sarah, my wife, Rana, my brothers, Mohammad, Yousef, Ahmad, Khalid, Dirar, and Qussai, my sisters, Khawlah, Kawthar, and Deena, my brothers in law, Riyadh, Sameer, and Ja'far. A sincere thank you for the support you have given me. Your pure hearts that are full of endless love are really a shiny treasure in my life. I am really blessed because you are my family. I could not ask for more love. I will be forever grateful for the love you share with every single day. I really love you with all my heart. My father, do not think that you are forgotten. You will be always in my heart. I really miss you. I wish you are still alive to see what I have accomplished. I owe you more than you imagine.

Baderaddin

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CHAPTER I: INTRODUCTION

Teachers may find active students who are enthusiastic with brilliant skills and at the same time might encounter learners who are physically present but mentally are absent. Such lack of attention, lack of understandability, and confusion can be caused by several factors such as students' economic status, emotional status, and cultural background (Baharudin, & Luster, 1998; Battle, & Lewis, 2002). It is believed that secure economic status and stable emotions are important and very effective in the students' lives; however, they are not necessarily the main causes of lack of attention and lack comprehension. Other causes educators can also look for are the ones that form solid barriers that prevent learners from learning or at least from understanding the lectures completely. These barriers are so-called "the academic effect of learning styles on ESL (English as a second language) students" (Kruzich, Friesen, & Van, 1986).

Therefore, being aware of the proper students' learning styles in advance can help educators improve the academic performance of students. Identifying these learning styles helps uncover students' learning preferences and simplify the students' learning process as well as the teaching process (Lovelace, 2005). Teaching students according to their learning styles is effective. It helps students in general and English language learners in specific; recognizing students' learning preferences help teachers in the process of selecting the preferred learning strategies by which students become more engaged in the class. In doing this, ESL students become more motivated and engaged in the learning process. Teachers who do not recognize the learning styles of ESL students will more likely face difficulties in dealing with their students, resulting in a conflict between them and the students. This can be explained by the diverse

cultural backgrounds that ESL students come from. ESL students tend to learn in certain styles which could be different from North American teaching styles (Holtbrugge, & Mohr, 2010). The conflict happens when teachers enforce their teaching styles on ELL students. As a result, most of the ELL students may not interact in class which causes a lack of participation, lack of comprehension, and lack of attention and consequently low test scores.

ESL students come to United States to pursue their undergraduate or graduate degrees must pass the test of English as a Foreign Language (TOEFL) as one of the essential requirements for admission. This language test is designed to evaluate international students' proficiency in English. In case students fail the test, they have to enroll in an Intensive English Language Centers (IELCs). These language centers are designed to improve ESL students' language level and help them pass the TOEFL test.

ESL students have different learning styles and they are difficult to change during the time students spend in the IELCs. Since teachers face problems with time management during class, it is sometimes difficult to employ the learning styles teaching strategies to accommodate all students. However, if the learning styles teaching strategies are implemented in ESL classes, especially during the early period of teaching ESL students, the academic results will be much better than with the classical method. This is because learning styles can have a significant and powerful impact on the teaching and learning process in IELCs and in ESL education in general. In this case, the teaching process as well as the learning process for ESL students will be highly beneficial (Razawi, Muslim, Razali, Husin, & Samad, 2011).

It is well-known that students differ in their learning preferences (Dunn & Stevenson, 1997). The theory of learning styles recognizes that students have different preferences. It insists that students learn in different ways and in different methods. So teachers should recognize and

adopt these styles in their teaching styles to match students' learning preferences (Tulbure, 2011).

Background of Learning Styles

Learning styles were identified by many researchers such as Dunn (1983). She can be considered the pioneer of this field as she identified the existence of learning styles among students as well as teachers. Many other scientists and educators brought different definition of learning styles. Moran (1991), for instance, defines learning styles as “individual differences- differences in thinking, differences in interests, differences in manners, differences in knowledge backgrounds that are processed by people's manners.” Oxford (1998) also defines learning styles as a tool that is used to cover four aspects of the person: (a) cognitive style, (b) patterns of attitudes and interests that affect individuals' learning situation, (c) a tendency of teaching styles that can fit with their learning styles, (d) or a tendency to prefer some learning strategies and avoid others. Grasha (1991) also defined learning styles as preferences that are set for thinking, relation, classroom environment and experiences. According to Dunn (1984), learning style is a method in which an individual understands information and absorbs them in his/ her system. It is a skill that is developed by individuals, regardless of the process that is used to absorb information. Individuals use their preferred learning styles to help them comprehend information and solve their academic problems.

The theory of learning styles focuses on the reality that individuals perceive and analyze information in different ways (Tulbure, 2011). Teachers may know that if a student is not doing well in a certain topic, this does not mean that this student is a low achiever. Instead, it could be that this student can be a high achiever if the teacher change his or her teaching methods or styles to match his or hers.

Statement of the Problem

ESL students who come to study in IELCs in the United States have different cultural backgrounds than these of the American students. Such cultural differences lead sometimes students to adopt different learning styles than the ones common in the United States. The different educational systems also lead ESL students to have different learning styles than are traditionally represented in the North American classroom. As a result, different learning styles and different cultural backgrounds may affect the TOEFL scores of ESL students. According to Mustaffa (2006), it is very difficult for students to adapt new learning styles because they already have their established learning styles and they are also acculturated to certain types of classroom roles and norms. Differences in age, gender, and academic level among ESL students highly affect their learning styles. It is challenging for ESL students to spend short time in these Intensive Language Center and then go to the university. Most of the ESL students have to pass all language levels in these language centers to be admitted to the university.

To minimize the period in these Intensive Language Centers and make English learning process easy and effective, educators need knowledge of how learning styles of students from different cultural backgrounds differ and consequently affect their learning process. The need to improve the language level of ESL students urges teachers to accept ESL students with their own ways of learning and match their teaching styles with the students' learning styles to develop the academic level of these ELLs. Kruzich, Friesen, & Van (1986) found that the teachers' lack of awareness of learning styles can result in an inactive communication between teachers and students. The mismatch will create a learning block in classroom which will lead to low achievement level.

Purpose of the Study

To get admission to one of the American universities, ESL student must pass the TOEFL test. When ESL students do not meet the minimum requirement in TOEFL test (ETS, 2012) they will not be able to enroll at the university, and they will have to apply to one of IELCs. These language centers are designed to improve future international students' academic and communicative proficiency levels of English language to prepare them to be ready to take the TOEFL test again and then obtain admission to the university. Most of these IELCs examine the ESL students to determine their appropriate English comprehension levels. When students complete the final level they are granted a "TOEFL waiver" and then university admission.

Due to cultural and education variation among ESL students, it is important to design a comprehensive and effective teaching methods that suit all students regardless of their backgrounds. The purpose of this research is to conduct a quantitative research on the most common learning styles among Arab Gulf ESL students and the differences among these types of learning styles, and investigate the correlation between ESL instructions and the preferred learning styles of ESL Arab Gulf students. To do this, the study investigated how cultural backgrounds and language level of the Arab Gulf ESL students' countries influence their learning styles by shedding light on the TOEFL scores of the target students and find out if the preferred learning styles affect the TOEFL scores of Arab Gulf students. Finally, this study will investigate the correlation between ESL instruction and the preferred Arab Gulf students learning styles to come up with a method that can enhance the quality of teaching and learning in IELCs.

To meet this purpose, this study (a) explored and discussed the literature that is written about learning styles;(b) investigated the literature of the relationship between learning styles and cultural backgrounds of ESL students; (c) investigated the literature that is written about the

relationship between learning styles and teaching styles; (d) explored the theories and models of learning styles; (e) investigated the learning styles of ESL students who study in three IELCs; (f) provided a structure to better understand the variables that affect ESL learning styles and make them contrast.

Research Questions

The key questions guiding this inquiry are: (1) What is the most common learning style profile of Arab Gulf ESL students, and how much do they vary? (2) Do country of origin, language level and gender affect the preferred learning styles of ESL Arab Gulf students? (3) Do Arab Gulf students with different learning style preferences perform differently on the TOEFL? (4) Does a correlation between ESL instruction and the preferred students learning styles impact Arab Gulf ESL students' English language performance?

Hypotheses

- (1) Male and female Arab Gulf students have different preferred learning styles.
- (2) Beginning ESL Arab Gulf students have different preferred learning styles than advanced level ESL students in ILECs.
- (3) Cultural backgrounds of ESL Arab Gulf students affect their learning styles preference choice.
- (4) Preferred learning styles of Arab Gulf students affect their TOEFL scores.
- (5) Gender of Arab Gulf students affects their TOEFL scores.
- (6) The English language performance of ESL Arab Gulf students' impacts their learning performance level if instruction is matched to their preferred learning styles.

Significance of the Study

Choosing to investigate learning styles of Arab Gulf ESL students is significant because they represent the majority in the selected IELCs in the United States. Hence, better understanding of this population in particular helps and encourages ESL teachers to match their teaching styles to the students' learning styles, which leads to a higher level of students' proficiency in learning English. The results of this study urge teachers not to ignore ESL individual learning style preferences and guide ESL teachers to the best way to teach their ESL students which may result in a high proficiency in learning English as a second language and then help Arab Gulf student get admission North American universities.

This study contributes to a deeper understanding of the variables that affect ESL learning styles and make them differ among Arab Gulf ESL students in IELCs in two of the North American universities: University of Arkansas, Fayetteville and University of Oklahoma, Norman. This study will also contribute to a deeper understanding of the correlation between learning styles and used teaching styles in IELCs.

The results of this study will also help teachers to have a better understanding of ESL Arab Gulf ESL students' learning styles and will guide them to choose the teaching methods that match the Arab Gulf ESL students' learning styles and help them to be more engaged in the new academic environment. The results of this study will aid ESL teachers with a necessary knowledge of ESL students' learning styles, and how ethnicity and academic levels affect those kinds of students. As a result, the length of time spent in IELCs can be reduced to a minimum, the teaching and learning process can be easier, and ESL students can get admissions to the university in a shorter time with good command of English, and with lower level of anxiety and stress.

Assumptions

This research study was based on the following assumptions:

- (1) The more ESL teachers are exposed to the learning styles of Arab Gulf ESL students, the more the teaching styles of those teachers would be flexible and equal to the learning styles of ESL students.
- (2) The more focus on the learning styles of ESL students, the more flexible, effective, and productive the learning environment would be.
- (3) The more focus on the learning styles in teaching in IELCs, the more students would be graduated from these centers in short time.
- (4) The more focus on ESL learning styles, the lower the ESL students' stress and anxiety would be.

Limitation of Study

The conclusions of this study are based on the data obtained from only two IELCs at the University of Arkansas and the University of Oklahoma. The results of this study are limited to the ESL Arab Gulf students. The majority of Arab Gulf students were from Saudi Arabia and the rest of student were from different Arab Gulf countries.

Definition of Terms

For the clarity of this research study, the following definitions apply:

English as a second language (ESL): this term is used for learning English as a second language in English spoken educational centers or educational association.

ESL Students: this term is used for learning English language as a second language in English Spoken educational association.

ESL teachers: teachers who teach international students.

ELLs: English language learners.

OU: University of Oklahoma.

UA: University of Arkansas.

TOEFL: test of English as a foreign language

IBT: TOEFL internet-based test

Intensive English Language Centers (IELC): English language centers in English Spoken educational association in which students study the four English language skills intensively to get an admission to one of the universities in English Spoken countries.

Arab Gulf Students (AGS): students who are originated from one of the following Arab countries: Saudi Arabia, United Arab Emirates, Oman, Kuwait, Qatar, and Bahrain).

VARC: learning style instrument.

V: visual learning style.

A: aural learning style.

R: read/ write style.

K: kinesthetic learning style.

ANOVA: analysis of variance.

LSI: learning style inventory.

CE: concrete experience

RO: reflective observation

AC: abstract conceptualization

AE: active experimentation

CHAPTER II: REVIEW OF THE LITERATURE

Introduction to Learning Styles

The literature review of this research study includes the following: (a) background of learning styles, (b) relationship between learning styles and cultural backgrounds of ESL students, (c) learning styles and teaching styles, (d) adaptation to different learning styles in the same classroom, and (e) theories and models of learning styles.

Background of Learning Styles

This research study investigates the factors that affect learning styles of ESL students by examining (1) how these learning styles affect the English language performance of ESL Arab Gulf student in the IELCs;(2) how these factors play vital roles in the education process of ESL Arab Gulf students;(3) how these factors affect the learning styles differences among ESL Arab Gulf students, and (4) how the knowledge of learning styles could benefit ESL students and teachers as well.

Effective learning has always been a major concern for many educational associations. It is considered one of the more important learning processes that occur in classroom. Teachers who are interested in understanding the process of effective learning look hard for the appropriate pedagogical methods that enable them improve classroom instruction and cover all types of students in the same classroom. When the effective learning is applied in classroom, students will benefit from what they learn not only inside classroom but also outside classrooms. To achieve effective learning as well as effective teaching, it will be necessary for teachers to

become familiar with students' methods of learning and their theories (Hunt, 2011; Kumar, & Chacko, 2010).

Nowadays, the learning style concept is widely used in many educational associations worldwide. After an extensive review of learning style literature to give a clear and vivid knowledge about learning style concept, it was difficult to locate the roots of learning styles and articles of the one who created the concept of learning style is vague. However, the concept of learning style is used to describe the idea of individuals having different learning preferences that aid them with the preferred methods needed to achieve effective and meaningful learning.

Sarasin (1999) defined learning styles as “the preference or predisposition of an individual to perceive and process information in a particular way or combination of ways” (p.3). According to Sarasin (1999), learning styles can be understood not only in terms of learning preferences but also in terms of intelligence. Learning styles can be explored through intelligence or through primary senses of human beings. Grasha (1990) described the idea of learning style as the way in which students give preference for thinking, relating to others, different experiences, and for different classroom environment and experiences.

The idea of learning styles emphasizes that individuals learn differently and prefer to be taught differently. Several researchers such as Dunn (1983), Moran (1991), Hunt, Rensulli, Gardner and Hatch, and Kolb (1976) were interested in learning styles of students; they investigated students' learning style preferences, and the variables that affect the preferences of those learning styles of students (Gallaher & Nunn, 1998). Most of their research studies support the idea that students can master the curriculum if they are taught with different strategies or different methods that complete what they lack in classroom instructions. According to Dunn (1999); Tulbure (2011), most students cannot internalize new and difficult academic information

without relying on their learning styles. As a result, teachers will find it difficult if learning styles are ignored in classrooms.

Some ESL teachers deal with the concept of learning styles with some caution (Reid, 1998). They are more aware of their teaching styles than the learning styles of students, so they depend on their teaching styles to teach students. This can create a problem for teachers because it cannot be a solution for teaching all kinds of students in all times (Willingham & Daniel, 2012).

The obstacle that faces ESL teacher in teaching ESL students based on their learning styles is the probability that a high number of students have diverse learning styles. This creates a problem in classroom since covering those different learning styles in the same classroom is challenging task for ESL teachers and cannot be done all times (Willingham & Daniel, 2012).

ESL students have diverse learning styles because they come from different cultural backgrounds and have different educational systems and therefore have different learning styles. For instance, some students like to learn visually, some want to learn by listening, and others like to learn by doing. Some students want to learn with peers, but others prefer to work alone. Teachers, therefore, have to consider and measure students' learning styles at the beginning of each academic year in order to save students' time and efforts. According to Li-fang (2010), a previous knowledge of learning styles will save both the teacher and the student's time and make the education process effective and efficient.

Gogus and Gunes (2011) investigated the students' learning styles and effective habits in a Turkish university. In their study, they aimed to investigate the relationship between ESL students' learning styles, effective learning habits, academic performance, and their skills. The researchers argue that knowledge of the students' learning styles can help educators to design a

learning environment suitable for students with different interests and preferences. They discovered that Turkish students generally like to learn through practical application like solving problems, trying to make correct decisions and preferring to deal with technical works or problems as opposed to working with social relations. The second dominant learning style, in this study, was focusing on abstract concepts, making reflective observation and assimilating them into an integrated explanation. According to these researchers, Turkish students rarely prefer learning through carrying out experiments, taking risks generating new ideas, observing situations from different perspectives, or bringing different ideas together.

Jahiel (2008) discussed three types of learning styles: visual, kinesthetic, and auditory learning styles. According to Jahiel, most of the misunderstanding, confusion, lack of attention, or the students' feeling of blaming themselves for being not clever enough to understand the lesson is due to the lack of communication between the students and the instructors. The problem happens when teachers insist on teaching using their own teaching methods without paying attention to the students' learning styles. As a result, students will not comprehend the materials and will blame themselves for not being able to understand the lesson. While most educational systems value different teaching and learning styles, the educational system in the U.S. is pioneer in this field. According to Reid (1998), one of the most famous values in the U.S. is the concept of being independent. This is why we find most students in American classrooms are outspoken and self-confident.

Other cultures value different characteristics that are different from the American values. This may lead to different learning preferences. Therefore ESL students may face a problem in American classrooms. For instance, in an Asian classroom, teachers find class participation impolite which is the opposite in the North American classroom. When these students come to

United States to study in one of the American universities, they will face some obstacles that prevent them from understanding in classroom (Reid, 1998).

Nowadays, many educational associations apply different educational methods in ESL classrooms to cover all types of students' learning preferences. Therefore, differentiating the teaching methods is necessary not only in ELS/EFL classroom but also in other classrooms. Effective teachers know that ESL students are different than the rest of students in classroom. They need some special type of teaching that takes into account their learning backgrounds and learning styles. The teaching methods play a vital role in the learning process of ESL students. The weaknesses of ESL students can be alleviated if there are a variety of teaching methods in classroom (Mondal, 2011).

Effective teaching practices can force ESL teachers to think about teaching ESL students through using different teaching methods. This technique enables ESL educators to cover different kinds of ESL students in classroom. When ESL teachers are empowered with a variety of teaching methods, they will be able to make choices that affect the teaching process in ESL classrooms positively (Mondal, 2011).

Teachers do not always need to link the students' failure to the students' lack of study. It might be that these students were taught using undesirable teaching styles. Some teachers underestimate their students' abilities, and they do not consider the learning styles of their students as one of the reasons for failure which may lead students to fail, which may lower their self-esteem and make them frustrated students (Jahiel, 2008).

Gardner and Hatch (1989) discussed the idea of how people learn differently and have different kinds of intelligences. If a student is not good in one of the subjects, it does not mean that he or she is a low achiever. Some students are good in some subjects but weak in others. If

teachers, however, are committed to match their teaching methods with students learning styles, students may become better in the fields in which they are weak.

According to Gallaher and Nunn (1998), “with the explosion of the brain research done in 1990, it had become known to instructors that learning is not the simple clear-cut process that they associate with the one-room schoolhouse”(p.77). Since 1990, more information about the students and teachers learning preference has been investigated. Teachers have been encouraged to examine and test their learning styles before they start teaching. They were motivated to learn the strength of their learning styles and teaching styles as well. As a result, matching teaching styles to students’ learning styles increases teacher productivity and student comprehension level in classroom (Gallaher & Nunn, 1998).

While it is true that some students are not good in a specific subject because they do not like that specific subject, when teachers adjust their teaching styles to students’ learning styles, there will be a difference and students’ performance will be improved. As a result, there will be a difference and students’ performance will be improved and teachers will reveal how to design class activities that help students to get better.

Definition of Learning Styles

Learning style was defined by several researchers such as Dunn (1979), Reid (1998), Fleming (1998), Kolb (1984), and others. The concept of “learning style” was also cited in many popular research studies and books such as Dunn and Griggs (2000), Nunn and Gallaher (1998), Gregory (2005), and Sprenger (2003). It has been recognized widely in classrooms in the United States for more than two decades. Educators have been aware that individuals learn in a unique way that improves the comprehension process. Gallaher and Nunn (1998) compared a learning

style to human beings' fingerprints. They argued that a learning style is very unique and very individual, thus they compared it a human fingerprint.

According to Reid (1998), learning styles are internally-based characteristics that are used by learners to understand new information and discover how to learn best. Learners prefer to boost their confidence and consequently their performance. They do not follow the teaching styles of their teachers because they retain their learning styles even if they encounter different teaching styles and different classroom environments.

Some researchers differentiate between learning styles and learning strategies. They claimed that both concepts are unique and different from each other. For example, Reid (1998) argued that learning styles are internal skills that were acquired unconsciously, but learning strategies are external skills that can be learned consciously. Learning strategies are adopted by individuals to improve and develop their level of comprehension. On the other hand, a learning style is an internal characteristic developed in people since childhood. Children grow up with individual learning styles which are difficult to replace with new learning styles in the future.

According the Reid (1998), over time, some ESL students may adapt their perceptual learning styles to the educational culture in which they are studying. With experimentation and practice, ESL students can use more than one learning method and adapt themselves to the new educational environment. Sometimes they are forced to use multi-styles to learn and comprehend the new information in classrooms. But it is not always the case because some students will refuse to follow the teacher's teaching methods which may result in a conflict between the students and the teachers.

Changing the learning styles of a student is difficult for both teachers and students. Therefore, teaching students learning strategies is more effective and works better than forcing

students to give up their learning styles and to adjust to their teachers' learning styles. Teachers are urged to work on students' learning strategies instead of trying to force them to replace their learning styles or match them with the teaching styles (Languis, 1982).

Languis (1982) has a different point of view than Reid. He believes that a learning style is a consistent pattern of behavior that is formed deeply in the structure of personality which is molded by human development variables and cultural influences of experience in the school and in the society as well. Learning styles refer to methods that individuals used to process to understand regular information and comprehend new difficult information. When ESL students encounter new information, they use their regular learning styles to comprehend both the new information and new teaching styles.

Dunn (1984) defined learning styles as the way in which each person absorbs and retains information and skill. According to Dunn, the process of absorbing and retaining information is different for every student regardless of how that process is described; it is still different for every student. Learning style is the way in which each person begins to concentrate on, process, internalize, and retain new academic information. Because each person learns differently from every other person, the same instructional environment, methods, and resources will be more effective for some learners and less effective for others (Brand, Dunn & Greb 2002; Burke & Dunn, 2003).

Shaughnessy (1998) defined learning styles as a method that students use to focus on, process, and analyze new difficult tasks, information, skills, and so forth. According to Shaughnessy, the learning styles of individuals are controlled by age, achievement level, cultural background, individual's method of analysis, and gender.

Jahiel (2008) defined learning styles as the way in which individuals process information and analyze it. According to Jahiel, individuals do not rely on one type of learning styles but some of them have one primary learning style and others have more than one learning style. Individuals observe, process, and analyze the information by using one or more learning styles in order to have a complete comprehension process.

According to Gergory (2005), a learning style is “a lens that we as educators can use to help differentiate instruction to appeal, engage, and facilitate learning for different types of students who have different needs” (p.2). It is important that educators imagine that a learning style is the gate that can give them a chance to discover how students visualize, hear, understand, and learn from teachers’ instructions. Gregroy asserted the policy that asked teachers to do some modification to their teaching methods in order to match students’ learning styles. If teachers modify their teaching methods, they can create a classroom environment suitable for all types of students’ learning preference, and they will present materials that appeal to the visual, aural, read/ write and kinesthetic (VARK) learning styles of students (Gregory, 2005).

To conclude, learning style is the way in which somebody approaches the acquisition of knowledge. There are different types of learning styles. Some individuals have more than one and some of them rely only on one primary learning style. Factors, such as age, achievement level, academic level, gender, and cultural background, affect and sometime control individuals’ learning styles.

Benefits of Learning Styles

Learning styles are considered to be effective, important, sensitive, and serious factors in preparing ESL students for the academic and communicative professional practices in class.

Individuals' learning styles are considered one of the important factors that affect the comprehension level of ESL students. According to Kruzich, Friesen, & Van (1986), to increase the academic level of students in schools, educators are urged to take into account three important elements: the nature of knowledge and skills that are taught to students in schools, the teaching methods that are used in schools, and the learning styles that students use to learn in classroom; therefore, learning styles and teaching styles play a key role in developing and enhancing the students' learning process.

The process of learning styles need to be discussed in depth for the benefit of student in general and for the benefit of the ESL students in specific. The reason behind the profound discussion is that a better understanding of the ESL students' different learning styles can compel teachers to match their teaching styles to students' learning styles which may lead to a higher level of students' proficiency in learning English.

Boatman, Courtney and Lee (2008) conducted a research about the effects of learning styles and the linkage between them and teaching styles. The researchers distributed the "VARK questionnaire" on 211 students in Saint Mary College in California. Of the targeted students 49% were women and the rest were men. Of all students, 57 % of the students were Caucasian, 20% were Latino, 13% were Asian-American, 7 % were African-American, and 2 % were Native American.

The study suggested that there was a strong preference for visual learning styles. Therefore, teachers were advised to use the visual teaching methods in order to help students develop their performance level, help students to feel that they are studying in an encouraging environment, allow student to feel special and achieve self-respect, and also help students to improve the level of comprehension in classroom.

Dunn and Stevenson (1997) argued in their article “Teaching Diverse College Students” that trained teachers should be assigned to teach freshmen to study with strategies that complement their learning style preferences. They suggested that this strategy may help students to motivate them to be high achievers. The researchers administered both learning style (LSI) and the Productivity Environmental Preference Survey (PEPS) to students. Students who were taught according to their learning styles achieved statistically higher grades and grade point average than students who were not taught according to their learning styles. As a result, the researchers advised faculty to examine and identify the learning styles of students. They also encouraged teachers to identify their teaching styles and bridge the gaps among teachers’ teaching methods and students’ learning styles.

Brunner and Majewski (1990) conducted a research study about the teaching and learning styles. They were able to prove that teachers who changed their teaching styles from traditional teaching to learning-style teaching methods were able to help their students to have higher comprehension level which led to higher achievement levels in classroom (as cited in Shaughnessy, 1998).

According to Gallaher and Nunn (1998), the knowledge of learning styles can provide clear directions and smart teaching lesson plans on how to teach individuals by using appropriate teaching methods. The researchers argued that the knowledge of learning styles can help students recognize their own learning styles so they will be able to teach themselves. Consequently, students will be able to reduce stress and increase the level of learning and comprehension.

Jenkins (1991) discussed the benefits of learning style assessment for middle school students and outlines ways to apply results and increase teacher effectiveness at varying instructional methods. According to Jenkins, when educators plan to design more personalized middle

schools, they have to consider the learning styles of student since it is one of the major students' characteristics. Instructors need to have knowledge of students' learning styles, and how ethnicity and time variables affect them in order to improve the learning performance level of students.

Most research studies proved the fact that recognition of students' learning styles can help both teachers and students to achieve effective learning. The students will gain more knowledge and comprehension and teachers will know how to prepare their teachings in classrooms (Claxton & Murrell, 1987). The knowledge of learning styles is beneficial for both, students and instructors. The knowledge of learning styles will act as a gate that can help individuals recognize their learning preferences and it will help instructors to design interactive lesson plans which will result in creating a supportive learning environment in classroom. As a result, individuals will feel special and achieve better understanding of lessons.

Finally, most research studies proved the fact that recognition of students' learning styles can help both teachers and students to achieve effective learning. The students will gain more knowledge and comprehension and teachers will know how to prepare their teachings in classrooms (Claxton & Murrell, 1987).

Relationship between Learning Styles and Cultural Backgrounds of ESL Students

Questions on learning styles, teaching styles, classroom environment, language, and culture will continue to rise as soon as there are immigrant individuals entering schools in new countries of residence. These subjects have been debated frequently for long time in order to create effective learning process in classroom for both, native students and for immigrant students as well. Culture and first language barriers were the main focus for educators in regards to ELS students. A question on how the culture affects the learning style of ESL students and the

relationship between them continues to be a driver for major debate in the field of language acquisition.

The learning preference of ESL students in specific and students in general is considered to be an important field in many academic institutions because the number of ESL students who study in those academic institutions is growing impressively; therefore, the export of higher education is increasing significantly in the modern countries.

How to help ESL student acquire English language is a major research question and leads to further investigation on ESL learning preferences in depth (Holtbrugge, & Mohr, 2010). According to Holtbrugge and Mohr (2010), “the number of foreign students in the United States has increased by 6% since 2001, and in 2007 there were almost 600,000 foreign students studying in the United States” (p.622). The number of ESL students studying in the United Kingdom were over 300,000 from 2005 to 2007. The number of ESL students studying in Germany were 246,369 enrolled in German universities in 2007 (as cited in HESA, 2008).

When such students come to study in one of the developed countries, such as the United States, they may face the reality of facing cultural backgrounds that are different from the one existed in their home countries. ESL students have their own culture and their own learning styles that are different from the North American leaning styles. Thus, some of the ESL students will encounter cultural shocks that can inhibit them from being comfortable in the new academic environment.

ESL students may encounter different kinds of cultural shocks such as the completely new environment and the new school system that is different from their country of origin system. Adaptation for ESL students is not an easy task because it consumes time and efforts in order to adapt to the new culture and the new academic system. Sometimes, these cultural shocks may

result in a higher level of stress which may lead some ESL students to surrender to stress and anxiety. The American education system is different from what they were used to in their native countries. Some of the classrooms in the United States are student- centered more than teacher-centered classroom. The majority of the ESL students come from a country where the main goal of teaching is memorizing knowledge with the help of teachers.

In this study, most of the participants were used to the traditional method of teaching; therefore, they may encounter difficulties especially in the beginning stage. Greeson (1998) conducted a study on 32 regional campus college students to investigate whether students prefer teacher-centered classroom or student-centered classroom in which they can share an effective part in classroom by asking questions and sharing more information. The finding of the study showed that students favored student-centered classroom more than teacher-centered classroom.

ESL students in the United States could face a problem to adapt to the new education system and to the new culture. Therefore, most of the ESL students will be quiet and shy in classroom; teachers need to identify the reasons behind this lack of participation in their classrooms. Zhang (2011) discussed the concept of cultural conflict through a case study of a Chinese student who was accepted to study in one of the American universities in the United States. The researcher argued that Chinese students studying in the United States of America struggle with cultural differences between Chinese and American students. The researcher gave an example of those cultural differences through his son's experience with an elderly American woman. The boy was in the library and he saw an old lady pulling a cart of books, he rushed to help her but she refused and thanked him. The Chinese student was embarrassed and left sad. In China, young people must respect the senior citizens and help them every time they need help.

This is different in the United States. People in the United States prefer to be independent and like to be treated as independent which is different from the culture in the United States.

ESL students will not feel comfortable in the class and may face some fun activities with fear and doubt since they are not familiar with this type of activity. When ESL students encounter a new culture and teaching methods, they may feel uncomfortable and may feel embarrassed if they are asked to share their opinion in class. Some of the ESL students are not used to being taught by teachers of the opposite sex because in their country males and females study in segregated schools.

ESL students face obstacles when trying to adapt to the new culture and the new educational system, but the most difficult issue is the new language and achieving high TOEFL scores that guarantee them a place in a university. Some students may have some knowledge of English, but most of them will not have a background in English. The ESL students will be forced to deal with the new language and the new culture on a daily basis. If these students are not motivated and not encouraged to do their best in order to adapt to the new language and to the new culture, they will be depressed and their academic level will be low (Genesee, 1994).

Most of the ESL will face difficulties to adapt to the new language in specific and to the new culture in general at different levels. While some of the ESL students are motivated and feel comfortable because they want to change their old learning methods to develop their English language performance level, others might feel disappointed and discouraged.

According to Dunn (1999) the second language learners achieve higher scores when they were taught globally, and they might perform better if they were tested through alternative methods rather than with classical tests. Teachers need to encourage ESL students and let them know that they understand that ESL students face difficulties in class but they are willing to help

and lower students' pressures as much as possible. As a result, ESL students will have the opportunity to feel relaxed and start working hard on their communicative and academic skill at the same time.

The ESL Learning strategies may change during the study period in IELCs. Students who prefer to learn visually now may change and prefer to learn kinesthetically in the future. Students who prefer to learn with peers now may prefer to learn alone in future. In other words, ESL students come to the United States with their own learning styles but can teachers change these learning styles to help adapt to the new learning system?

Dunn and Stevenson (1997) recognized the difficulties that ESL students face in class. They present a framework for teaching diverse college students to study and do their homework based on the basis of their learning-style preferences as identified by either one of two reliable and valid instruments. The result of their research was interesting, showing that the students who were taught according to their learning styles showed a better performance than the students who were not taught according to their learning styles. This emphasizes the importance of investigating the cultural background of ESL students. A better knowledge of the cultural background will help teachers to understand how these students prefer to learn. A better understanding of ESL students' cultural background will allow teachers to change their teaching styles to match students learning styles.

Buttaro (2004) conducted a research study to identify the educational, cultural, and linguistic adjustments and experiences encountered Hispanic females in learning English as a second language in the United States. In this study, the researcher wanted to shed the light on the cultural effects on the performance of learning a second language. The participants were from Latino countries and they were eight females. The results of this study indicated that “the

cultures and traditions of their native countries had a profound impact on their study habits” (p.32). The results also revealed that participants were determined to learning English language but the culture and tradition impact them deeply. They spent more time with other Latinos, children, and family members in order to do their homework by reading the literature of English. The participants want to learn the language because of their family. They are ashamed of themselves because they do not speak the language and they do not want to be embarrassed by their family members. According to the researcher, one of the participant said that “I went to school because I did not want my children to say Mommy doesn’t understand what I tell her. That is why I became interested in learning English” (p. 33).

Learning Styles and Teaching Styles

Teaching is about making students different. What I mean by “different” is making them unique. Educational institutions always look for methods that can assist them make their institution more effective and more active in regards to teaching students. Since students prefer to learn by adopting specific learning styles, teachers also prefer to teach students specific methods and strategies. Herman Witkin (1977) reported that elementary teachers have different teaching styles. According to Herman Witkin, the elementary school teachers prefer to be socially oriented. They observed other people for appropriate behavior and they respond to different views and opinions. On the other hand, the secondary school teachers prefer to take decisions by themselves so they prefer to be more independent. They are less social than the elementary teachers and more self-motivated (as cited in Campbell, 1991).

Dunn (1979) discussed how teachers teach students. Dunn argued that the efforts of teachers misdirect their wrong assumptions and their superficial designs. They choose to develop

the students' performance level but sometimes they fail because they are misdirected by their assumptions. According to Özkan, & Ulutaş (2012), teaching is not only telling and learning. It is more than these limited concepts. Both concepts have deeper meanings than the superficial assumption of a simple word. The superficial assumption may lead to superficial teaching and learning process which create difficulties for both students and teachers.

According to Dunn (1979), the mismatch occurs among students and teachers is due to some difficulties in recognizing the positive characteristics of teachers' styles and difficulties in using the appropriate measure that scales the aspects of the teaching learning process. Another difficulty is that teachers may not be good enough to teach even if he/she is knowledgeable, and he/she may not have the knowledge of learning styles when observing students. According to Dunn (1979), the teaching style is a result of the academic background of the teachers. It is a result of how teachers learned. This what clarifies the difference in teaching styles among teachers and who they reflect on exercises using different teaching method that imitate the way they learned.

Campbell (1991) argued that instructors usually lean towards teaching the way they feel relaxed and comfortable in a learning situation. They usually encourage students to observe their ways of teaching. Some teachers believe that students can learn and comprehend the lesson if they imitate teachers. Some teachers believe that their style or method of teaching is the best and students can benefit and understand since this teaching style is preferable by teachers themselves. In this way, they teach the way they like and do not give learning styles any attention. It is not always the case for one reason.

According to Sarasin (1999), if teachers prefer to perceive things in an auditory way, their teaching styles will be likely to emphasize hearing. If they tend to perceive things visually,

their teaching strategies will be likely to rely on visual picture. If they tend to perceive things in tactile ways, their teaching strategies will probably appeal to the touch and movement. To solve this problem, instructors are encouraged to recognize the learning styles of students and integrate them with class activities. Relying on teaching styles only may create obstacles for students in general and ESL students in specific.

When teachers think of how and what they teach, they will discover that their teaching style consists of two parts. One is their learning styles and the second their past successful learning experiences. Therefore, teachers teach the way they learn and they tend to choose the lessons according to their learning styles. Educators and researchers cannot deny the fact of what works for teachers might not work for students which may lead to academic gap among teachers and students (Sarasin, 1999). When this gap occurs in class, neither teachers nor students will feel comfortable in class. As a result, the low comprehension level may expand and students may become bored; teachers will not feel that students are willing to comprehend the lesson. The motivation will be in the lowest level for both teachers and students.

According to Campbell (1991), teachers need to be aware of their own learning styles. They need to work on their teaching styles to motivate students to be high achievers. Teaching ESL students is not easy compared to regular classes. It is sometime difficult to teach ESL student according to their learning styles but it is sometimes worthy and necessary to be applied in these types of classrooms. So teachers who teach to gain a stipend at the end of each month will not be able to motivate students to develop and be higher achievers. Teaching these kinds of students need more than a salary to teach them effectively. The ESL teachers need to be passionate for teaching ESL students; they should care for their students regardless of their origins and be willing to teach them effectively.

Most of the ESL students do not have sufficient background in English, so they enroll in language centers to improve their level of English to get admission to the university. ESL teachers need to understand that the role that they play in ESL students' life is serious and important in their students' life. Most of these students left their countries, their families, and their jobs to come and pass the TOEFL test and get an admission to the University. So the ESL teachers need to be willing to change students' academic life for the better and motivate them to improve both the academic and communicative skills.

ESL teachers also need to be able to reflect on students' academic career and understand that being an ESL teacher is not stress-free job. ESL teachers need to work collaboratively with students, parents, and other peers, to improve ESL students' performance. Teachers expect students to follow their way of teaching but this does not work all the time. Since teachers expect students to change their methods of learning, they also need to change their ways of teaching to match students'.

It is known that teachers like to teach students the way they were taught and some teachers believe that it is the best way to teach. Teachers also tend to choose the subjects they teach based on their learning preferences, but they have to change and collaborate with students who play the main role in classroom (Jaenke, 2012). When teachers recognize how students learn, they will be able to customize these learning styles to teaching styles that are most responsive to that style. Some teachers will be comfortable using several different teaching methods since they are used to use only one or two but they can try and wait for the results to see if the students' level of performance is developed or goes lower.

Kayoko Yamauchi (2008) conducted her dissertation on how adult ESL students learn effectively according to their learning preferences and their cultural backgrounds as well. The

researcher used descriptive statistics to understand the respondents' background in relation to the results of the Productivity Environmental Preference Survey (PEPS).

According to Yamauchi (2008), ESL teachers should integrate a range of learning style preferences that match students' academic level to create a learning environment and the stimulus of learning styles should be gradually transformed from sociological elements to physiological ones. The results indicated that the instructional role of ESL educators was influential.

The comparison between productivity and learning styles preference of ESL teachers and students showed that similarities and differences among ESL students and teachers were significant for understanding learning style preference of diverse respondents. Similarities from the result of standard score over 60 showed that the majority of ESL students and teachers preferred to learn in the afternoon and they produced better outcomes in a structured and peer-oriented learning environment. The higher preference for the afternoon is because the difference of time between ESL students' home country and United States in which it affects the time learning preference. This encourages teachers to adjust the time for new ESL students to provide an effective learning opportunity for ESL students.

The more the students reflect upon themselves in learning process, the more they would be able to develop self-awareness in developing their learning styles. The result of this study showed that ESL learners' level of academics and country of origin control the motivation of these students, so teachers need to examine the learning environment and the type of programs as well. In doing this, teachers will be able to extend ESL students' performance and pay more attention when they choose the educational setting for their students.

It is difficult to teach all students in the same classroom to their learning styles, but it is not impossible process. Teachers, who work to achieve effective teaching and learning as well, can manage this teaching process in their classroom. According to Dunn (1999), children who share the same learning style method can be assigned to the teacher using the method most responsive to that youngsters' learning style to get better academic results.

Adaptation to different learning styles in the same classroom

Dunn and Dunn (1978) emphasized the need to recognize the learning style characteristics of students and then to assign them to methods and resources with which they are most likely to achieve. The researchers argued that the recognition of learning preferences of students will likely lead teachers to consider an overall teaching program that covers the major types of students in classroom. It will help instructors to facilitate student's comprehension level by dividing them into matching groups which will facilitate students' academic progress in classroom.

The fact that individuals in general and students in specific have different learning strategies forces students to use these kinds of strategies to observe, remember and then learn new information and use it appropriately in class. The students are the only ones who will be responsible for using the appropriate learning strategies for the sake of comprehension and problem solving. According to Franzoni, & Assar, (2009), "Students go through a process where they recognize the new knowledge, review previous concepts, organize and restore that previous knowledge, match it with the new one, assimilate it and interpret everything that was seen on the subject" (p.19). When students receive new information, they try to collect this information, organize it, and then match it to their previous information. If the method that was used to teach

this information was different from the one that is used by students, comprehension gap may occur between the sender and the receiver of information (Franzoni, & Assar, 2009).

Teaching styles are somehow different from learning styles in which teaching styles are used by educators to facilitate the comprehension process of learning among students. The design, organization, and the method of delivering teaching styles in class are crucial to the comprehension process. They play the role of connecting teaching strategies to students' learning strategies. Teaching styles must be designed in a way that matches learning styles of students. Matching teaching styles to student learning styles help students to be motivated to discover, observe, and learn the knowledge by themselves (Franzoni, & Assar, 2009); (Yamauchi, 2008); (Dunn, 1999);

Exploring the learning styles of students is important and necessary to be investigated in any type of classroom. According to Reid (1998), ESL teachers began to investigate the learning styles of their students in second-language classrooms at the beginning of 1990s. The way that students prefer to learn is more important than the way teachers prefer to teach. Accordingly, teachers need to investigate the learning styles of their students to match their teaching in ESL classrooms. Some teachers teach their students according to the method that they were taught by which sometimes resulted in students' lack of comprehension and absence of motivation.

Boatman, Courtney and Lee (2008) discussed the impact of faculty and student learning styles on student performance, and how students and instructors were asked to complete the VARK questionnaire to identify which of the sensory modalities they prefer to use to learn information. Hawk and Shah (2007) insisted on the idea that teaching methods do not work with all types of students. So teachers need to have more knowledge about the learning styles of students. Layzer (2000) discussed the role of classroom context in enabling the ESL students'

academic success. The researcher observed classrooms and interviewed several ESL teachers to find out the problematic contradictions that are embedded in beliefs of teachers of ESL adolescents.

The majority of teachers rely on lecture as primary teaching methods. They think that students learn auditory, but it is not the case all the time. ESL teachers need to teach students using methods that complete the students learning styles by using resources that are complement to the students' cultural background. In doing this, teachers create a friendly environment for these ESL students that can motivate student to accept the school and the new environment at the same time.

Burke and Dunn (2003) stated that teachers in the Freeport School District (FSD) began teaching to individual learning styles to ensure that all of their students performed well in school. According to these researchers, the students' academic achievement can increase significantly if teachers teach students using approaches and resources that complement the students' particular learning styles.

The ESL teachers can also create lesson plans that motivate students and help them to know what exactly instructional objectives are required in the class and how they can achieve it. Backward design is very effective in these kinds of classrooms. It supports students with all information about the class in advance so they will not be confused and they will work to achieve the lesson objectives. ESL students also need to know when and how mastery can be evidenced, so the teachers have to develop a scope and sequence to help students and their parents to prepare well for each lesson (Dunn et al . , 2010).

Jahiel (2008) also encouraged teachers to match their teaching styles with students' learning styles. According to Jahiel, a teacher can teach appropriately to the learning styles of the

students if he or she matched the teaching styles to the students learning styles. But in order to provide a better way of learning to students, learning style should be determined earlier.

Variables such as personality, perception, ability and intelligence should be considered when teaching especially when teaching ELS students (Kazu, 2009). Effective teaching motivates educators to realize that everyone in classroom is a teacher and is a learner at the same time. The wisdom behind this is to give students the chance to learn and the educators to step back and facilitate the learning process (Sprenger, 2003).

Theories and Models of Learning Styles

Since the 1970s, the concept of learning styles has been investigated profoundly (Cassidy, 2004). It has provided valuable insights about enhancing leaning performance and individuals' learning preferences. There is also a general acceptance that individuals' learning styles have impact on the performance of their learning outcomes.

Learning styles of individuals are different and vary among individuals. These differences are considered important because of their influence in the academic achievement of individuals. Therefore, choosing the proper learning style is one of the critical factors that affect the learning outcomes of students in general and ESL in particular.

The learning style theory focuses on learning preferences among students and how they prefer to learn in academic situation. Most of the literature that was written about learning style concept focused the immediate and long term results of teaching students. According to Sim, & Sim (1995), the majority of learning style literature research on learning styles evolved from the psychological research on individual differences. The research of how students prefer to learn concentrates on the relationships of human senses and the memory, and how they develop

students' comprehension ability. The importance of the concept of learning preference motivated researchers to start looking for a measure that can help individuals recognize their favorite learning styles. For decades, different learning-style inventories have been developed investigating the learning preferences of individuals. Most of the learning styles inventories and theories as well focused on the procedures of teaching and learning and how to gain a quality learning outcome. Therefore, researchers have been working on a qualified learning style inventories that will secure effective learning outcomes. According to Campbell (1991), "at least 32 commercially published instruments are being used by researchers and educators to assess the different dimensions of learning style. The instruments vary in their length, format, and complexity" (p. 1). Three of these instruments are chosen to be discussed in this research study.

Kolb published the first model of Experiential Learning Theory in 1976. The model consisted of four process learning cycle: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). According to Kolb, the most effective learning takes place when learning activities embrace all four processes (Hawk, &Shah, 2007; Cassidy, 2004). David Kolb developed a widely used and simply administered 9 questions in 1976 and developed them to be 12 question questionnaire in 1985. The 12 questions survey helps individuals to measure their learning styles and learning preferences.

The learning style inventory (LSI) is based on preferred learning styles and stages. The LSI results reflect the individuals' focus on the four learning processes and measure individuals' preferences of concreteness and reflection (Raschick, Maypole, &Day 1998). The model has been used on a comprehensive learning theory that helps individuals recognize their learning styles. Raschick, Maypole, & Day (1998) explored ways that application of David Kolb's learning style model can improve the quality of field education. In their research study, they first

explain Kolb's theories concerning preferred learning styles, the need to complete four learning stages in sequence (concrete experience, reflective observation, abstract conceptualization, and active experimentation), and combinations of preferred learning styles in quadrants.

Dunn (1990) defined learning styles as, “the way in which each learner begins to concentrate process and retain new and difficult information” (p.224). When a student’s natural tendency and style is triggered, his/her ability to concentrate and make associations improves his chances of transferring information to long-term memory. The Dunn and Dunn’s Productivity Environment Preference Survey model questionnaire offers 100 questions that cover the five stimuli and their elements. The questionnaire is self-score and self-interprets (Hawk & Shah, 2007). The researchers indicated that there are five learning style stimuli and several elements within each stimulus. The five stimuli have been identified in helping individuals their process of learning. These five stimuli are:

- Environmental
- Emotional
- Sociological
- Physical
- Psychological

Environmental stimuli includes: sound, light, temperature, and design. Emotional stimuli includes: structure, motivation, persistence, and responsibility/conformity structure. The Sociological stimuli includes: study/learn Alone, paired with another, study/learn with a group Colleagues. Physical stimuli includes: perceptual strengths (auditory, visual, tactile, intake, time of day, and mobility). The Psychological stimuli includes: analytical or global, left brain or right brain, reflective or impulsive (Cassidy, 2004).

According to Dunn (1990), individuals differ among each other. Some of them prefer to learn in quiet places but others do not prefer quiet places. These kinds of individuals may be affected if teachers ignore their learning preferences. Light is important to some individuals. Some people work well under bright lights, but others prefer to learn under low lights. According to Dunns' LSI, the following factors can affect individuals' learning process.

- Temperature
- Design
- Motivation
- Time
- Mobility
- Individuals' senses

Fleming's VAK/VARK model is expanded upon the earlier Neuro-linguistic programming VARK models: visual learners, auditory learners, and kinesthetic or tactile learners (Lincoln & Rademacher, 2006). It is a perceptual mode that focuses on different ways in which individuals take in and give out information in order to provide them with a profile of their instructional preferences.

According to Fleming (1998), "the VARK is in the category of instructional preference because it deals with perceptual modes (p.1)". Students use their senses in any academic setting. They use their sight, speech, and their hearing with less focus on taste, touch or smell. According to him there are some dominant preferences and some that are close to zero.

The VARK inventory uses four modalities. The first one is Visual (V). According to Fleming (1998), "this mode includes information in charts, graphs, flow charts, circles, and all the symbolic arrows, circles, hierarchies and other devices that teachers use to represent what

could have been presented in words. This mode does not include these media: -pictures, movies, videos and animated websites because they use a combination of many modes (multimodal)- mainly kinesthetic, read/write and aural” (p.1). The second modality is Aural (A). This modal describes students’ hearing and speech. Students who prefer this mode learn best from lectures, group discussions, or students’ seminars. Fleming (1998) argued that students who prefer to this model learn best from traditional lectures, group discussions, tutorials, and seminars in which they have a chance to talk and communicate with other students. The third modality is Read/Write(R). According to Fleming (1998), “this modal preference is for information displayed as text and printed words” (p.2); and most teachers have a strong preference for this modality. The fourth modality is Kinesthetic (K). This modality refers to perceptual preference related to the use of experience and practice. The key in this modality is that students will be connected to reality.

Fleming (1998) presented several research studies that proved that students can develop their academic performance and get higher test scores when there is a correlation between students’ learning styles, tested by VARK instrument, and teachers’ teaching styles (Hawk & Shah, 2007).

Summary

Effective learning and teaching styles are a major concern for educators, researchers, teachers, parents, students, and academic institution. All are after the achievement of effective teaching which lead to effective learning at the end of the education process. Through the exploration of the learning and teaching styles used in American classroom, the researchers tried to shed the light on the background of learning styles, the benefit of learning styles, the correlation between learning styles and cultural backgrounds of ESL students, the relationship

between learning styles and teaching styles, the adaptation to different learning styles in classroom, and famous theories and models of learning styles since 1970s.

This review of literature supports ESL educators, ESL teachers, and ESL students with a full background of the ESL learning and teaching styles and how they would impact the quality of learning English language in selected IELCs in American universities. The literature review supports the idea that matching between teachers' teaching styles and students' learning styles can improve the performance level of ESL students in North American schools.

The literature review also supported the idea that factors such as country of origin, gender, and academic level can affect the difference of ESL learning styles. Consequently, the learning styles will also affect the ELS level of performance in schools.

CHAPTER III: METHODOLOGY

The purpose of this research study was to investigate the variables that academically affect the learning styles of ESL Arab Gulf students in IELCs in the United States. The research study investigated the effect of ESL Arab Gulf students' learning styles on their performance level in two IELCs: (a) the University of Arkansas in Fayetteville and (b) University of Oklahoma in Norman. The study also investigated the preference of ESL students' learning styles and if they differ by cultural background, gender, and language level in IELCs.

The research study investigated the following questions and hypotheses:

- (1) What is the most common learning style profile of ESL Arab Gulf students, and how much do they vary?
- (2) Do country of origin, language level, and gender affect the preferred learning styles of ESL Arab Gulf students?
- (3) Do Arab Gulf students with different learning style preferences perform differently on the TOEFL test?
- (4) Does a correlation between ESL instruction and the preferred students learning styles impact Arab Gulf ESL students' English language performance?

Hypotheses

- (1) Male and female Arab Gulf students have different preferred learning styles.
- (2) Beginning ESL Arab Gulf students have different preferred learning styles than advanced level ESL students in IELCs.
- (3) Cultural backgrounds of ESL Arab Gulf students affect their preferred learning styles.
- (4) Preferred learning styles of ESL Arab Gulf students affect their TOEFL scores.
- (5) Gender of ESL Arab Gulf students affects their TOEFL scores.

(6) The English language performance of ESL Arab Gulf students' impacts their learning performance level if instruction is matched to their preferred learning styles.

In this chapter, there is a discussion and a description of the methodology that was conducted in this research study. The discussion includes: (a) the participants of the research study, (b) the description of the research study instrument, and (c) the procedures of this research study.

Population

The participating universities were: University of Arkansas in Fayetteville and University of Oklahoma in Norman. The University of Arkansas is a public land grant university that is recognized by Carnegie Foundation as a very high research activity university. It is located in Fayetteville, Arkansas and was founded as an industrial university in 1871 and completed in 1875. The population of Fayetteville is 77,142. There are 39,148 males and 37,994 females in Fayetteville and the median resident age is 26.9 years. The racial distribution of Fayetteville is 81.1% White, 7.6% Black, 5.1% Hispanic, 2.8% Asian, 1.8% two or more races, 0.9% American Indian, 0.4% other races, and .05% Native Hawaiian and other Pacific Islander (City data, 2011).

Norman is a city that is located in Cleveland County, Oklahoma in the United States. It is almost 20 miles south of downtown Oklahoma City. The population of Norman is 110,925 residents, which makes it the third-largest city in Oklahoma. There are 54,802 males and 54,261 females in Norman. The median resident age is 29.3 years in Norman. The racial distribution of Norman is 79.0% White alone, 4.7% Black alone, 4.7% Hispanic, 4.6 two or more races, 3.4% Asian alone, 3.1% American Indian alone, 0.5% Native Hawaiian and other Pacific Islander alone, and .05% other races alone (City data, 2011).

Spring International Language Center (SILC) is a professional academic organization. The SILC organization provides intensive English courses to ESL students. This academic organization attempts to enhance ESL students' ability in order to function effectively in new environment, and it helps ESL students to acquire English language in order to succeed in the new environment (SILC, 2012).

The Center for English as a Second Language (CESL) at the University of Oklahoma offers an intensive English language program for all levels of ESL students. The program is designed for ESL students who require learning English language. The language center not only offers Intensive English Program but also presents cultural activities to ESL students in order to provide them a well-rounded and exciting education.

The CESL offers ESL students 20 hours of taught language instruction per week, specialized TOEFL classes and electives are available, and a wide range of cultural activities. According to the CESL, The center provides ESL students with English language skills and knowledge that help them to be successful in their academic studies. It provides ESL students with cultural knowledge and awareness to function academically and socially in a global economy (CESL, 2012)

IRB Approval and Informed Consent

The Institutional Review Board (IRB) at the University of Arkansas was contacted to obtain permission to start my research study at the University. Form consent was sent to Compliance Coordinator in spring, 2012 in which there was an explanation of the content, learning style instrument, and procedures of the research project. The IRB approval was sent by the IRB coordinator at the University of Arkansas after a week for the date of submission. The researcher also contacted the IRB coordinator at Oklahoma University in Norman. The

researcher asked the IRB coordinator for a permission to conduct his research study on ESL students who study at Center for English as a Second Language (CESL) at the University of Oklahoma. IRB permission was obtained from University of Oklahoma in fall, 2012.

Participants

All of the participants for this research study were drawn from the University of Arkansas in Fayetteville and from Oklahoma University in Norman. A total of 159 Arab Gulf ESL participants from 4 countries (United Arab Emirates, Saudi Arabia, Kuwait, and Oman) participated in this research study in the fall semester of 2012 at the University of Arkansas and Oklahoma University.

The participants attended two IELCs in both universities. There were 71 student from SILC language center and 88 ESL students from CESL language center. The total number of male students was 115 and the total number of female students was 44. There were 67 male students and 21 female students from the CESL language center. There were 48 male and 23 female students from SILC language center.

There were responses from Saudi Arabia, Kuwait, Oman, and from the United Arab Emirates. The total number of response was 159 responses, mostly from Saudi Arabia. The lowest responses rate was from the United Arab Emirates. There were 130 Saudi participants, 23 participants from Kuwait, five participants from Oman, and finally there was only one participant from United Arab Emirates.

The first language of these students is not English. All of these students speak Arabic as their first language. Arabic language does not belong to the English language family. Arabic is from the Semitic language family, thus it has different alphabet and grammar system. Arabic language has 28 consonants and 8 vowels but English language has 24 consonants and 22

vowels. Grammar and word order are also different than English language. Consequently, the distance between English language and Arabic language is not close, so students might face some challenges to learn the written and spoken English language.

Instrumentation

This research study used the “VARK” learning styles instrument. This learning styles instrument was created in 1987 by a researcher called Neil D. Fleming. He is also the main author of VARK books. He was a full-time teacher in both schools and universities in New Zealand. He facilitated many workshops on a variety of topics in North America, Asia, and Europe (Fleming, 2001).

The VARK acronym stands for visual, auditory, write/read, and kinesthetic learners. The questionnaire that is used by VARK supported for the validity of the VARK scores in several research studies (Leite, Svinicki, & Shi, 2009; Hawk & Thomas, 2007).

The VARK Internet and paper-based format questionnaire has 16 questions. It tests visual, aural, reading/writing, and kinesthetic perceptual learning styles. The questionnaire helps users discover their perceptual learning styles. It also tests the visual/tactile mode which operationally resembles note taking. Each learning style is scored on a scale from 0 to 16.

According to Fleming (2001), human preferences are flexible and can be changed during time, so they are not static in the long term. The VARK questionnaire was created to provide students with effective learning strategies to use on their learning preferences. Therefore, “the VARK is not conducive to longitudinal research and it is hypothesized and accepted that individual VARK profiles will change with age and experience” (p.49). Fleming also indicated that the VARK’s content validity is strong since it does not rely on the meaning of words. The VARK tested against students’ perceptions of themselves and showed remarkable consistency.

Fleming also indicated that VARK helped the New Zealand students to recognize their learning preferences and match them with their strategies.

Fleming supported the validity of the VARK instrument through the research of other researchers. According to Fleming (2001), Hurd and Bonwell studied the students' behaviors at the St Louis College of Pharmacy and found that students chose to use strategies aligned with their VARK results. Students who had a strong VARK read/write preference preferred the writing and reading strategies, and students who preferred aural activity through the VARK questionnaire chose aural activities and used discussion with others.

The VARK questionnaire is not long; therefore, student may not face difficulty in answering those short questions. According to Fleming (2001), "experience with college and University students indicated that they were tolerant of questionnaires when they could answer them in less than ten minutes and there were fewer than 20 questions" (p.50). The VARK questionnaire has 16 questions and the majority of these questions are about some situation that happened with the participants on a daily basis. The VARK depends on the self-report answers of the participants. According to Fleming (2001), the content validity of the VARK questionnaire is also strong when participants answer questions depending on their recalled experiences but it will be weak when participants depend on their imagining what they might do. Fleming (2001), investigated the validity of the VARK instrument through many research studies that are inducted by many researchers such as Nooriafshar and Hill in 1999, Fernadez in 1999, Fleming in 1995, and Pedersen and Hill in 1999 and 2001(Fleming,2001).

The Research Study Questionnaire

The questionnaire consisted of two sections. The first section was self-report questions and the second was the VARK learning styles preference. A translated version into respondents'

native language accompanied the English version statement to make ESL students feel comfortable in answering the questionnaires, and also to make the questionnaire more reliable.

The first section of the learning styles questionnaire included questions about the participants' gender, age, country of origin, language level, most recent TOEFL scores, and the academic major. Section One also includes questions about participants' length of time spent in IELCs and length of time spent in the United State. There were some questions about the most dominant teaching styles used by teachers in those IELCs. Section Two included the VARK questionnaire. The questionnaire consisted of 16 questions. These questions are designed to provide users with a profile of their learning preferences. The questions in section two included visual, auditory, read/write, and kinesthetic questions.

A translated copy accompanied the whole survey. Both sections were translated in participants' native language that is Arabic language. The translated copy was designed to give more reliability and validity to the research study.

Procedures

Contacts were made with the director of Spring International Language Center at the University of Arkansas and the director of center of English as a second language in Norman, Oklahoma. They were contacted to gather information about: (1) the numbers and names of Gulf Arab ESL students: Saudi Arabian, Kuwaiti, Omani, and Emirati who were enrolled in the University of Arkansas, and University of Oklahoma language center; and (2) names of the students' associations to get further information about these type of students. The questionnaire was in English language and also in Arabic since all participants speak Arabic and English. The Arabic version was intended to be given to the ESL students who are enrolled in the basic level.

The survey consisted of two major parts: the VARK perceptual learning style preference questions, and the short questions that helped the researcher to find out the most dominant teaching styles of ESL teachers, the most recent TOEFL scores of participants, and the demographic data of the participants. Contacts were made with the two directors of the IELCs to collect demographic information about the ESL students in those centers. The number of participants was 159 ESL Arab Gulf students. All of these students speak both English and Arabic language.

The VARK learning styles preference questionnaire contained 16 short questions. The students were asked to choose the answer that best explained their learning preference. The students were free to choose more than one answer if they felt that one answer was not enough. They were also free not to answer any question and leave it blank if they feel that question does not apply.

The students were administered the latest version of VARK questionnaire (version 7.1). This version was updated in 2010. The VARK website also included an Arabic translation for the latest version and added to the VARK website. The VARK questionnaire also included an Arabic version which will help ESL Arab Gulf student fathom all questions without any difficulty.

The VARK questionnaire was chosen in this research study because it enhances individuals with the variety of learning approaches. It helps individuals to recognize their type of learning and then help them avoid difficulty with their learning process. The questionnaire is available in many languages and can be taken in less than 20 minutes which make it easy on students and inform them with a profile of their learning styles in a short time (Felming, 2012).

The questionnaire was sent to all ESL Arab Gulf students who study in the two IELCs. The questionnaire included a flyer in English and in the Arabic language to give general information about the study, the researcher, and the VARK questionnaire. At the end of the questionnaire, participants were thanked for participating in this research study. Prior phone calls and emails were made to make sure that the directors of these IELCs provided contact information to the researcher to do the research study.

The instrument was administered by the researcher and the ESL teachers in IELCs in the fall of 2012. The questionnaire included a cover letter in English and one in Arabic language to give general information about the study, the researcher, and the VARK questionnaire. The researcher talked about anonymity, confidential treatment of participant responses in the cover letter, and translation into native language combined to help improve the response rate. The questionnaire was returned in person and collected in the same day. The researcher returned to both language centers in the following days to get more responses and collected them at the same day.

Data Analysis

When the questionnaire was returned, the answers from part one and part two were entered into the SPSS version (19). The individual demographic variables were grouped and recorded. The preference of each set of learning styles was classified into four ranges: first, second, third, and fourth preference. The learning style preferences were also recorded in tables in the following chapter. These tables provide a convenient means of comparing the respondents' responses to each category of the questionnaire. The chi-square test was conducted to determine participants' major perceptual learning preferences and differences in preferred learning styles across language levels, and students' gender in IELCs. Each participant received four scores

between 0 and 16, indicating the relative dominance of their visual, auditory, kinesthetic, and read/write perceptual-learning styles.

The ANOVA test was also used to find out if the TOEFL scores were affected gender and learning styles of ESL Arab Gulf students; and if the learning styles of ESL Arab Gulf students are affected by their cultural backgrounds. The mean and standard deviation of mean were also reported in the tables to determine if the means of learning styles were statistically different.

The means and standard deviation were provided. The answers of question number nine in part one of the questionnaire was analyzed to find out if there is a correlation between ESL instruction and the preferred students' learning styles, and how this correlation impacted the ESL Arab Gulf students' English language performance.

When the questionnaire was analyzed, a report was written to provide discussion on the most commonly used learning styles, the least commonly used learning style, significant differences in learning styles according to the demographic variables, and finally a discussion of the six research study hypotheses.

Rationale for Quantitative Research Approach

The purpose of this research study was to investigate the variables that academically affect learning styles of ESL Arab Gulf students in IELCs in the United States. The aim of this study was also to examine the relationship between teaching styles and learning styles and ascertain the correlation between them. Therefore, the study investigated the types of ESL students' learning styles by using the VARK questionnaire. The questionnaire was administered to ESL students in the IELCs in two universities campuses.

The learning styles of ESL students were recorded in tables. The ANOVA and chi-square statistical tests were used to find out if ESL learning styles contrast by cultural background, language level, and gender in those IELCs. The ANOVA test was also used to see if learning styles of ESL Arab Gulf students impact their TOEFL scores. The correlation between learning styles and teaching styles were also investigated in this research study in order to find out if matching between learning styles and teaching styles impact the language performance of ESL Arab Gulf students in IELCs.

This research study was supposed to reveal if the learning styles of ESL Arab Gulf students impact their language performance level in the two North Midwest American Universities. The research questions of this research study were:

- (1) What is the most common learning style profile of Arab Gulf ESL students, and how much do they vary?
- (2) Do country of origin, language level, and gender affect the preferred learning styles of ESL Arab Gulf students?
- (3) Do Arab Gulf students with different learning style preferences perform differently on the TOEFL?
- (4) Does a correlation between ESL instruction and the preferred students learning styles impact Arab Gulf ESL students' English language performance?

CHAPTER IV: RESULTS

Introduction

This chapter includes the derived results from the analysis of the data collected from the learning style questionnaire of 159 ESL (English as a second language) Arab Gulf students enrolled in the fall semester of 2012 in two IELCs (Intensive English language centers) at the University of Arkansas in Fayetteville and the Oklahoma University in Norman following the procedures explained in Chapter III.

The purpose of this study was to conduct a quantitative research study to determine of the most common learning styles of ESL Arab Gulf students and how these types of learning styles contrast. The study also investigated how ESL Arab Gulf students' country of origin, gender, and language level affect their learning styles. The study also determined if learning styles, country of origin, and gender affected TOEFL scores of these students. Finally, this study investigated the correlation between ESL instruction and the preferred ESL Arab Gulf students' learning styles to recommend a method that can enhance the quality of teaching and learning in IELCs.

To meet this purpose, this study: (a) explored and discussed the literature that was written about learning styles; (b) investigated the literature that was written about teaching styles; (c) investigated the learning styles of ESL Arab Gulf students who studied in two IELCs; and (d) provided a structure to better understand the variables that affect ESL learning styles and investigated how ESL Arab Gulf students differ in their learning styles preference. The following research questions were investigated in this research study:

- (1) What is the most common learning style profile of Arab Gulf ESL students, and how much do they vary?

- (2) Do country of origin, language level, and gender affect the preferred learning styles of ESL Arab Gulf students?
- (3) Do Arab Gulf students with different learning style preferences perform differently on the TOEFL?
- (4) Does a correlation between ESL instruction and the students' preferred learning styles impact Arab Gulf ESL students' English language performance?

The questionnaire was collected by the researcher and all participant scores were categorized by learning style preference: visual (V), aural (A), read/write (R), and kinesthetic (K). Means and standard deviations were calculated for each learning style. Multiple ANOVAs were used to calculate the significant differences between means of perceptual learning styles. A chi-square was used to analyze significant differences among the beginning ESL Arab Gulf students' preferred learning styles and the advanced ESL Arab Gulf students' preferred learning styles. The same statistical analysis was also used to investigate if there a significant difference ESL Arab Gulf female and male students.

Profile of the Arab Gulf ESL Students

The following tables represent the profile of the ESL Arab Gulf students. Table 1.1 illustrates the return rate of the questionnaire in the Spring International Language Center (SILC) and in the Center of English as a Second Language (CESL). The total response rate was 159 ESL Arab Gulf students. There were 71 responses from SLIC. This total number includes responses from 48 males and 23 females. There were 88 responses from CESL. This included 67 male respondents and 21 female respondents. Of the 159 participants, 115 were male and 44 were female as shown in table 1.1.

Table 1. 1

Questionnaire Return Rate by Language Center

Language Center	Gender		Total
	Male	Female	
SILC (University of Arkansas)	48	23	71
CESL (University of Oklahoma)	67	21	88
Total	115	44	159

Table 1.2 illustrates the number of students according to their country of origin. There were responses from Saudi Arabia, Oman, Kuwait, and United Arab Emirates. The total rate of responses was 159 students. The majority of responses were from students who are from Saudi Arabia. The smallest response rate was from the United Arab Emirates. Of the 159 responses, 130 were from Saudi Arabia, 23 were from Kuwait, five were from Oman and one was from United Arab Emirates.

Table 1. 2

Students Number According to Their Country of Origin

Country of Origin	Number of Participants
Saudi Arabia	130
Kuwait	23
Oman	5
United Arab Emirates	1
Total	159

Table 1.3 presents the total number of ESL students according to gender and their country of origin. The highest number of students was from Saudi Arabia and the lowest number was from the United Arab Emirates. There were 38 female and 92 male students from Saudi Arabia; there were five female and 18 male students from Kuwait; there was one female and four male students from Oman; and finally, there was only one male student from the United Arab Emirates. In order to get more students to participate in this research study, the researcher administered the learning style questionnaire to students more than one time. The researcher asked students to complete the questionnaire in classrooms and then to collect the rest of the questionnaires in the following days. The questionnaire was collected in four days with the supervision of the researcher and the employees of both IELCs.

Table 1. 3

Gender and Country of Origin

Country of Origin	Gender	
	Female	Male
Saudi Arabia	38	92
Kuwait	5	18
Oman	1	4
United Arab Emirates	0	1
Total	44	115

Table 1.4 illustrates the percentage of the questionnaire return rate according to ESL Arab Gulf students' country of origin. There were 130 students from Saudi Arabia, 23 students

from Kuwait, five students from Oman, and one student from United Arab Emirates. The majority of students in the selected IELCs were from Saudi Arabia. The percentage of Saudi students was 81.8 % and the percentage of Kuwaiti students was 14.5%. The percentage of Omani students was 3.1%, and the percentage of Emirati students was the lowest at 0.6% of the total number of students.

Table 1.5 represents the percentage of the questionnaire return rate according to ESL students' gender. The Saudi percentage of male and female students was the highest, while the United Arab Emirates percentage of male and female students was the lowest. The percentage of Saudi male students was 57.86% and the Saudi female was 23.9%. The percentage of male Kuwaiti students was 11.32% and the Kuwaiti female was 3.14%. The percentage of male Omani students was 2.51% and of the female Omani students was 0.63%. There were not any female students from the United Arab Emirates, but there was only one male and the percentage was 0.63 of the total.

Table 1. 4

Percentage of Students by Country of Origin

Country of Origin	Number	%
Saudi Arabia	130	81.8
Kuwait	23	14.5
Oman	5	3.1
United Arab Emirates	1	0.6
Total	159	100%

Table 1. 5

Percentage of Students by Gender

Country of Origin	Number		%	
	Female	Male	Female	Male
Saudi Arabia	38	92	23.9	57.86
Kuwait	5	18	3.14	11.32
Oman	1	4	0.63	2.51
United Arab Emirates	0	1	0.00	0.63
Total	44	115	27.7	72.3

Table 1.6 represents the number and percentage of students according to their language level in IELCs. There were 13 (8.2%) students in the basic level, 50 (31.4%) students were in the beginning level, 66 (41.5%) students were in the intermediate level, and 30 (18.9%) students in the advanced level, as shown in the following table.

Table 1. 6

Number of Students by Language Level

Language Level	Number	%
Basic	13	8.2
Beginning	50	31.4
Intermediate	66	41.5
Advanced	30	18.9
Total	159	100%

Table 1.7 represents the number of students according to their age. The table indicates that the majority of students were between 18 to 20 (30.5%) and 24 to 26 (31.4%) years old. The lowest number of students (8.2%) was above 30 years old. There were 48 students under 20 years old, 13 students were above 30 years old, 31 students were between 21 to 23 (19.9%), 48 students were between 24 to 26 (31.4%), and 17 students between 27 to 29 (10.7%) years old.

Table 1. 7

Number and Percentage of Students by Age

Age	Number	%
18-20	48	30.2
21-23	31	19.5
24-26	50	31.4
27-29	17	10.7
Above 30	13	8.2
Total	159	100%

Table 1.8 shows the number of students according to the length of time studying in the IELCs. There were 20 (12.6%) students who have studied English less than a month, 49 (30.8%) students indicated that they have studied English from one to three months, 54 (34.0%) students indicated that they have studied English in the IELCs from three to six months, and 30(18.9%) students indicated that they have studied English in the IELCs from six months to a year. There were only six (3.8%) students who indicated that they have studied English in the IELCs for more than a year.

Table 1.9 illustrates the number of students by the length of time living in the United States. There were 14 (8.8%) students who have lived in the United States for less than a month, 33 (20.8%) students who have lived in the United States from one to three months, 52 (32.7%) students who have lived in the United States from three months to six months, and 45 (28.3%) students who have lived in the United State from six months to a year. Finally, there were 15 (9.4%) students who have lived in the United State more than a year.

Table 1. 8

The Number of Students by Length of Time Studying in IELCs

Length of Time	Number	%
Less than a month	20	12.6
One to three months	49	30.8
Three to six months	54	34.0
Six months to a year	30	18.9
More than a year	6	3.8
Total	159	100%

Table 1. 9

The Number of Students by Length of Time Living in the United States

Length of Time	Number	%
Less than a month	14	8.8
One to three months	33	20.8
Three to six months	52	32.7
Six months to a year	45	28.3
More than a year	15	9.4
Total	159	100%

The TOEFL test score was divided into three parts. The first part consists of students who scored from 300 to 399 points; the second part consists of students who scored from 400 to 499 points; and the third part consists of students who scored from 500 to 600 points in TOEFL test. Table 2.1 represents the first part of the TOEFL test scores of students. The lowest score was 320 and the highest 398. There were 18 (11.2%) students who scored from 300 to 399 points. Four (2.5%) of these students scored 390, two (1.3%) students scored 380, one (0.6%) scored 385 and another (0.6%) scored of 395. There was only one (0.6%) student who achieved a score of 398, as shown in table 2.1.

Table 2. 1

Students' Paper-Based TOEFL Test Scores From 300 -399

Score	Number	%
320	1	.6
330	3	1.9
340	1	.6
345	1	.6
350	1	.6
380	2	1.3
385	1	.6
390	4	2.5
395	1	.6
397	2	1.3
398	1	.6
Total	18	11.2%

Table 2.2 represents the second part of the students' TOEFL scores. There were 29 (18.1%) students who achieved a score of 400 to 498. According to the following table, there were eight students who achieved a score of 400 to 410, seven (4.4%) who achieved a score of 437, and eight who achieved a score of 480 to 498. The rest of the students achieved scores between 415 and 470, as shown in table 2.2. The percentage of students who achieved a score of 300 to 499 was 18.1% of the total number of students' TOEFL test scores. The rest of students achieved score of 500 to 600, as shown in table 2.3.

Table 2. 2

Students' Paper-Based TOEFL Test Scores From 400 - 499

Score	Number	%
400	4	2.5
410	4	2.5
415	1	.6
419	1	.6
427	1	.6
433	1	.6
437	7	4.4
450	1	.6
470	1	.6
480	3	1.9
490	2	1.3
493	1	.6
498	2	1.3
Total	29	18.1%

Table 2.3 represents the third part of the participants' paper-based TOEFL test score. The highest TOEFL score was 590 and the lowest was 500. The number of students who achieved a score of 500 to 600 was 59 (41.2%). There were 27 students who scored from 500 to 510, five (3.1%) who scored 520, and another four (2.5%) who scored 540. There were 12 (7.5%) students who achieved a score of 547 and five (3.1%) students who scored 548. Seven (4.3%) participants

achieved a score of 522 to 537 as shown in table 2.3. The total number of students in the group who took the TOEFL test was 59.

Table 2. 3

Students' Paper-Based TOEFL Test Scores From 500 - 600

Score	Number	%
500	5	3.1
510	22	13.8
513	2	1.3
520	5	3.1
522	1	.6
525	1	.6
530	3	1.9
535	1	.6
537	1	.6
540	4	2.5
545	2	1.3
547	12	7.5
548	5	3.1
550	4	2.5
560	1	.6
587	1	.6
590	1	.6
Total	59	41.2%

Participants' Learning Style Preference

In the second part of the learning style survey, students were asked to complete the VARK learning style questionnaire. Students were asked to choose answers that best explain their learning preferences and were asked to circle the letter next to it. The participants were free to choose more than one if one single answer did not match their perception. They had the freedom to leave blank any question that did not apply. The questionnaire included 16 short questions and it was available in two languages, Arabic and English. The Arabic translation helped ESL Arab Gulf student understand all questions without difficulty. The questionnaire was short and could be completed in less than 20 minutes, which made it easy on students.

Research Questions

The data about the students' learning style preference in the following tables were presented for the purpose of answering the research questions that were presented in chapter one and Chapter III.

Question One

The analysis below was presented to answer question number one: What is the most common learning style profile of ESL Arab Gulf students, and how much do they vary?

Table 3.1 shows the learning styles that were preferred by ESL Arab Gulf students who study in two language centers, SILC and CESL. The results of the learning styles analysis showed that the majority of ESL Arab Gulf students were aural learners. Table 3.1 indicates that there were 19 (11.9%) students who were visual learners. These types of students preferred to learn by having visual activities. There were 24 (15.1%) students who preferred to learn through read/write activities. There were 50 (31.4%) kinesthetic participants. These students preferred to learn through carrying out physical activities rather than speaking and listening activities.

Finally, there were 66 (41.5) students who reported aural learning styles. These kinds of students preferred learning through speaking and listening.

Table 3. 1

The Number and Percentage of Students' Preferred Learning Styles in IELCs

Teaching Style	Number	%
Visual	19	11.9
Aural	66	41.5
Read/write	24	15.1
Kinesthetic	50	31.4
Total	159	100%

Question Two

The data in Tables 3.2, 3.3, 3.4, and 3.5 were presented for the purpose of answering question number two: Do country of origin, age, language level, and gender affect the preferred learning styles of ESL Arab Gulf students?

Table number 3.2 shows the learning styles preferences of ESL Arab Gulf students' responses according to their country of origin. There were 11 Saudi students who preferred visual learning styles, 43 Saudi students who preferred kinesthetic learning styles, 56 Saudi students who preferred aural learning styles, and 20 Saudi students who preferred read/write learning styles. There was only one student from the United Arab Emirates who preferred to learn through the read/write learning style. There were nine Kuwaiti students who reported aural learning styles, three Kuwaiti students who preferred kinesthetic learning styles, another three

Kuwaiti students who preferred read/write learning styles, and eight Kuwaiti students who preferred visual learning styles. Four Omani students preferred kinesthetic learning styles, and only one Omani student preferred the aural learning style. The majority of the Saudi students preferred aural learning styles. The majority of Kuwaiti students also preferred aural learning styles. Most students from Oman reported kinesthetic learning styles and most students from Emirates reported read/write learning styles. The results of this table show significant differences among these countries in the learning style preference

Table 3. 2

The Learning Style Preferences of Individual Responses by Country of Origin

Country of Origin	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
Saudi Arabia	11	56	20	43
United Arab Emirates	0	0	1	0
Kuwait	8	9	3	3
Oman	0	1	0	4
Total	19	66	24	50

Table number 3.3 illustrates the learning styles preferences of ESL Arab Gulf students' responses according to their gender. Of the male students, 18 reported visual learning styles, 50 reported aural learning styles, 19 preferred read/ write learning styles, and 28 who preferred kinesthetic learning styles. The female students were different than male students in their learning style preference. Of the females, only one female preferred the visual learning style,

while 16 preferred aural learning styles, five preferred read/write learning styles, and 22 preferred kinesthetic learning styles. According to results of this table, the majority (43.47%) of male students reported aural learning styles, but the majority (50%) of female students reported kinesthetic learning style. As a result, there was a learning style preference difference among Arab Gulf ESL male and female students, as shown in the following table.

Table 3. 3

The Learning Style Preferences of Individual Responses by Gender

Gender	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
Male	18	50	19	28
Female	1	16	5	22
Total	19	66	24	50

Table 3.4 represents the learning styles preferences of ESL students' responses according to the participants' age. The majority of students who participated in this study were from 24 to 26 years old. Of respondents age 18 to 20, five preferred visual learning styles; 25 preferred aural learning styles; five preferred read/write learning styles, and 13 preferred kinesthetic learning styles. Of respondents age 21 to 23, two preferred visual learning styles, 12 preferred aural learning styles, five preferred read/write learning styles, and 12 preferred kinesthetic learning styles. Of respondents age 24 to 26, nine preferred visual learning styles, 16 students between preferred aural learning styles, six preferred read/write learning styles, and 19 preferred kinesthetic learning styles. Of respondents age 27 to 29, one preferred visual learning styles, eight preferred aural learning styles, five preferred read/write learning styles, and three preferred

kinesthetic learning styles. There were two students above 30 years old preferred visual learning style, five preferred aural learning styles, three preferred read/write, and another three preferred kinesthetic learning styles. According to the results of this table, the majority of students between 18-20, 27-29, and above 30 reported aural learning styles. The majority of students between 21-23 reported aural and kinesthetic learning styles. Most of the students between 24-26 reported kinesthetic learning styles more than aural learning styles.

Table 3. 4

Learning Style Preference of Students' Responses According to Their Age

Age	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
18-20	5	25	5	13
21-23	2	12	5	12
24-26	9	16	6	19
27-29	1	8	5	3
Above 30	2	5	3	3
Total	19	66	24	50

Table 3.5 represents the learning style preferences of ESL Arab Gulf students' responses according to their language level in the selected IELCs. There were four students in the basic level who reported visual learning style, five reported aural learning styles, and four reported kinesthetic learning styles. There were six students in the beginning level who reported visual learning style, 19 reported aural learning styles, eight reported read/write learning styles, and 17

reported kinesthetic learning styles. There were four students in the intermediate level who reported visual learning style, 26 reported aural learning styles, 12 reported read/write learning styles, and 24 reported kinesthetic learning styles. There were five students in the advanced level who reported visual learning styles, 16 reported aural learning styles, four reported read/write learning styles, and five reported kinesthetic learning styles. The results of this table show that the majority of students in the basic, beginning level, and advanced level reported aural learning styles. The students in the intermediate level reported aural and kinesthetic learning styles.

Table 3. 5

Learning Style Preference of Students' Responses According to Their Language Level

Language Level	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
Basic	4	5	0	4
Beginning	6	19	8	17
Intermediate	4	26	12	24
Advanced	5	16	4	5
Total	19	66	24	50

Question Three

The data in tables 4.1, 4.2, and 4.3 was presented for the purpose of answering question number three: Do Arab Gulf students with different learning style preferences perform differently on the TOEFL test?

Tables 4.3, 4.4, and 4.5 represent the learning styles preferences of ESL Arab Gulf students according to the results of their TOEFL test. The mean and the standard deviations for

the four level of learning styles and are reported in Table 4.1. As shown in Table 4.3, the majority of participants who achieved a score of 320 to 398 reported aural learning styles. There were two participants who reported visual learning styles in this group. There was only one participant who achieved a score of 398, and he reported aural and kinesthetic learning styles.

Table 4. 1

The Effect of Learning Styles on TOEFL Scores

Learning Style	<i>M</i>	<i>SD</i>
Visual	521.40	63.25
Aural	482.28	57.79
Read/write	492.91	73.42
Kinesthetic	463.21	65.59
Total	483.09	65.88

Table 4. 2

The Effect of Learning Styles on TOEFL Scores

Gender	<i>M</i>	<i>SD</i>
Male	483.78	7.26
Female	481.45	11.18

Table 4. 3

Learning Style Preference by Students' Paper-Based TOEFL Test

Score	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
320	0	0	0	1
330	0	0	2	1
340	0	0	1	0
345	0	1	0	0
350	0	0	0	1
380	0	1	0	1
385	0	1	0	0
390	1	2	0	1
395	0	0	0	1
397	1	1	0	0
398	0	1	0	0
Total	2	7	3	6

As shown in Table 4.4, there were 14 students who reported kinesthetic learning styles, 12 who reported aural learning styles, two who reported read/write learning styles, and two who reported visual learning styles. There were three students who had a score of 400 and they

reported kinesthetic learning styles. Two students had a score of 498 and reported aural and kinesthetic learning styles.

Table 4.5 shows the learning style preference of the ESL Arab Gulf students who have achieved a TOEFL score of 500 to 600. The majority of students reported aural learning styles. There was only student who reported visual learning styles. The lowest score was 500 and the highest was 590. The highest score was achieved by one student who preferred the visual learning style. The lowest score was achieved by four students and they reported kinesthetic and aural learning styles. There were 24 students who reported aural learning styles, 18 who reported kinesthetic learning styles, and 18 who reported read/write learning styles.

Table number 5.1 represents the learning styles preferences of ESL Arab Gulf students according to their length of time in IELCs. Of respondents studied English in IELCs from one to six months, 46 preferred aural learning styles and 36 preferred kinesthetic learning styles. Of respondents studied in IELCs for more than a year, two preferred aural learning styles, two preferred read/write learning styles, one preferred visual learning style, and one preferred kinesthetic learning styles. The majority of students reported aural learning styles. There were 66 students who reported aural learning styles, 50 who reported kinesthetic learning styles, 24 who reported read/write learning styles, and 19 who reported visual learning styles.

Table 4. 4

Learning Style Preference by Students' Paper-Based TOEFL Test

Score	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
400	0	1	0	3
410	0	1	1	2
415	0	0	0	1
419	0	0	0	1
427	0	0	0	1
433	0	0	0	1
437	1	3	1	2
450	0	1	0	0
470	0	1	0	0
480	0	3	0	0
490	0	1	0	1
493	0	0	0	1
498	0	1	0	1
Total	2	12	2	14

Table 4. 5

Learning Style Preference by Students' Paper-Based TOEFL Test

Score	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
500	1	3	0	1
510	0	8	6	8
513	0	1	0	1
520	1	1	1	2
522	0	1	0	0
525	0	0	0	1
530	0	0	2	1
535	0	1	0	0
537	0	1	0	0
540	0	0	3	1
545	1	0	0	1
547	0	7	3	1
548	1	1	2	1
550	4	0	0	0
560	1	0	0	0
587	1	0	0	0
590	1	0	0	0
Total	11	24	17	18

Table 5. 1

Learning Style Preference by Students' Length of Time in IELCs

Length of Time	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
Less than a month	7	7	5	1
One to three months	4	23	6	16
Three to six months	5	23	6	20
Six months to a year	2	11	5	12
More than a year	1	2	2	1
Total	19	66	24	50

Table 5.2 represents the learning styles preferences of Arab Gulf ESL students according to the length of time in the United States. There were 37 students who lived in the United States from one to six months and they reported aural learning styles; there were 18 students who had been living in the United States from three to six months and reported aural learning styles. There were 28 students who lived in the United States from one to six months and reported kinesthetic learning styles; there were 19 students who lived in the United States from six months to a year and they reported kinesthetic learning styles. Five students who lived in the United States less than a month reported the visual learning style, five students reported aural, three reported read/write, and only one reported the kinesthetic learning styles. Three students who lived in the U.S. for more than a year reported visual learning styles, five reported aural learning styles, three reported read/write learning styles, and four reported kinesthetic learning

styles. The total number of visual, aural, read/write, and kinesthetic students in both Tables 5.1 and 5.2 revealed the same number, which means that there was no difference in the preferred learning style.

Table 5. 2

Learning Style Preference by Participants' Length of Time in U.S.

Length of Time	Learning Style			
	Visual	Aural	Read/Write	Kinesthetic
Less than a month	5	5	3	1
One to three months	2	14	6	11
Three to six months	7	23	5	17
Six months to a year	2	19	7	17
More than a year	3	5	3	4
Total	19	66	24	50

Question Four

In the first part of the questionnaire, the participants were asked to report the most dominant teaching style used in the selected IELCs. The data in 3.5 were presented for the purpose of answering question number four: Does a correlation between ESL instruction and the students' preferred learning styles impact Arab Gulf ESL students' English language performance?

Table 6.1 illustrates the most dominant teaching styles that are used in both IELCs. According to ESL Arab Gulf students' responses, the majority of ESL teachers in the selected

IELCs used the read/write teaching methods to teach students in IELCs. The results of Table 6.1 show that 74 (46.5%) students reported that teachers in both IELCs preferred using the read/write teaching method, 47 (29.6%) reported that teachers preferred using aural teaching methods, 26 (16.4) reported that teachers preferred using visual teaching methods, and 12 (7.5%) students reported that teachers preferred using kinesthetic teaching methods.

To conclude, ESL teachers in the selected IELCs concentrated on using the read/write teaching methods more than any other method. The difficulty is that most of the participants preferred learning through using aural learning styles, so there was disharmony among teachers and students in these IELCs. The percentage of ESL teachers who taught using aural teaching methods was 29.6%, while the percentage of ESL teachers who preferred using read/write methods was 46.5%; therefore, there was not a strong correlation between ESL instruction and the students' preferred learning styles, which may impact Arab Gulf ESL students' English language performance, as shown in table 6.1.

Table 6. 1

The most dominant teaching style in IELCs

Teaching Style	Number	%
Visual	26	16.4
Aural	47	29.6
Read/write	74	46.5
Kinesthetic	12	7.5
Total	159	100%

Hypotheses

The data in this section was presented for the purpose of investigating the research hypotheses that were revealed in Chapter I and Chapter III. The analysis below investigated the following research hypothesis using chi-square and the one-way ANOVA test.

- (1) Male and female Arab Gulf students have different preferred learning styles.
- (2) Beginning ESL Arab Gulf students have different preferred learning styles than advanced level ESL students in ILECs.
- (3) Cultural backgrounds of ESL Arab Gulf students affect their preferred learning styles.
- (4) Preferred learning styles of Arab Gulf students affect their TOEFL scores.
- (5) Gender of Arab Gulf students affects their TOEFL scores.
- (6) The English language performance of ESL Arab Gulf students' impacts their learning performance level if instruction is matched to their preferred learning styles.

Hypothesis 1: Male and female Arab Gulf students have different preferred learning styles.

There were 115 male and 44 female ESL Arab Gulf students in this research study. The data in Table 3.3 show that female students were different than male students in their learning style preference. The majority of male students reported aural learning styles, but the majority of female students reported kinesthetic learning styles. As a result, there was a difference in the learning style preference among ESL Arab Gulf male and female students. In order to be confident of this result, the data were analyzed by using the Chi-Square test as shown in Tables 7.1 and 7.2.

Table 7. 1

*Learning Style * Sex Cross Tabulation*

		Male		Female	
		n	%	n	%
LS	Visual	18	15.7	1	2.3
	Aural	50	43.5	16	36.3
	Read/ write	19	16.5	5	11.4
	Kinesthetic	28	24.3	22	50.0

Table 7. 2

Chi-Square Tests

	Value	df	P
Pearson Chi-Square	12.376 ^a	3	.006
Likelihood Ratio	13.467	3	.004
Linear-by-Linear Association	10.259	1	.001
N of Valid Cases	159		

A chi-square test of goodness-of-fit was performed on 159 ESL Arab Gulf students to determine whether ESL Arab Gulf students differ in their learning style preferences. In the total of 115 males, about 15.65% preferred visual learning style, 43.47% preferred aural learning style, 16.52% preferred read/write, and 24.34% males reported kinesthetic. In the total of 44 females, about 2.27% preferred visual learning style, 36.36% preferred aural, 11.36% preferred

read/write, and 50% preferred kinesthetic. These frequencies are significantly different, $\chi^2 (3, N=159) = 12.37, p < .05$.

Since the calculated value $\chi^2 = 12.37$ is greater than the tabulated value ($\chi^2 = 7.815$), we will reject the null hypothesis. The percentage of students who have different learning styles differ by gender, $\chi^2 (3, N=159) = 9.707, p < .05$.

Hypothesis 2: Beginning ESL Arab Gulf students have different preferred learning styles than advanced level ESL students in ILECs.

There were 30 ESL Arab Gulf students who have studied in the advanced language level and 13 who have studied in the basic language level. The data in table 7.3 and 7.4 show that there were only three visual students in the basic level and five in the advanced level. There were five aural learners in the basic level and 16 in the advance language level. No students in the basic level that reported read/write learning styles, but four students in the advanced level reported read/write learning styles. There were four kinesthetic learners in the basic level and five in the advanced language level.

Table 7. 3

*Learning Style * Level Cross Tabulation*

Learning style	<u>Basic Level</u>		<u>Advanced Level</u>	
	n	%	n	%
Visual	3	25.0	5	16.6
Auarl	5	41.6	16	53.3
Read/write	0	0.0	4	13.3
Kinesthetic	4	33.3	5	16.6

Table 7. 4

Chi-Square Tests

	Value	df	P
Pearson Chi-Square	3.257a	3	.354
Likelihood Ratio	4.252	3	.236
Linear-by-Linear Association	.110	1	.740
N of Valid Cases	42		

A chi-square test of goodness-of-fit was performed to determine whether ESL Arab Gulf students who were placed in the beginning level differ from the advanced level participants in their learning style preferences. We failed to reject the null hypothesis. Preference of learning styles between these two group was not significantly different, $\chi^2 (3, N=42) = 3.26, p = .354$.

Since the calculated value $\chi^2 = 3.26$ is less than the tabulated value ($\chi^2 = 7.815$), we will fail to reject the null hypothesis. The percentage of students who have different learning styles differ by gender, $\chi^2 (3, N=37) = 3.26, p > .05$.

Hypothesis 3: Cultural backgrounds of ESL Arab Gulf students affect ESL students' learning styles preference choice.

The participants were from four Arab Gulf countries: Saudi Arabia, Kuwait, Oman, and United Arab Emirates. There were 130 students from Saudi Arabia, 23 participants from Kuwait, five participants from Oman, and one student from United Arab Emirates. The majority of students in IELCs were from Saudi Arabia. The percentage of Saudi students was 83.0 %. The percentage of Kuwaiti students was 13.2%. The percentage of Omani students was 3.1%, and the percentage of Emirati students was the least 0.6% of the total number of students.

A one-way analysis of variance was conducted to evaluate the effect of the cultural backgrounds of ESL Arab Gulf students on their learning style preference choice. The independent variable, cultural background, included four levels: Saudi Arabia, Kuwait, Oman, and United Arab Emirates. The ANOVA was significant, $F(3,155) = 4.50, p = .005$. The relationship between the cultural backgrounds and the learning styles of ESL Arab Gulf students, as assessed by η^2 , was strong. The cultural backgrounds of these students accounts for 80% of the variance of the dependent variable. There was significant effect of the cultural background on ESL Arab Gulf students' learning style preference. Follow-up tests were conducted to evaluate pairwise differences among the means. There was a significant difference in the means between Saudi and Kuwaiti group and between Kuwaiti and Omani group.

Hypothesis 4: Preferred learning styles of Arab Gulf students affect their TOEFL scores.

The majority of ESL Arab Gulf students were aural learners (45.4%). There were 15 (12.71%) students who were visual learners, 22 (18.64%) students who preferred to learn through read/write activities, 38 (32.20%) kinesthetic students, and 43 (36.44) students who reported aural learning styles.

A one way analysis of variance was conducted to evaluate the academic effect of the preferred learning styles of ESL Arab Gulf students on their TOEFL test scores. The independent variable, the preferred learning styles, included four levels: visual, aural, read/write, and kinesthetic learning styles. The ANOVA was significant, $F(3,114) = 3.17, p = .027$. The relationship between the preferred learning styles and the TOEFL scores of ESL Arab Gulf students, as assessed by η^2 , was strong. The preferred learning styles of these students accounts for 77% of the variance of the dependent variable. There was significant effect of the learning

styles on the TOEFL score. The means and standard deviations for the four levels of the independent factor are reported in Table 4.1. Follow-up tests were conducted to evaluate pairwise differences among the means. There was a significant difference in the means between the kinesthetic and visual learning styles group of ELS Arab Gulf students.

Hypothesis 5: Gender of Arab Gulf students affects their TOEFL scores.

The total number of students was 159 ESL Arab Gulf students. There were 71 responses from the SLIC and 88 students from the CESL language centers. The total number of male students was 115 and the total number of female students was 44.

A one way analysis of variance was conducted to evaluate the academic effect of the gender of ESL Arab Gulf participants on their TOEFL test scores. The independent variable, the cultural background, included two levels: male and female. The ANOVA was not significant, $F(1,116) = .030, p = .86$. The effect size was small, therefore the relationship between the gender and the TOEFL scores of ESL Arab Gulf students, as assessed by η^2 , was not strong. The gender of ESL Arab Gulf students does not account for the variance of the dependent variable. There was not any significant effect of the ESL Arab Gulf students' gender on their TOEFL score test. The means and standard deviations for the four levels of the independent factor are reported in Table 4.2.

Hypothesis 6: The English language performance of ESL Arab Gulf students' impacts their learning performance level if instruction is matched to their preferred learning styles.

Table 8.1 illustrates the ESL Arab Gulf students' TOEFL test scores. The students in this table reported learning styles that matched the teaching styles of their teachers. There was an intensive discussion about the benefits of matching the teaching styles to learning styles of

students in Chapter II. The following analysis will ascertain the results found in the literature review.

In the first part of questionnaire, students were asked to report the most dominant teaching style used in class. The responses of the dominant teaching styles were analyzed and found that, there were 47 students reported learning styles that matched to the teaching styles of their teachers; there was not any student in this group who achieved below 400 in the TOEFL test. There were only four (8.5%) out of the 47 students achieved a score of 400 to 499 in the TOEFL test, and 43(91.5%) students achieved a score of 500 to 599 in the TOEFL test. On the contrary, students who reported that teachers used teaching styles that are different than their learning styles achieved lower TOEFL scores as shown in Table 8.1.

Table 8.1 shows that there were 43 (91.5%) students who achieved a high score of 500 to 599 in the TOEFL test; whereas, students who did not report learning styles that matched the used teaching styles achieved lower TOEFL scores. There were 18 (25.35%) students who achieved 300 to 399, 25 (35.21%) students achieved 400 to 499, and 28 (39.43%) who achieved 500 to 599. To conclude, ESL Gulf students who had teachers that used teaching styles that matched their learning styles achieved higher TOEFL scores, whereas students who did not achieved lower scores, as shown in Table 8.1.

Table 8. 1

Learning styles and teaching styles

Paper-Based TOEFL	<u>Matched Learning styles</u>		<u>Not Matched Learning styles</u>	
	N	%	N	%
300-399	0	0%	18	25.3%
400-499	4	8.5 %	25	35.2%
500-599	43	91.5%	28	39.5%
Total	47	100%	71	100%

The aim of the sixth hypothesis was to determine whether there is a significant difference in the academic achievement of ESL Arab Gulf students who study in IELCs when teaching styles are matched to their learning styles. According to the previous results shown in Table 8.1, there was a significant difference. The conclusion reached is that matching teaching styles to learning styles impacts the academic success of ESL Arab Gulf students. Most of the students who achieved a high score in the TOEFL test reported learning styles that matched to the used teaching styles in class. This conclusion proved that the idea of matching teaching styles to the students' learning styles can improve the level of performance of students.

CHAPTER V: CONCLUSION

Introduction

The purpose of this research study was to investigate the variables that academically affect the learning styles of ESL Arab Gulf students in IELCs in the United States. The research study also investigated the effect of ESL Arab Gulf students' learning styles on their language performance level in two IELCs: (a) the University of Arkansas in Fayetteville and (b) Oklahoma University in Norman. The study investigated the preference of ESL students' learning styles and if they differ by cultural background, gender, age, and TOEFL scores in IELCs. The study also investigated the relationship between the ESL Arab Gulf students' preferred learning styles and their teachers' preferred teaching styles.

The learning style questionnaire was sent to ESL Arab Gulf students who study in SILC and CESL language centers. The questionnaire included a flyer in English and in the Arabic language to give general information about the study, the researcher, and the VARK questionnaire. The questionnaire was returned in person and collected in four days. The learning style preferences were recorded in tables in Chapter IV. These tables provided a convenient means of comparing the respondents' responses to each category of the questionnaire. The statistical chi-square and ANOVA analyses were conducted to determine participants' major perceptual learning preferences and differences in preferred learning styles across TOEFL scores, gender, age, cultural background, and study period in IELCs.

When the questionnaire was analyzed, a report was written to provide discussion on the most commonly used learning styles, the least commonly used learning style, significant differences in learning styles according to the demographic variables, and finally a discussion of the four research study hypotheses.

Discussion and Conclusion

The research study aimed to investigate the following questions and hypotheses:

Questions

- (1) What is the most common learning style profile of Arab Gulf ESL students, and how much do they vary?
- (2) Do country of origin, language level, and gender affect the preferred learning styles of ESL Arab Gulf students?
- (3) Do Arab Gulf students with different learning style preferences perform differently on the TOEFL?
- (4) Does a correlation between ESL instruction and the students' preferred learning styles impact Arab Gulf ESL students' English language performance?

The most common learning style profile of Arab Gulf ESL students was analyzed in Chapter IV. The results indicated that the most common learning style among ESL Arab Gulf students was the aural learning style. There were 66 (41.5%) students who reported aural learning styles, 19 (11.9%) who reported visual learning styles, 23 (15.1%) who reported read/write learning styles, and 50 (31.4%) who reported kinesthetic learning styles. These results prove that ESL Arab Gulf students in this study are more aural than visual learners. These students can learn better through speaking and listening activities than through any other types of activities.

The data in Table 3.2 in Chapter IV indicated that the majority of students from the country of Oman reported kinesthetic learning styles and most students from the country of the United Arab Emirates preferred read/write learning style. The majority of students from the country of Saudi Arabia and Kuwait preferred aural learning style. The results showed that there

was a difference among these countries in the learning style preference, which seems to suggest that the idea that the cultural backgrounds affect the preference of learning styles among students. The gender of the participants showed significant difference in the preferred learning style but it did not show a significant difference on the TOEFL scores of ESL Arab Gulf students. The majority of female students reported kinesthetic learning styles but the majority of male students reported aural learning styles. The age and language level of students did not show any statistically significant difference in the preferred learning style.

Hypotheses

- (1) Male and female Arab Gulf students have different preferred learning styles.
- (2) Beginning ESL Arab Gulf students have different preferred learning styles than advanced level ESL students in ILECs.
- (3) Cultural backgrounds of ESL Arab Gulf students affect ESL students' TOEFL scores.
- (4) Preferred learning styles of Arab Gulf students affect their TOEFL scores.
- (5) Gender of Arab Gulf students affects their TOEFL scores.
- (6) The English language performance of ESL Arab Gulf students' impacts their learning performance level if instruction is matched to their preferred learning styles.

Hypothesis one was tested by the chi-square statistical test. The total number of participants was 159 ESL Arab Gulf students. There were 115 male and 44 female participants in this research study. The majority of male participants reported aural learning styles but the majority of female participants reported kinesthetic learning styles. The results of the statistical chi-square determined that ESL Arab Gulf students differ in their learning styles preference. The alternative hypothesis was accepted since the calculated value was greater than the tabulated value. This leads the researcher to conclude that ESL Arab Gulf male students preferred to learn

through listening and speaking activities but the ESL Arab Gulf female students preferred to learn through hands-on activities more than any other types of activities.

Hypothesis two was also tested by the chi-square test, which was performed to determine whether the ESL Arab Gulf students who are placed in the beginning language level differ in their preferred learning styles than the ESL Arab Gulf students who were placed in the advanced language level. The results of the chi-square revealed no significant difference. The researcher failed to accept the alternative hypothesis. The learning style preference between these two groups was not significantly different. The result of this hypothesis proved that learning styles of ESL Arab Gulf students did not change during the length of time studying in the IELCs. The majority of students preferred aural learning styles regardless of their language levels in IELCs.

Hypothesis three was tested by using the statistical ANOVA test which was performed to determine whether the cultural background of ESL Arab Gulf students affects their preferred learning styles. There were 130 ESL students from Saudi Arabia, 23 students from Kuwait, five students from Oman, and one student from the United Arab Emirates. The results of the statistical test were statistically significant; therefore, there was a difference in regards to the preferred learning styles among these four countries. The target students were different in their preferred learning style choice. This leads the researcher to the idea that the cultural background plays an important role in the ESL Arab Gulf students' preferred learning style in IELCs.

Hypothesis four was also tested by using the statistical ANOVA test, which was conducted to evaluate the academic effect of the preferred learning styles of ESL Arab Gulf students on their TOEFL achievements. According to the data in chapter four, the majority of ESL Arab Gulf students reported aural learning styles. The percentage of students who reported aural learning styles was (45.4%) and the percentage of students who reported visual learning

styles was (12.17%). The results of the statistical ANOVA test indicated statistically significant results; therefore, the researcher concluded that the preferred learning styles of ESL Arab Gulf students affect their language performance. There was a mean difference, as shown in Table 8.1. This mean difference is related to the teaching methods used in the IELCs. According to Table 8.1, students who reported read/write learning styles have a higher mean than the rest of the students who reported other learning styles.

Hypothesis five was tested by the statistical one-way ANOVA test to reveal the effects of gender on the target students' TOEFL scores. The results indicated that there was not any significant effect of gender on the target students' TOEFL scores. Being a male or a female is not a factor that can improve or decline the level of language performance.

The last hypothesis in this research study was anticipated to reveal the academic effect on the ESL Arab Gulf students' language performance if instruction is matched to the target students' preferred learning styles; therefore, the aim of this hypothesis was to determine whether there is a significant difference in the academic achievement of ESL Arab Gulf students who study in IELCs when teaching styles are matched to their learning styles.

The results that were revealed in Chapter Four ascertain that there was a significant difference. Matching teaching styles to ESL Arab Gulf students' learning styles impacted the ESL Arab Gulf students' academic success and elevated their TOEFL test scores more than the ESL Arab Gulf students who had different learning styles from their teachers' teaching method.

Limitation of the Study

The conclusions of this study are based on the data obtained from two IELCs at the University of Arkansas and the University of Oklahoma. The results of this study are limited to

the Arab Gulf students. The majority of Arab Gulf students were from Saudi Arabia, while the rest of students were from different Arab Gulf countries.

Conclusions

According to the results shown in this study, the majority of ESL Arab Gulf students who achieved a high score in the TOEFL test reported learning styles that matched the teaching styles used in class. These results proved the idea that matching teaching styles to the students' learning styles can improve the level of language performance of ESL Arab Gulf students in IELCs. For that reason, matching ESL teachers' teaching methods to ESL Arab Gulf students' learning styles is essential to the English language learning process in IELCs. It should be considered a positive and encouraging process for the teaching process of ESL Arab Gulf students in IELCs.

The study also concluded that the target students were different in their preferred learning style choices. This led the researcher to the idea that cultural background plays an important role in the ESL Arab Gulf students' preferred learning style in IELCs. The results of the ANOVA statistical test determined that the preferred learning styles of ESL Arab Gulf students affect their language performance; but gender did not play any significant role in the academic lives of ESL Arab Gulf students. Furthermore, the results in this study indicated that there was not any significant effect of gender on the target students' TOEFL scores. Therefore, being male or female was not a factor that could improve or decline the level of language performance of ESL Arab Gulf students in IELCs.

The gender of ESL Arab Gulf students does not play an important role in the ESL Arab Gulf students' TOEFL scores, but it plays an important role in the preferred learning style choice. The language level of ESL Arab Gulf students does not play an important role in their learning style preference. The cultural backgrounds and the preferred learning styles of ESL

Arab Gulf students play an important role in ESL Arab Gulf students' TOEFL scores, but their gender does not have any effect on their TOEFL scores.

Implication for Teaching

The findings of this study revealed that matching teaching styles to students' learning styles can improve the language performance level of students and improve academic communication among teachers and students, which may create more efficient and successful learning environments. The results of this research study can help ESL teachers to recognize the students' various learning styles in their classes. The teachers are encouraged to consider learning styles when teaching ESL Arab Gulf students.

Recommendations for Further Studies

There is a chance to expand the knowledge of learning styles' academic effects on ESL students who study the Arabic language in the Gulf countries and compare it to the learning styles' academic effects on ESL Arab Gulf students in IELCs in the United States. Another further research that may be of value is applying this research on ESL students who study at American elementary and secondary schools in order to investigate the advantages of matching teachers' teaching styles to ESL students' learning styles.

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APPENDIXES

Appendix A: The Learning Styles Preference Questionnaire

The VARK Questionnaire.

How Do I Learn Best?

Choose the answer which best explains your preference and circle the letter next to it.

Please circle **more than one** if a single answer does not match your perception.

Leave blank any question that does not apply.

1. You are helping someone who wants to go to your airport, the center of town or railway station. You would:

- a. go with her.
- b. tell her the directions.
- c. write down the directions.
- d. draw, or give her a map.

2. You are not sure whether a word should be spelled `dependent' or `dependant'. You would:

- a. see the words in your mind and choose by the way they look.
- b. think about how each word sounds and choose one.
- c. find it online or in a dictionary.
- d. write both words on paper and choose one.

3. You are planning a vacation for a group. You want some feedback from them about the plan. You would:

- a. describe some of the highlights.
- b. use a map or website to show them the places.
- c. give them a copy of the printed itinerary.
- d. phone, text or email them.

4. You are going to cook something as a special treat for your family. You would:

- a. cook something you know without the need for instructions.
- b. ask friends for suggestions.
- c. look through the cookbook for ideas from the pictures.
- d. use a cookbook where you know there is a good recipe.

5. A group of tourists want to learn about the parks or wildlife reserves in your area. You would:

- a. talk about, or arrange a talk for them about parks or wildlife reserves.

- b. show them internet pictures, photographs or picture books.
- c. take them to a park or wildlife reserve and walk with them.
- d. give them a book or pamphlets about the parks or wildlife reserves.

6. You are about to purchase a digital camera or mobile phone. Other than price, what would most influence your decision?

- a. Trying or testing it.
- b. Reading the details about its features.
- c. It is a modern design and looks good.
- d. The salesperson telling me about its features.

7. Remember a time when you learned how to do something new. Try to avoid choosing a physical skill, eg. riding a bike. You learned best by:

- a. watching a demonstration.
- b. listening to somebody explaining it and asking questions.
- c. diagrams and charts - visual clues.
- d. written instructions – e.g. a manual or textbook.

8. You have a problem with your heart. You would prefer that the doctor:

- a. gave you a something to read to explain what was wrong.
- b. used a plastic model to show what was wrong.
- c. described what was wrong.
- d. showed you a diagram of what was wrong.

9. You want to learn a new program, skill or game on a computer. You would:

- a. read the written instructions that came with the program.
- b. talk with people who know about the program.
- c. use the controls or keyboard.
- d. follow the diagrams in the book that came with it.

10. I like websites that have:

- a. things I can click on, shift or try.
- b. interesting design and visual features.
- c. interesting written descriptions, lists and explanations.
- d. audio channels where I can hear music, radio programs or interviews.

11. Other than price, what would most influence your decision to buy a new non-fiction book?

- a. The way it looks is appealing.

- b. Quickly reading parts of it.
- c. A friend talks about it and recommends it.
- d. It has real-life stories, experiences and examples.

12. You are using a book, CD or website to learn how to take photos with your new digital camera. You would like to have:

- a. a chance to ask questions and talk about the camera and its features.
- b. clear written instructions with lists and bullet points about what to do.
- c. diagrams showing the camera and what each part does.
- d. many examples of good and poor photos and how to improve them.

13. Do you prefer a teacher or a presenter who uses:

- a. demonstrations, models or practical sessions.
- b. question and answer, talk, group discussion, or guest speakers.
- c. handouts, books, or readings.
- d. diagrams, charts or graphs.

14. You have finished a competition or test and would like some feedback. You would like to have feedback:

- a. using examples from what you have done.
- b. using a written description of your results.
- c. from somebody who talks it through with you.
- d. using graphs showing what you had achieved.

15. You are going to choose food at a restaurant or cafe. You would:

- a. choose something that you have had there before.
- b. listen to the waiter or ask friends to recommend choices.
- c. choose from the descriptions in the menu.
- d. look at what others are eating or look at pictures of each dish.

16. You have to make an important speech at a conference or special occasion. You would:

- a. make diagrams or get graphs to help explain things.
- b. write a few key words and practice saying your speech over and over.
- c. write out your speech and learn from reading it over several times.
- d. gather many examples and stories to make the talk real and practical.

Appendix B: The VARK Questionnaire Scoring Chart

Use the following scoring chart to find the VARK category that each of your answers corresponds to. Circle the letters that correspond to your answers

E.g. If you answered b and c for question 3, circle V and R in the question 3 row.

Question	a category	b category	c category	d category
3	K	V	R	A

Scoring Chart

Question	a category	b category	c category	d category
1	K	A	R	V
2	V	A	R	K
3	K	V	R	A
4	K	A	V	R
5	A	V	K	R
6	K	R	V	A
7	K	A	V	R
8	R	K	A	V
9	R	A	K	V
10	K	V	R	A
11	V	R	A	K
12	A	R	V	K
13	K	A	R	V
14	K	R	A	V
15	K	A	R	V
16	V	A	R	K

Calculating your scores

Count the number of each of the VARK letters you have circled to get your score for each VARK category.

Total number of **V**s circled =

Total number of **A**s circled =

Total number of **R**s circled =

Total number of **K**s circled =

Appendix C: Arabic VARK Learning Style Questionnaire

اسد تديان فبارك

كيف أتعلم به شكل أفضل

الرجاء اخذ تيار الاجابه التي تشرح اخذ تيارك الافضل

1:أنت تساعد شخصاً يريد الوصول إلى المطار أو وسط المدينة أو محطة السكة الحديدية في أذنتك يمكن أن:

a. تذهب معها

b. تخبرها عن الاتجاهات

c. تكتب لها الاتجاهات (بدون خريطة)

d. ترسم أو تعطى لها خريطة

2:أنت غير متأكد ما إذا كانت تهجئة الكلمة "dependent" أو

"dependant". فأنت يمكن أن:

a. تخيل الكلمات في عقلك وتذكر حسب الشكل الذي تراه

b. تفكر بصوت كل كلمة وتذكر واحدة.

c. تبحث عنها في القاموس

d. تكتب الكلمة على الورقة وتذكر واحدة

3:أنت تخطط رحلة لمجموعة من الأصدقاء وتريد أن تعرف رأيهم حول المخطط فأنت يمكن أن .

a. تصف النقاط المهمة للمخطط

b. ستعمل خريطة وموقع من شبكة الإنترنت لتريهم الامكنه

c. تعطى لهم نسخة من دليل الرحلة

d. اتصل بهم هاتفياً أو ترسل رسالة قصيرة أو بريد إلكتروني

4:أنت به صدد أن تُحضر وليمة مميّزة لعائلتك فأنت يمكن أن:

a. تطبخ شيئاً تعرفه دون الحاجة إلى تعليمات

b. تسأل الأصدقاء لتزويدك بأكتر تراحات

c. نظرفي كتاب الطبخ لتأخذ أفكاراً من الصور

d. ستستخدم كتاب فن الطبخ حيث تعلم أن هناك وصفات جديدة

5: مجموعة من الـسد ياح تود الـتعرف على الـمذ تزلت ومحـمـيات الـحـياة الـبرية في منطـقـة تكـفـأذت يـمـكن أن:

a. تـتـحدـث عـنـها أو تـنـسـق لـتـحـضـر من يـلـقي عـلـيـهم كـلـمـة حـول الـمـوـضـوع

b. تـريـهم صـوراً رـسـوماً عـلى شـبـكـة الـإنـتـرنـت أو من كـتاب الـصـور

c. تـأخـذهم إلـى مـذ تـزلت ومحـمـيات الـحـياة الـبرية وتـسـير معـهم

d. تـعـطـيهم كـتاباً أو كـتـيـبات عـن مـذ تـزلت ومحـمـيات الـحـياة الـبرية

6: أذت بـصـدد شـراء آلة تـصـويـر رقـمـية أو هـلـتـفا الـيـولـخ، بـعـيـدا عـن الـسـعـر ما الـذي يـؤـثـر عـلى قـرارك

a. تـجـربـته وإخـتـبارهُ

b. قـراءـة تـفـاصـيل عـن مـواصـفـاته

c. تـصـمـيمه الـحـديث ومـظـهره الـجـديد

d. الـبـائـع أـخـبرني عـن مـواصـفـاته

7: تـتـكـر مرة تـعـلمت فـيـها شـيـئاً جـديـداً (حـاول عـدم اخـتـيار الـمـهـارات الـجـسـديـة). اذت تـتـعلم بـشـكل افـضـل:

a. عـن طـريق مـشـاهـدة عـرض

b. الـاسـتـماع إلـى شـرح أـحـدهم وطـرح أسـئـلة

c. رـسـوم بـيـانية ومـسـاعـدات مرثـية

d. تـعـلـيمات مـكـتـوبـة، مـثـل دـلـيل أو اسـتـعمال كـتاب

8: عـندك مـشـكـلة فـي رـكـبـتك فـأذت تـفـضـل الـطـبـيب الـذي:

a. يـعـطـيك اسـم مـوقـع عـلى شـبـكـة الـإنـتـرنـت أو شـيئاً عـن الـمـوـضـوع لـتـقـراه

b. يـشـرح لـك الـمـشـكـلة ويـسـتـخدم نـمـوذجاً

c. يـصـف لـك ما الـمـشـكـلة

d. يـريـك شـيئاً عـن رـسـم الـمـشـكـلة

9: أذت تـريـدان تـتـعلم بـرـنـامـجاً أو لـعـبة أو مـهـارة جـديـدة فـي الـحـاسـوب فـأذت:

a. تـقـرأ الـتـعـلـيمات الـمـكـتـوبـة الـمـرفـقـة بـالـبرـنـامـج

b. تـتـحدـث مع أناس يـعـرفـون هـذا الـبرـنـامـج

c. تـسـتـخدم لـوحـة الـمـفـاتـيح

d. تـتـبع الـرـسـم فـي الـكـتاب الـمـرفـق الـمـوجـود بـه

10: أنت تحب المواقع الإلكترونية التي تحدث توي على:

a. أشياء يمكن أن تضغط عليها وتقلها وتجربها

b. تصاميم ورسومات مرئية

c. فسيح مكثوبة ولوائح وصفية وشائقة

d. قنوات سمعية حيث يمكنك الاستماع للموسيقى وبرنامج الإذاعة والمقابلات

11: بعد عن ارسل، ما الذي يؤثر عليك أكثر عندما تشرى كتاب:

a. الشكل الخارجي للكتاب

b. قراءة سريع له لأجزاء منه

c. صديق تحدث عنه وأوصى به

d. يتحدث توي على قصص قيعقاو، وتجارب وأمثلة

12: أنت تستخدم كتابا

او قرصا مغنطا او موقع الك تروني ل تتعلم كيفية اخذ الصور بآلة تصويرك. فأنت تفضل:

a. الفرصة لطرح الأسئلة والتحدث عن الآلة التصوير ومواصفاتها

b. التعلميات المكتوبة والواضحة واللوائح والنقاط المحددة عما يجب أن تفعله

c. الرسوم البيانية التي تظهر الآلة التصويرا وكيفية عمل كل جزء

d. أمثلة كثيرة عن صور جيدة وأخرى رديئة والطريقة لتدسينها

13: من أفضل المدرس أو المقدم الذي يستخدم:

a. عروضاً ونماذج وجلسات تطبيقية

b. أسئلة وبرنامج أو مناقشة جماعية، أو استضافة محادثات

c. أوراق عمل أو كتب أو قراءات

d. رسوماً وصوراً بيانية أو خرائط بيانية

14: أنه يتخذت باراً او منافسة وتريد أن تعرف عن خلفيته ذلك، فأنت تود أن تكون الخلفية:

a. استخدام أمثلة مما فعلته

b. استخدام وصف خطي عن نتائجك

c. من شخص يتحدث معك عنها

d. اسد تعامل رسوم بـ يانديتة وصور عن ما أنجز

15: عليك إختيار طعام في مطعم أو مقهى فأنت:

a. تختيار شديئا أكلته سابقا

b. تسمع لنادل أو تأسأل أصدقاءك عن إختياراتهم

c. تختيار من الوصف الموجود في قائمة الوجبات

d. تطلع إلى ما يأكله الأشخاص أو تنظر إلى صور الطعام

16: عليك إلقاء كلمة في مؤتمر أو مناسبة خاصة مهمة فأنت:

a. تخدم رسوما وصورا بـ يانديتة ساعدك على شرح الأشياء

b. كتبرؤوس أقلام عن الموضوع وتتدرب على قولها مرة بعد أخرى

c. كتب الكلمة وتتعلمها عدة مرات عن طريق قراءتها

d. تجمع العديد من الامثلة والقصاص لتجعلك لاملك واقعا وعمليا

Appendix D: The Learning Styles Preference of ELLs

The following learning style preference questionnaire is designed to help you know and identify the best ways you prefer to learn. The result of the questionnaire will help you better understand your learning style preference. The results will also help teachers to recognize your learning style preference and match theirs with yours which may lead to improve your language proficiency.

Section one: Please, answer the following question about yourself.

- 1- Sex : Male Female
- 2- Age: 18-20 21-23 24-26 27-29 above 30
- 3- Country of origin:
- 4- Language Level: Basic Level (00-100)
- Beginning Level (100-200)
- Intermediate Level (300-400)
- Advanced Level (500-700)

5- MOST RECENT TOEFL score:

Paper-Based TOEFL Test:	IBT:	IELTS:	N/A:
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When did you take it?

How many times?

6- Your major or (Future major):

7- Length of time spent in this Language Center:

- Less than a month
- One to three months
- Three to six months

- Six months to a year
- More than a year

8- Length of time spent in the United States:

- Less than a month
- One to three months
- Three to six months
- Six months to a year
- More than a year

9- The MOST DOMINANT TEACHING STYLE used by your teacher in classroom is: (Please, choose ONE).

- Visual:** The teacher prefers to use images, pictures, colors, and maps to organize information and communicate with students in class.
- Aural:** The teacher prefers to teach through speaking and listening. The teacher depends on hearing and speaking as a main way of teaching.
- Kinesthetic:** The teachers prefer to teach by carrying out physical activities, rather than speaking and listening activities.
- Read/write:** The teachers prefers to teach students through reading and writing activities by helping students to read a lot of information, and summarize what they have learned in writing.

Appendix E: Form Consent



216 Peabody Hall ♦ Fayetteville, Arkansas 72701 ♦ (479) 575-4209 ♦ (479) 575-6676 (Fax)
Department of Curriculum & Instruction, College of Education & Health Professions

Dear student,

I am a graduate student at the University of Arkansas where I am working on my research project necessary for graduation with a Ph.D. in Curriculum and Instruction with emphasis in English as a second language. The following is an instrument designed to measure an English language learner (ELL) learning styles and how these learning styles affect the language performance in intensive English language centers. Your responses will provide valuable data on the academic effect of learning styles, county of origin, and gender on language performance of ELLs in intensive language centers.

By completing this survey, you are giving your consent to participate in this research activity. The survey is voluntary and your individual responses are completely anonymous. The survey consists of 26 items and will take approximately 10-15 minutes to complete. Please, do not place any personally identifying information on the survey. Please note that there are no negative consequences if you choose not to participate. Thank you for your participation!

Sincerely,

Baderddin Yassin

Please feel free to send any comments or questions to:

Baderaddin Yassin, Graduate Student
Dept. of Curriculum and Instruction
Peabody Hall
University of Arkansas

Ro Windwalker, Compliance Coordinator
Research Support & Sponsored Programs/Compliance
irb@uark.edu
479-575-2208

Appendix F: IRB Application Form

*Office of Research Compliance
Institutional Review Board*

May 3, 2012

MEMORANDUM

TO: Baderaddin Yassin
Mounir Farah

FROM: Ro Windwalker
IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 12-04-676

Protocol Title: *The Academic Effects of Learning Styles on ESL Students in Intensive Language Centers*

Review Type: EXEMPT EXPEDITED FULL IRB

Approved Project Period: Start Date: 05/03/2012 Expiration Date: 05/02/2013

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (<http://vpred.uark.edu/210.php>). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 400 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

Appendix G: Research Flyers/ Arabic Version

التاريخ:

أعزائي الطلاب

إسمي بدرالدين ياسين. أنا أدرس الدكتوراه في جامعة أركنساس، في كلية التربية. أنا أطلب مساعدتكم مع بحثي حيث أنني أقوم حالياً في كتابة أطروحة الدكتوراه. يركز البحث على كيفية إكتساب طلاب الخليج العربي للغة الانجليزية و انماط التعلم المفضلة. من المعروف أن الطلاب تختلف في انماط التعلم الخاصة بهم. لديكم الفرصة الآن للمشاركة في هذه الدراسة البحثية من أجل تحديد نمط التعلم الخاص بكم.

أنا أقوم بهذه الدراسة لكي أتمكن من تحديد وفهم بشكل أفضل أنماط التعلم الخاصة بكم بغية الربط بين طرائق التدريس وأساليب التعلم.

أنا أريد من 10 إلى 15 دقيقة من وقتك لإستكمال الدراسة شاكراً لكم حُسن تعاونكم.

أشكركم جزيل الشكر على إكمال الدراسة البحثية في الاوقات التالية:

الساعة الثالثة من يوم الاثنين

الساعة الثالثة من يوم الثلاثاء

Baderaddin Yassin

Appendix G: Research Flyers/ English Version

Fall, 2012

Dear Gulf Arabic Speaking Students,

My name is Baderaddin Yassin. I am a Ph/D Candidate at the University of Arkansas, College of Education and Health Professions. I am asking for your help with my dissertation research in fulfillment of the requirements of my Ph.D.

My research project focuses on Gulf Arab student's language acquisition and preferred learning styles. It is a well-known fact that students from different language and cultural backgrounds differ in their learning style preferences. I am doing my research study both identify and better understand your language learning styles in order to correlate instructional methods and leaning styles. You may also learn something about your own learning styles by taking the survey.

I am asking for 10-15 minutes of your time to complete the survey.

PLEASE PLAN TO COMPLETE THE SURVEY ON ONE OF THE FOLLWING TWO TIMES

Thank you very much for the help

