



**A WEB-BASED SYSTEM TO ENHANCE STUDENTS' ABILITIES IN
ENGLISH EDUCATION**

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JUNE 2015

**A WEB-BASED SYSTEM TO ENHANCE STUDENTS' ABILITIES IN
ENGLISH EDUCATION**

**A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED
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**BY
SAFAA HADI KOTHER**

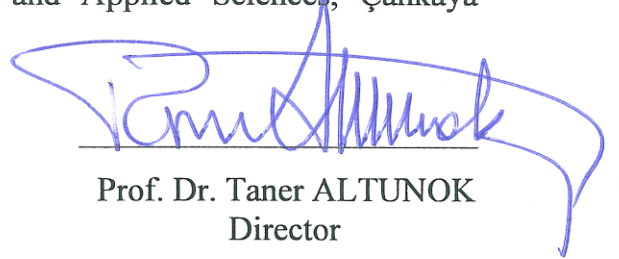
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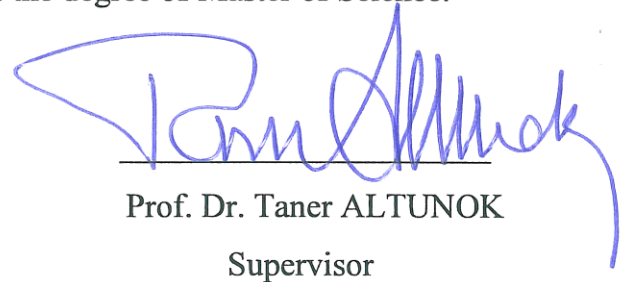


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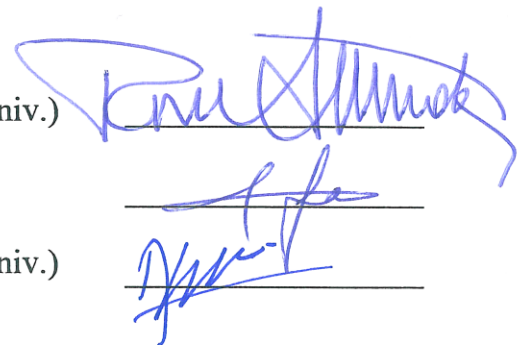
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STATEMENT OF NON-PLAGIARISM PAGE

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ABSTRACT

A WEB-BASED SYSTEM TO ENHANCE STUDENTS' ABILITIES IN ENGLISH EDUCATION

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The research deals with enhancing the students' abilities to learn English language. The enhancement will be in the form of web-based computer system hosted in the root establishment of education that the students can access using their own computers at homes or school computers. The proposed system will use the computer digital media like movies, dictionaries, and speech facilities to simplify the reading, writing, listening, speaking and the vocabulary of the English language. The system is instructors' assistance system uses all attractive facilities to be students' favorite and beloved system and portable to give students the longest period of education with ability to share knowledge between them. It is an integrated multimedia system the override students motivations to enhance education facilities. The system will be implemented using the Microsoft Visual Studio development tool with aid of Visual C#.net integrated with Asp.Net tools to build the website according to the latest technologies in web-based application development.

The designed system deals with analysis of the benefits of using it and questioners to show its intended application results and its abilities to reduce education costs and increase education effectiveness.

GCRLS

Keywords: Computer-Assisted Language Learning (CALL), Web-Based Learning (WBL), Electronic Learning (e-learning), Mobile Learning (m-learning), Ubiquities Learning (u-learning), English as a Foreign Language (EFL), English as a Second Language (ESL), Second Language Acquisition (SLA).

ÖZ

ÖĞRENCİLERİN İNGİLİZCE EĞİTİMİNDE YETENEKLERİNİ ARTTIRMAK İÇİN WEB TABANLI BİR SİSTEM

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Araştırma öğrencilerin İngiliz Dili'ni öğrenmedeki yeteneklerini ve yeterliliklerini arttırmak ile ilgilidir. Bu artış öğrencilerin evlerinde kendi bilgisayarlarını kullanarak veya okul bilgisayarlarını kullanarak ulaşabileceği ve eğitimin merkezinde yer alacak web tabanlı bir bilgisayar sistemi şeklinde olacaktır. Önerilen sistem okuma, yazma, dinleme, konuşma ve İngilizce kelimeleri kolaylaştırmak için filmler, sözlük ve konuşma diyalogları gibi dijital bilgisayar ortamlarını kullanacaktır. Eğitimcilerin rehberliğinde olacak sistem öğrencilerin favori ve seveceği bir sistem olmak için mümkün olan bütün çekici özellikleri kullanmaktadır ve öğrencilere kendi aralarında bilgi paylaşma olanağı ile uzun süreli bir eğitim sağlar. Bu sistem eğitim niteliklerini arttırmak için öğrencileri motive edecek entegre edilmiş bir multimedya sistemidir. Bunun yanında, sistemi web tabanlı uygulamalar içerisindeki en son teknolojilere göre geliştirmek için Asp. Net araçları ile birleştirilmiş Visual C#.net yardımı ile Microsoft Visual Studio development tool (geliştirme aracı) kullanılacaktır.

Tasarlanan sistem, sistemin kullanılmasındaki yararların analizi, hedeflenen uygulamaların sonuçları, eğitim giderlerinin azaltılması ve eğitimdeki etkililiğin yükseltilmesi gibi hususları da ele almaktadır.

Anahtar Kelimeler: Bilgisayar Destekli Dil Öğrenme (CALL), Web Tabanlı Öğrenme (WBL), Elektronik Öğrenme (e-learning), Mobil Öğrenme (m-learning), Aynı Zamanda Birden Fazla Yerde Olma Durumu ile Öğrenme (u-learning), Yabancı bir Dil Olarak İngilizce (EFL), İkinci Dil Olarak İngilizce (ESL), Yabancı Dil Edinimi (SLA).

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LIST OF ABBREVIATIONS

BICS	Basic Interpersonal Communication Skills
CALL	Computer-Assisted Language Learning
CALP	Cognitive Academic Language Proficiency
DRAS	Digital Reading Annotation System
EFL	English as a Foreign Language
ELL	English Language Learners
ELT	English Learning Teaching
ESL	English as a Second Language
FLT	Foreign Language Teaching
ICT	Information Communications and Technology
IYELS	Improve Your English Language System
LMS	Learning Management System
Moodle	Modular Object-Oriented Dynamic Learning Environment
SCROLL	System for Capturing and Reminding Of Learning Log
SIG	Special Interest Group
SLA	Second Language Acquisition
TELPAS	Texas English Language Proficiency Assessment System
ULE	Ubiquitous Learning Environment
UTAUT	Unified Theory of Acceptance and Use of Technology
WBLL	Web-Based Language Learning

CHAPTER 1

INTRODUCTION

In this chapter, the background of the study, the statement of the problem, the purpose of the study, and the significance of the study will be presented.

1.1 Background of the Study

The human being tries to develop the technology due to its own needs. Sometimes developments and innovations in technology show the new requirements of human beings. Some technological developments called worldwide revolutions. One or may be most important of the technological developments is a computer. The computer makes it possible to overcome some difficult calculations like numerical computations, database processing, and etc. in less time and more reliable methods. Computers are not only used for vast computations and very complicated scientific processes, but also used in most ordinary life routines. Text processing, spread sheets, games, etc. are the most frequently used software in our life activities that take part in our routine works. Moreover, with the evolution of communication, internet and accessing information became more flexible, simpler, faster and less cost. The development in computer technology also encouraged the educators to focus on how to make advantage from such a capability. Starting from the early steps of their development, computers are used in various areas of education for many purposes. Language learning and teaching, particularly foreign language learning and teaching got a great transaction to benefit from computers. It is stated that in modern phase, foreign language, particularly English, is at the middle of social, economical, scientific, and educational lives. Therefore, there were several huge projects with high budgets to explore uses of computers in language teaching and learning. ATHENA, CAMILLE, ALLP, PLATO, OLA, TICCIT and etc. are some projects that primarily concentrated on uses of computers for language learning [1].

Foreign language learning and teaching is a large domain that has several parts to be investigated. Most of the researchers partitioned foreign language teaching in four main skill groups. Reading, writing, listening, and speaking are the necessary skills to gain a foreign language.

There were several researches that attempted to illustrate the acquisition of grammar, syntax and reading. However, it is also significant to reduce the acquisition of vocabulary and phonology. Second Language Acquisition (SLA) research has focused basically on clarifying the acquisition of morphology and syntax, a little known about the acquirement of phonology and little more about the acquisition of lexis. Moreover, computer technology has the ability of helping language learners in improving listening skills and oral. There is an imbalance where most of the researches concentrated on writing and reading, however, only few researches focused on speaking and listening.

In learning a foreign language, learners may have obtained some skills but they have barriers in understanding a native speech in a conversation. The students may learned the necessary skills such as reading and writing, however, foreign language learners have barriers in understanding speech. Furthermore, there are not a lot of programs that object to learn foreign language pronunciation. For the listening ability, that is fundamental to understand the words in conversations.

Another important skill is speaking for gaining a foreign language that is can be acquired by many repetition. However, the conventional classroom is very insufficient for offering such an opportunity. And from another side, speaking skill comes after listening skill. Learners should first understand how a word is spoken. Then, the learner can try to utter the word to enhance listening skill there are three necessities: attention, focus and application. The listening can be valid only after giving attention to these necessities.

The language labs give chances to students to work personally at their own pace. furthermore, language labs enabling learners to work with an personalized media makes learners motivated. Moreover, obtaining a foreign language, perceiving and speaking are the most important fundamentals and a language lab should be supportive within this scope. Language lab should be used for giving such an exercise opportunity for these essentials. Furthermore, the providing much and regular exercise for listening is the essentials goal of the language lab [1].

Technology has become a progressively important tool for people, everyday life, and particularly the educational system. Several peoples are reliant on technology as their daily routine composed of regular interactions with electronic devices and computers for the purposes of buying goods online, meeting persons, and working. Technology considerably affects social relations. Eric Qualman, founder of socialnomics, confirmed that the social statistics obtained from videos are [2]:

- 96% of millennium have joined a social network, and social media has become the number one online activity in the world.
- One out of 5 pairs meets online, and 1 out of 5 separated is due to Facebook.
- The radio took 38 years to for up to 50 million users. Television took 13 years; the Internet, 4 years; and the iPod, 3 years. It said Facebook reportedly added 200 million users in less than 1 year.
- Individual activities are shared on Facebook, YouTube, Flickr, Twitter, blogs and other sites. 60% of fathers and mothers are “friends” with their kids on social media, and 92% of kids under the age of 2 have a digital shadow.
- Kindergartners are training on iPads.
- 53% of Twitter users advice products in their tweets, 90% of consumers trust friends recommendations, and 93% of marketers use social media to strength their businesses.
- 95% of firms that use social media use it for enrollment.

The habits in which people shop, learn, work, bank and contact have altered dramatically over the years—especially during the past 10 years. This indicates that children need a new and more urgently need mental skill set to thrive in after puberty. As a user of technology, I have done the following:

- educated by taking online courses and watching webinars and YouTube videos in diverse subject domains.
- Visited websites, such as Amazon, Best Buy, Groupon and so on to buy goods via iPad, iPhone, or laptop.

Short message (SMS) and Email service messages have debatably become wide popular than books. According to a new research from Nielsen, the rate teens now sends 3,339 texts every month, and messaging is an important medium of communication currently more than ever [2].

UNESCO in its research did not evaluate the levels of duplication and skive, given that the questionnaires had to be finished quite quickly by head-teachers, and that this data had earlier been documented each year in national statistics [37]. On average the rates were high, before imposed duration of sanctions. In 2001/2002, it was documented by the Ministry of Education as 28% for boys and 16% for girls, at Preparatory level; and as 31% for boys and 22% for girls at Intermediate level.

The data of cross-sectional for 2002/2003 indicates large drop out after each grade of secondary education, except maybe the grade 11, as shown in Table 1. However, this cross-sectional data is only revealing.

Governorate	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Total
Anbar	16465	13547	11361	5071	3998	5214	55656
Basrah	28962	25353	22369	10164	8789	9657	105294
Muthanna	5696	4206	3839	1141	1320	1569	17771
Qadissiya	10377	7909	7996	3056	2870	3554	35762
Sulaymaniyah	28956	21621	18682	10405	8180	6806	94650
Babylon	19270	15289	13607	6002	5481	6268	65917
Baghdad	119052	96060	79878	40756	35591	37844	409181
Dahuk	16852	13411	10055	4329	3594	3656	51897
Thi-Qar	16857	15374	15628	7160	7166	8150	70335
Diyala	21244	17158	13468	6971	5617	6302	70760
Erbil	24693	20944	18173	10153	8470	8431	90864
Kerbala	10467	9776	7681	2933	2854	3948	37659
Tameem	22386	16705	13008	5062	4420	4679	66260
Missan	8314	7715	6223	2443	2044	2452	29191
Ninewa	30689	19742	16097	9595	7555	8331	92009
Wassit	12174	10125	9638	3680	3193	3693	42503
Najaf	14139	11447	9390	4301	3353	4760	47390
Salah Al-Din	15919	14139	14031	5801	5307	5140	60337
Total	422512	340521	291124	139023	119802	130454	1443436
Percent	29.3%	23.6%	20.2%	9.6%	8.3%	9.0%	100%

Table 1 General Secondary Education Students by Grade and Governorate

Enrolment in the Preparatory stage was only 27% of the total general secondary registration; - the transition average from Grade 9 (end of the Intermediate stage) to Grade 10 (starting of the Preparatory stage) was 48%, referring a big dropout average between the two stages. Some pupils who leave school after grade 9 enter secondary vocational training schools and teacher institutes. Others are pull out from school to increase the family revenue. In the case the girls, there is the potential of marriage or of residing at home to help with household duties.

There was a similar style of drop-out between grades for both male and female students as shown in Figure 1.

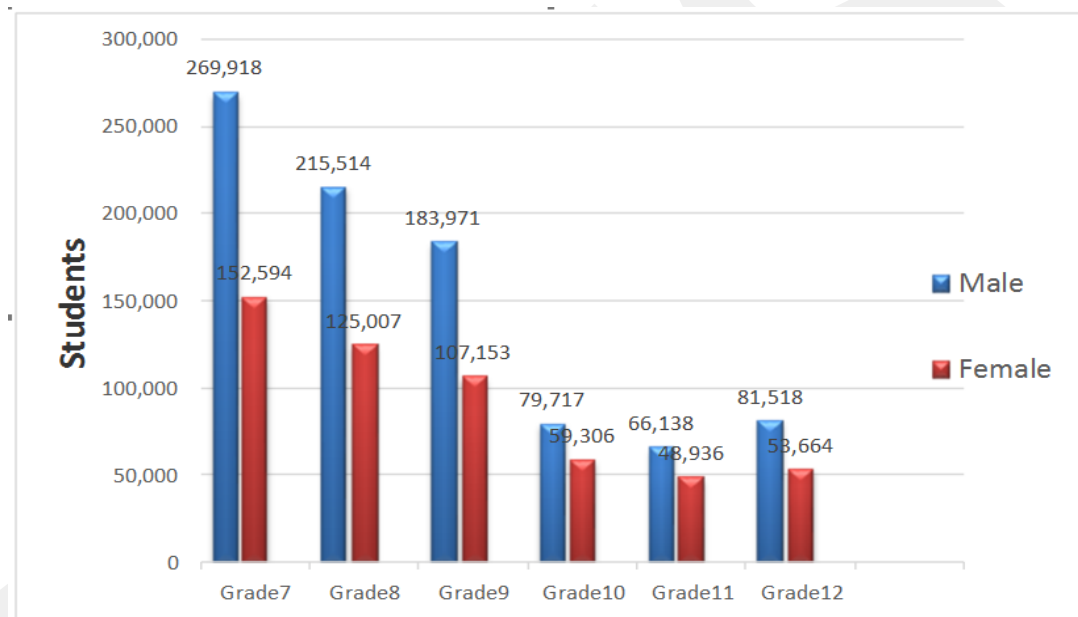


Figure 1 Enrolment in General Secondary Education, by Grade and Gender

Large levels of drop out refer to the requirement for a main survey of the education system, leading to improve in main domains such as books and curriculum, school administration, teacher training and education, a pupil-friendly education environment, and renewal of infrastructure, provide of latest education equipment and materials.

Education study illustrates that teachers stay the most important factor impacting the level of accomplishment in student education. As managers of the learning and teaching operations in the schoolroom, they aim to motivate learners and to form their minds and characters to make them responsible and productive members of society [37].

The strategies that are utilized by English as foreign language (EFL) students to overcome the failure through oral communication are recognized as communication strategies (CSs). One of the aims of this research is to discover the types of CSs used by Iraqi EFL students at preparatory level. Few years ago, the focus on English language teaching the four skills (reading, writing, speaking, and listening) was the main purpose in learning the foreign language but in now a days, the focus becomes more on the oral communication that involves speaking and listening skills. The speaking is one of the most significant methods to communicate, current facts, sometimes is used to transfer ideas, discover and convey information, and the students require them to be capable of fine communication in everyday life and workplaces.

Iraq EFL students as in the other Arab states, they deal with English only in school lessons, which means that there are no other chances to use English outside these lessons . There are limited chances existing to the Arab students for teaching English during natural interactions in English due to the rarely meeting with the English speakers who come to their countries as tourists [38].

In latest years, web-based technologies have faced the circumstances for communication on the web. These technologies enable users to be participate as partners of content that can be distributed and shared.

It constructed on the fact that users are productive in cooperation about content, which also has an influence on the development of present technology. Despite web- based technology designed in a diversity of methods, for example reachability and management is considered, the idea of web-based environments is to provide platforms for users to exchange content. The learners when learn more through using technology, they become a productive strength being part of the improvement and development operation of existing technology, developing technology by using it. There is an accumulative feedback loop among innovation and the uses of innovation. This feedback loop among producing new technology, using it, and developing it into new areas has become much faster, i.e. the development operation of technology during usage is increasing in new technology and functionality appearing [7].

1.2 Problem Statement

In the context of the scientific challenges and the information revolution of the 21st century, there is a landslide trend to install computers in all aspects of education in life. On the other side, the world is moving towards knowledge economy and many funds will be invested in computer aided language learning educational software programs. Thus, it is worth examining the effectiveness of such Computer-Assisted Language Learning (CALL) programs on the performance of students [14].

The required arrangements and physical investments made by the governments in order to rise the use of new technologies in all levels of teaching. Computer aided instruction now entered our classes, particularly private universities are effectively using this tool and this usage is strengthened by the school managers within diverse courses. Public schools will be using new technologies particularly internet applications and computer programs as supportive materials for their courses.

In order to develop usable and effective applications for face-to-face teaching, several types of variables should be investigated. Diverse areas need some common but typically different variables to reveal them. Learning and teaching English as a second language is one of domains that should be investigated in various aspects. There is a required to investigate various applications for computer aided language learning in diverse educational settings with diverse means of media. The advantages of new technologies, that is cheap, fast, and easy accessibility of internet and computers, and multimedia technologies including auditory-visual interactive skills are creating a new space for foreign language learners and teachers [1].

It is a known fact that technology has dramatically changed our life. This greatly led to wonderful innovations. Some technologies are granted by people have been taken. Therefore, it is obvious that new technologies are showing up rapidly and they are affecting the lives of people beings greatly. In a like vein, technology, especially computer technology, has been also used in teaching. It would be impossible not to see the effect of technology in education as fine. In this trend, schools are equipped with computers and other technological tools in order to improve the quality of learning and education [13].

Several instructors are concerned that technological tools such as tablets and smartphones with text messaging and internet connectivity services can just be a source of distraction for students instead being of an educational tool. It may be not easy for lecturers to monitor students adequately to determine whether they are make benefit from instructional apps on their tablets or browsing sites such as Twitter, Facebook. However, the use of these tools by teachers can play a main role in upgrading students' education outcomes. Instructors can use data-driven software such as ANet to target students' skill requirements by differentiating mastering and instruction skills for state evaluation. If monitored accurately, Internet applications and hardware can be used by instructors to improve learning in and out of the classroom. However, instructors should believe that technology can really raise the level of learners' performance in order to move their mentality about how to effectively combine technology to improve learning and instruction and prepare students for a fast-paced business and place of work environment [2].

English has become an obligatory part of more and more lower levels of the elementary curriculum as an universal language. Therefore, some researchers proposed, the wide range popularity of Modular Object-Oriented Dynamic Learning Environment (Moodle) to a big extent relies on its advantages. For instance, there is no authorization fee for Moodle. To use Moodle, K-12 schools and higher education institutes only need to adjust its system to fit their policies and procedures. For instance, in a private university in Ankara, Turkey conducted for the first time, a qualitative study of instructors' experiences and attitudes towards with Moodle in their classes. The researchers had divided the interviewing answers into eight interlocutor:

- (a) Need to Usage.
- (b) Interest and Learning.
- (c) Outlooks.
- (d) News Forum and Grade-Book.
- (e) Level of Students' Participation.
- (f) Impression of Students.
- (g) Advantages
- (h) Disadvantages.

This in-depth study showed that the more a teacher had used the tool, the more useful they find using the tool. In another study, tried to learn how to teachers use Learning Management System (LMS) in diverse types of classes. They conducted surveys among teachers of different topics who used LMS heavily in courses. Based on the data, researchers classified these courses into three groups— knowledge construction, knowledge transmission, and mixed— and matched participant's learning strategies using LMSs with these categories [6].

In this research, a web-based application presented to support secondary schools students to have their English learning knowledge schools, homes and everywhere using their PC's, laptops, smart phones. This website IYELS (Improve Your English Language System) enhances student abilities in learning English as a second language. It provides the following services:

- 1- Dictionary services (vocabulary).
- 2- Promote Reading skills.
- 3- Promote Writing skills.
- 4- Promote Listening skills.
- 5- Promote Speaking skills (Pronunciation).
- 6- Objects names using images and animations.
- 7- Watch videos
- 8- Self-test.
- 9- Curriculum books.
- 10- Linkers for some web site that useful to improve and learn English language.

Improve Your English Language System (IYELS) which is used in this study is a new technology that brings some features such as fast sound transfer rate, speech, test, games, video and animations. Whether all these features of this technology within a well designed internet application can be used effectively in foreign language teaching and learning environment needs to be explained clearly.

The aforementioned services are accessible inside and outside the schools, so a wide spread of learners are reachable.

The system based on using audio, video, images and most computer multimedia facilities to attract more and more users making benefits from computer

attracts to override students emotions. The system is also reachable by girl students from their homes. It is also reachable by working students at their homes and through their work. Another attracting feature is the endless of lessons repeat, for more understandability.

Displaying of the words, crossword puzzle, and chat environment help young pupils in their English vocabulary teaching and hearsay and students' recognize about online communication is achieved. This research attempts to answer the following main questions:

1. What are the partner's opinions about the web-based learning tool in terms of vocabulary learning?
2. What are the partner's opinions about the web-based learning tool in terms of hearsay?
3. What are the partner's opinions about the web-based learning tool in terms of communication?
4. What problems do the students confront while dealing with the web-based learning tool?
5. How web-based learning should improve the tool for more effective?
6. What are the partner's opinions about the internet nature used in the web-based learning tool? [1].

Web-based education is a student-centered learning environment that aids learners to build their own knowledge during interaction with the different components of this learning environment. On other hand, the conventional educational system in Saudi Arabia is teacher-centered and students typically are passive learners and reliant on on teachers. This makes the operation of adaptation of web-based courses a slow process. Furthermore, societal and cultural factors also have affected Saudi students' attitudes about web-based learning. Al-Jabri concluded in his study that present online courses to college-level students in Saudi Arabia was unproductive because of technical and cultural reasons [4]. He referred out that learners had a destructive attitude toward online courses because they were unskilled with online teaching, and they did not take online courses industriously as they felt that online learning is like to chatting online with friends [4].

1.3 Purpose of the Study

The purpose of this research is to enhance and improve English language learning for secondary students those in intermediate and preparatory level as a second language in Iraq. The designed system tries to help secondary students to learn all skills of English language (Reading, Writing, Listening, and Speaking), in addition to vocabulary quickly and efficiently using a Web-based system. It is a free system. The proposed system aims to assist instructors or teachers to use the new technology in classrooms and to find out the level of students through tests included in the system. By doing so, this could provide Iraqi students of the secondary-level (intermediate and preparatory) with this new learning environment, which better responds to their learning needs.

When technology used correctly and in coordination with a diversity of school reforms, it reveals to enhance students' conceptual understanding and enrich learning environments. Really, educational systems through the province have embraced the possibilities of learning technologies and the Internet to improve schooling. As communication technologies and information have placed an increased demand on workers and families, they also have the ability to extend and enhance formal and informal educational opportunities. The information from this research will aid administrators determine how to identify teachers' ideas regarding combining current technology into the schoolroom and evaluate and concentration staff development in order to help teachers with the effective usage of technology in the schoolroom. As more teachers become computer cultured, teachers' perfection level will be increasing and students will benefit from learning in a technology-enhanced educational environment [2].

Also, to shed light on comprehension diverse usage areas and purposes of internet environment for foreign language learning. Thus, the web-based learning tool was set as a supportive material for the English course for the 8th class students at the intermediate level. The aim of this study is to investigate the web-based learning tool in terms of students' concepts and the teacher's concepts in the framework of intermediate level second language learning. Durdu [1] emphasized the importance of student understand around the new tools because students are the

consumers of the new educational tools, their evaluations and perceptions are necessary to ensure qualified education.

Additionally, this study serves to show whether teachers use existing technology (computers, data-driven software, and educational hardware and software) to its fullest potential and effectively to increase student learning. It also identifies the factors impeding effective implementation [2].

The general purposes of this study are the following:

1. Building an instructional program for teaching a syntactical item of English language that is the passive voice.
2. Discovering its effect on developing students' achievement in English grammar.

Overall, the study attempts to answer the following questions:

- a. Are there any statistically important differences ($\alpha < 0.05$) between the students' success mean scores in grammar attributed to the educational method (traditional & computerized)?
- b. Are statistically important differences ($\alpha < 0.05$) between the students' success mean scores in grammar attributed to the stream of study (scientific & literary)?
- c. Are there any there any statistically important differences ($\alpha < 0.05$) between the students' success mean scores in grammar attributed to gender (male & female)? [14].

1.4 Significance of the Study

Language teaching, particularly second language learning needs methodical exercise and repetition. Pupils learn the new words in class sessions and they exercise what they learn by traditional techniques such as continuously writing the direct meaning of the word or using flash cards. However, these traditional methods are not quite attractive and are typically boring. On the other hand, today's kids; it said were born with computers; they are known with them and they like working and playing with computers. Computers fetch more enjoyable and attractive features with them, and educational institutions began to benefit from the advantages of the computers. As a result, computers began to take portion in educational systems. At the start, academic researches mainly focused on whether to use computers or not.

However, effective benefits of computers, different benefits of computer applications, the circumstances where the utilization of computers are also studied.

The Computer Aided Language Learning programs with an educational base can effectively complement and sometimes substitute traditional language teaching methods. Thus, it is important to investigate in which circumstances the use of internet and computers are valuable in the framework of learning and teaching English as a second language.

The results of this research aims to help to the understanding of design and development of stages of computer-assisted language learning. Furthermore, this study may help researchers to advantage from the results in terms of design and development of computer-assisted language learning applications for young students [1].

The results of this study may increase knowledge on the teaching methods concept and provide data about effective methods to use instructional technology in order to improve English as a second language student's communication skill. The finding of the research may point to methods to improve the level of achievement in English as a Second Language (ESL) and teaching methods concept applications in education. Students have different teaching methods, so teachers require to recognizing and engaging all teaching methods to increase educational achievement and allow learners to be more ready for success. The education compatible with the teaching methods of learners will encourage students to become more creative and continue with their studies. The findings of this study added to the limited study related to a student's level of that participation while receiving instruction through technology [3].

An analysis of the results of case reading evaluations through the United States shows English Language Learners (ELL) students are typically the less performing subcategory at all class levels with special education students in some examples performing lower. ELL students are the less performing subcategory in school districts national level and in 2005 reached for the failure of 26% of schools do not meet AYP (adequate yearly progress) prospects. Since countries with bigger percentages of ELL students tend to achieve lower on high-stakes tests than conditions with lower percentages of ELL learners, schools with big percentages of ELL learners might be at greater risk of not meeting AYP aims than other schools.

Simpler tests may not be enough to help ELL students pass the tests. Ramirez found important differences in difficulty levels of state tests, and Texas had one of the easiest state tests to pass.

The quantitative, correlative forecast study revealed the relation between middle school ELL student use of reading skill and electronic media. Media use might enhance understanding of linguistically difficult language exist in high-stakes tests. With an existing relation, instructional leadership might be able to strength teacher usage of electronic media in educational locations and provide parents with proposed electronic media usage paved the way for their children. An increase in language acquire and reading proficiency at schools with large ELL populations may growth, the schools' proportion of achieving AYP aims. Instructional leadership specifying on second language education could use the study results in the body of knowledge on second language acquire and instruction and provide instructors with training to maximize educational effectiveness [5].

CHAPTER 2

REVIEW OF LITERATURE

Before starting this chapter, it is essential to make a literature survey to highlight the way for the current research. The survey can be illustrated as follows:

2.1 E-Learning Prototype for Secondary School: A Case Study of Iraq

In this study, the researcher talks about eLearning [10]. Which is one of the branches of development in communication technology and information, and how to get advantage from this technology in solving several problems that became hinder the progress of education in various countries. Iraq is one of these countries, suffers from weakness in educational systems. The educational systems was delayed considerably due to a number of the problems that students facing, such as the incapability of students to easily move and communicate with the curriculum every day in schools and also the bad situation in Iraq, so it needs new methodologies of education. Thus, they use e-learning technology to share solving these problems by designing and constructing a prototype educational system for Iraqi secondary school [10].

The aims of this study is to design and develop a secondary school system: a case of Iraqi for distance education purpose. The proposed educational system helps staff of Iraqi school and students to do their demands easily anywhere at any time using an e-school system. The system increases the interaction among them [10].

2.2 The Effect of Computer Assisted Language Learning in Teaching English Grammar on the Achievement of Secondary Students in Jordan

This study aimed at exploring the influence of using an educational software program of English language on the success of secondary students in Jordan [14].

The study sample consisted of (212) pupils distributed randomly on four practical groups and four control groups [14]. The tools of the research were an instructional software program for learning the passive voice and a success test. It used analysis of covariance to discover the effect of the instructional program on the students' achievement in the passive voice. The results of the research exposed that the following:

1. There were statistically significant differences ($\alpha < 0.05$) among the students' achievement mean scores in grammar attributed to the educational method of learning. This variance is in favour of the pupils in the experimental group.
2. There were statistically significant differences ($\alpha < 0.05$) among the students' achievement mean scores in grammar attributed to type of gender. This variance is in interest of boys students.
3. There were statistically significant differences ($\alpha < 0.05$) among the students' achievement mean scores in grammar attributed to trend of study. This variance is in favour of the scientific flow of students. According to the results of the study, it was recommended that TEFL instructors use CAI lessons in their education [14].

2.3 An Investigation of English Language Teachers' Attitudes Toward Computer Technology And Their Use of Technology in Language Teaching

The researcher in this study refers to investigating the attitudes of English language teachers in Turkey toward computer technology and the extent to which the technology used in language education [9]. The data collected from a sample of English teachers working at public schools from all over Turkey. In order to ensure triangulation and integration, mixed methods research was used merging both qualitative and quantitative research methods. An offline and online surveys, semi-structured interviews were used to collect the data. Both deductive and descriptive statistics content analysis were used to analyze the data. The findings of the data analysis produced positive results concerning English teachers' attitude toward technology; their use of technology in education, however, do not associate with their positive attitudes.

The results of the study highlighted that a vast majority of educators exposed positive signs for integrating technology in language learning. However, they face

difficulty in integrating technology into their education effectively [9]. The interviews also exposed consistent results with the questionnaire data by pointing out that the instructors do not use computer technologies as educational tools. The results explained that the participants did not have qualified training on integrating technology into instruction. Therefore, in order to get instructors who can efficiently using computer technologies in language education, pre-service English Learning Teaching (ELT) teacher preparation programs should afford technology related courses for their students. It is also proposed that instructors be provided with in-service training on technology integration in order to achieve effective usage of technology in education [9].

2.4 Web-Based Learning Tool: Design and Development of an Online Basic English Support Material for Young Children at Elementary Level

Durdu [1] in his study investigated that the learners' and instructor's conceive of a web-based learning tool for an English course, which was given as a second language at elementary level. The website used as an accompanying material for 8th class students in METU University. The researcher built the website specifically for this study and develop a website and database to realis that objective.

The data collected from the 22, 8th grade students through a computer attitude level and the researchers construct a questionnaire and interview with course teachers for that reason. Frequency distributions, descriptive statistics and researcher surveillance were used to express the study results.

The outcomes revealed that the site exposed positively by more than half of the students in terms of concerning vocabulary teaching through the activities and dictionary page. The students evaluated the website and approximately most of the students found the website is beneficial in terms of acquiring hearsay through the chat and the dictionary page of the site. More than half of the students preferred the chat environment more appropriate for communication than classroom environment. The course teacher assessed the site to be beneficial in terms of online communication, hearsay and vocabulary education [1].

2.5 E-Learning Readiness in Public Secondary Schools in Kenya

As e-learning becomes beneficial to educational institutions all over the world, an assessment of e-learning readiness is necessary for the successful implementation of e-learning as a platform for education. E-learning environments readiness is essential to improve the level of understanding of e-learning. To help schools in Kenya to implement e-learning, the government elected five public secondary schools in each province and provided finance for Information Communication and Technology (ICT) infrastructure development and instructors training on ICT. Another purpose from selecting the schools is to be serve as iconic e-learning centers for other schools. In try to implement e-learning, the included institutions need to be evaluated to make sure their level of readiness lest the noble initiative of none beneficial to the people. The study exposed the readiness of ten schools have benefited from ICT development funds within Rachuonyo North and Rachuonyo South areas [11]. The survey tested the level of technical fitness and computer literacy between students and teachers, their attitude and perceive towards the usage of e-learning. Descriptive research used to get information regarding the level of e-learning implementation preparedness and to prescribe the scenarios with respect to circumstances in schools. Students' and teachers' computer literacy as well their perceive and attitude towards technology were important measures of e-learning implementation preparedness. [11] This research results revealed that teachers and students are prepared to adoption e-learning technology, but there is required to enhance their technical capability through training for successful e-learning embracing. Though most students accept e-learning, they poverty basic computer skills necessary of them to effectively use e-learning platform. The study showed a positive relationship between e-learning acceptance and computer literacy [11].

2.6 Facilitating English-Language Reading Performance by a Digital Reading Annotation System with Self-Regulated Learning Mechanisms

Since English has been a universal language, how to improve English levels of students by beneficial computer aided learning forms or tools is a significant issue in non-English speaking countries. Past researches discovered that reading articles

with annotated contents enable knowledge exchange and enhance the reading understanding of students. However, the self-regulated learning (SRL) capability of individual learners when reading educational materials and contributing explanations becomes a major factor affecting reading performance. Therefore, this work suggests a SRL mechanism conjugated with a digital reading annotation system (DRAS) enhancing Grade 7 pupils to expose high-quality and rich annotations for enhancing English-language reading performance. To assess the effectiveness of the proposed system, this work depends on a quasi-experimental design to evaluate an experimental group and control group students who significantly use the proposed DRAS with and without the SLR mechanisms when reading English-language texts online. The comparison between the control group students and experimental results shows that the reading annotation and reading comprehension abilities of the experimental group students improved significantly. Analytical results also confirm that gender disparities in annotation and reading comprehension capability existed when using the proposed DRAS with and without the SRL mechanisms to read English-language texts online. Experimental results also illustrate that significant differences existed in the annotation and reading comprehension capabilities of students with poor and good SRL abilities in the experimental group. Additionally, the reading annotation capability of students in the experimental group was significantly associated with reading comprehension [12].

2.7 E-governance in management of education system in Bangladesh: Innovations for next generation level

E-Governance involves a change in the perspective of governing the people of the country. It is not the just idea of using ICT to provide services to the doorsteps of the citizens, but how the citizens can contribute in the system and how the service will be provided. Education System is an important part because it provides instruction to the people of a country. Application of e-Governance in management of education system is essential for the comprehensive development of education system applied over the country. To make the service providing system easier, faster, and efficient e-Governance may considered as a problem treating exercise in education part. The study found that concurrent management system traditional and

modern is followed in a space where some challenges make the system ineffective e.g. limitation of training facilities, inadequacy of ICT infrastructure, technological maintenance, psychological inferiority, financial problem, and so on. The inductive nature of the study may help the entire management of Education System to get knowledge on the prospects and readiness of e-Touch in this field [13].

2.8 Using Web-Based Language Learning Activities in the ESL Classroom

Son J. B. in his study discussed the methods of using Web-based language learning (WBLL) activities and reports the results of a WBLL project that developed a Web site as a complementary resource for learning ESL and examined the Web site with a group of learners in an ESL context [17]. The Web site offers WBLL session strategies for ESL instructors, enclosing three types of WBLL activities: pre-created Web activities for vocabulary, reading, grammar and listening; task-based Web activities that need students to use the Web to produce specific results; and teacher-made Web activities. Contributors in WBLL sessions using the Web site revealed positive attitudes toward WBLL and expressed the view that they want to use more Web activities during and outside classroom time.

For the implementation and development of effective education methods in Web environments, there is a need for teachers to become critical and active Web users and enhance their own skills and strategies for choosing and managing Web materials. Instructors need to choose or develop qualified Web resources and use the resources through fine prepared WBLL activities. The project Web site built in this article used as a complementary resource for learning ESL. The efficiency of the Web site can be done in terms of its capability to elaborately upon language skills taught in classrooms. While the Web site has been designed in a simplistic form for simple interactivity and accessibility, it can be a trusted site with wide resources and a number of activities to be use it freely in the classroom. It is recommended that the Web site should be used in alongside with classroom teaching and should be more developed to improve a wider range of student abilities and motivate student education. Further researches are also advised to look at the effect of the use of WBLL activities on students' language development and, as a result, in order to improve our perceiving of methods of using WBLL in the ESL classroom [17].

2.9 Adaptive Web-Based Instruction for Enhancing Learning Ability

Web-based technology in an educational environment is principally dedicated to distributing course materials to complement traditional classroom education. It also usages designed intelligence to adapt to students' specific needs. The main objectives of this study were to build and identify the efficiency of adaptive web-based instruction for LIS learners. The web-based content designed to adapt to three levels of learning ability:

The system automatically collects data relating to each student's conduct, identify the level of learning ability and provides appropriate content for each student. Additionally, this web-based instruction assessed using 80/80 standard efficiency standards and compared the learning progress of the learners who learned through the adaptive WBI and those who learned through old methods. Finally, a study conducted to assess learners' level of satisfaction with adaptive web-based instruction. The study sample [18] involved of 60 undergraduate students from Srinakharinwirot University, majoring in Library and Information Science. Research tools involved adaptive web-based instruction, progress test, and satisfaction assessment form. The results showed that the adaptive web-based instruction met the efficiency standards at 81.25/80.94. The learning progress of learners who learned through adaptive web-based instruction was higher than those who learned through conventional methods at 0.01 level, and they were satisfied with the web-based instruction at a satisfied level [18].

2.10 Middle School English Language Learner Electronic Media Usage and Its Relationship to Reading

A quantitative, correlational forecasting study was done to identify the relation between ELL use of electronic media and reading skill in a large urban middle school in Texas. The forecaster variables were watching television programs in English, watching television programs in Spanish, using a computer for research and communication, and chatting. Years in U.S. schools used as a mediating variable. The remarkable variable was the reading evaluation section of the Texas English Language Proficiency Assessment System (TELPAS). Subjects involved 69

ELL students in classes 6, 7, and 8. Analysis of the data involved scatter schemes, the Pearson r , hypotheses tests, and regression. Watching television programs in English and text chatting had positive linear relationships to reading skill. One-tailed hypotheses tests pointed viewing television programs in English and viewing television programs in Spanish are forecaster of reading skill, although watching in Spanish denotes to low reading skill predictability. Using a computer for research and communication revealed negative statistical results and unsuccessful to reject the null hypothesis. Regression analysis, used to statistically measure the effects years in U.S. schools has on electronic media variables, indicated years in school had the highest positive difference. Educational leadership must address electronic media use ways in schools and social environments as existing methods may be not efficient to produce academic gains needed by state, federal, and local mandates [5].

2.11 E-learning in English classroom: Investigating factors impacting on ESL (English as second Language) college students' acceptance and use of the Modular Object-Oriented Dynamic Learning Environment (Moodle)

Modular Object-Oriented Dynamic Learning Environment (Moodle) is an open source Learning Management System (LMS) gaining more and more acceptance in higher education. Several academic departments in colleges and universities deploy Moodle to improve course management economically. English as Second Language (ESL) programs in universities have also advocated Moodle. However, successfully implementing Moodle in ESL courses asks ESL pupils to accept the system. The Unified Theory of Acceptance and Use of Technology (UTAUT) model used as a framework to achieve the factors affecting ESL college students' acceptance and usage of Moodle in their English classes. In addition, this study targeted at representing ESL college students' perspectives on what factors affected their acceptance or rejection of Moodle. Thirteen ESL college students enrolled in this study, and four-focus sets discussion used. Participant Students expressed five main factors that affected the adoption of Moodle in ESL reading and grammar classes. These factors were facilitating conditions, social impact, effort prospective, performance prospective, and former practice. The participants referred to Moodle for improving their learning skill and study efficiency, providing them

with multiple learning resources and giving them emotional motivation. This performance prospective was the most significant reason for them in adopting Moodle [6]. They pointed Moodle's ease of use, or effort prospective, as the second important reason for adoption. Moreover, facilitating condition and social impact were considered additional factors affecting their acceptance of Moodle. In addition to these four structure in the UTAUT model, some participants proposed that previous practice, or their experience with Moodle or other learning management systems, allowed them to adopt Moodle more rapidly. The results provide useful suggestions for instructional administrators and course management developers who have make benefit in using Moodle to teach English courses to ESL students [6].

2.12 Learning a foreign language with a collaborative Web-based task: Processes and performances

Within language learning and teaching, tasks advocated to use, as they believed to set up optimal conditions for language acquisition to happen. With the appearance of the Internet in the last decade, and the usage of technology in schools, an increasing number of teachers utilizing Web-based tasks, referred to as CALL. Teachers, who use Web-based tasks in their classrooms, usually set these up so that learners complete them in a cooperative method. This requires learners registering in a process of task negotiation and, at times, task redefinition, which in turn requires more than only linguistic knowledge from the students.

Penilla F. in his research aimed to identify the influence of Web-based tasks on both the learners' performances and the learning process [8]. Three intact classrooms from French high schools, consisting of learners of English as a foreign language, completed a Web-based task. The product of the diverse stages of its completion and the parallel video recordings were the database for this study [8]. Attitude questionnaires and cultural awareness tests also collected and analyzed. In doing so, issues of attitudes and incentive as well as participant competence and language proficiency examined. These documented in different experimental settings, including in turn ICT and/or cooperation.

The findings suggest tasks, whether Web-based or not, do not impede language construction and, in fact, learners respond favorably to them, particularly

when working collaboratively. Additionally, the study illustrates that cooperation has measurable positive effects on the learners' trends, performances and processes [8]. These involve positive results in relation to the learners' insistence of effort; their understanding of the task's tacit requirements; their enrollment with the task; the products they eventually produce; their quality of writing; and the processing of higher-order skills. Yet the results also suggest that these advantages are somehow reduced when technology is used, despite this in turn is affected by the learners' knowledge with the tasks and their levels of technological literacy. However, these outcomes raise the question of how Web-based tasks can be best applied in language classrooms, and propose that more research is still required in this scope [8].

2.13 Summary

In the last years, traditional CALL has progressively moved toward web-based language learning (WBLL) because WBLL offers language teachers with network-based learning environments in which they can assign meaningful tasks and usage different materials for language learning [17]. Especially, the hypermedia character of the Internet has obviously enhanced the power of CALL enabled learners to discover and explore their education processes and providing learners access to online resources. Moreover, WBLL provides learners with an interface for interaction and gives teachers and students alternative methods to communicate. The web-based instruction aids learners complete a series of educational activities, and assistances learners increase the number of chances for creating and sharing their knowledge with others. In other words, as present WBLL paradigms offer benefits in promoting language learning effectiveness and learning, their effects on language teaching should be investigated.

Son J. B. explored learner experiences in WBLL activities for ESL learning [17]. Analytical outcomes confirmed that the Internet is a beneficial tool and complementary resource for ESL learning. Additionally, learners who use Internet for ESL learning had positive attitudes toward WBLL, and pointed that they would like additional activities that could be performed in and outside class time [17]. Moreover, some studies have illustrated that WBLL can increase learner motivation and participate learners in culturally acceptable and highly interactive language experiences [12]. In short, compared with traditional CALL, WBLL provides

learners with new and alternative methods of learning a language. Therefore, this work designed an IYEL system for ESL learning and investigated its possible in enhancing English-language e-reading performance.

Uses of technology particularly internet and computers in every part of education is enhances learning environments. A number of researches conducted in order to prove effectiveness of computers in diverse areas. Nowadays, computers are accepted to be effective tools by most of the educators and researchers. Such a result also oriented governments to invest on uses of technology in every aspects of social life particularly in education. Essential budgets reserved to provide schools with several types of technologies. In addition, teacher-training programs in the educational institutes redesigned in order to prepare technology conscious teachers. Tomorrows instructors will be expected to follow and use technological developments in their classrooms.

Now, researches concentration in what circumstances use of technology is effective. Thus, it is important to research on effect of diverse uses of computers in diverse areas. Most of the researches are at the university level as expected. However, there is a necessity for research in lower grades particularly at K-12 level.

For second language learning, most of the researches concentrated on primarily writing and reading skills. However, listening is also a significant part in language learning. Furthermore, it is accepted that there is a necessity for developing applications for pronunciation and listening. The benefits of speech technologies also expressed in different methods. It stated that giving students the opportunity of listening the words could enhance students listening skill.

From the aforementioned literatures survey, we can find that there is a need for more research in the field of CALL and there is more need for more technological tools to attract more users and make more benefits to all English language students using the multimedia facilities. The use of images, audio, video, and animation facilitates student's perception and encourage them to attend the lessons.

CHAPTER 3

METHODOLOGY

This chapter consists from two sections, in the first one a review to the traditional education and learning theories is done. In the second one, the learning based on computer or technology that include noble trends in education, paradigms of language is done too. The new trends in English learning and the impact of games and multimedia on language learning are also presented.

3.1 Conventional Education

Language learning in general and ELT in particular has enormously changed over the centuries. When English included in the curriculum of the students as an obligatory subject, it was a not easy for the English language teachers to learn to the foreign students but they taught English as a ‘Know-ledge’ subject not as a ‘Skill’ subject because their major goal was to teach them to pass the examinations only. Therefore, they adopted ‘Grammar-Translation Method’ in which the educator used to describe every word to students in the native language to make them comprehend and learn English. Although the fact that this way ignores the development of oral proficiency of the students, it is still popular with the majority of teachers in the modified way. Thus several other methods were also used such as direct method, the structural approach, audio-lingual method, bilingual method, the situational teaching, and communicative language teaching etc., but no method was said to be a perfect method. Since then ELT appears to be swinging like a pendulum among the extremes of method as language teachers have ever been in search of better and more effective way of education. Additionally, the ELT trends that were very popular in the past have disappears and replaced by innovative ELT methods [24].

3.1.1 Theories of the Past Decade

A little theories and trends that formed the ELT through the past decade cover Gardener's Theory of Multiple Intelligence (1993). The same was applied to language learning as well. This has paved a way to concentration the distinctive skills, abilities and preferences of students. TG grammar of Noam Chomsky gave an in-depth analysis of language learning vs. language acquisition. His remark of Theory of Learning caused a revolution in the ideology of language learning as well as language acquire [30]. Additionally, theory of Second Language Acquisition added spice to flavor. The Total Physical Response Theory of V. Asher concentrated on a successful mature second language learning as a parallel process to a child's first language acquisition. Moreover, the general instructional trends like Cooperative Learning, Neuro Linguistic Programming and Whole Language Approach have affected language learning and teaching considerably [33]. With the present of e-communication, it has been made enabled for the English language teachers to enrich their career. In addition, the Special Interest Group (SIG), support group discussion and chat room have also enriched their career [22].

3.1.2 Theories of Language Learning

It is well-known that you learn, I learn, he learns, she learns, they learn from each and everything we do or pass by in our daily life. Although this, some would discuss and differentiation between what we learn through daily life directly and indirectly. More precisely, it is argued that a learner gain bits of knowledge in daily life, but she or he learns incrementally bits of knowledge or information when being instructed or taught. Consequently, the above negotiation and other arguments, theories trying to explain both the process of language acquisition and learning have evolved. And because it is not easy to decide or state finally what happens on when a person learns and even how the process of learning happens, in each and every theory we have supporters and opponents. Therefore, the following is a brief description for the main theories of learning mostly from a psychological viewpoint. However, it should be noted that the aim of mentioning these theories is to prepare later for the use of helps for language learning and how both the usage and design of

such helps can be effected by such theories. Hence, the following method is based on [29].

To begin with *behaviourism* theory, it has developed nearly in the 1950s and was led by the psychologist, Skinner. Really from between the famous behaviourists is also Pavlov, but for our concern we will concentrate on Skinner and his theory of *reinforcement*, [30, 35].

Behaviourists theory have confidence that the process of learning is continues based on what they call *stimuli*, *response* and *reinforcement*. They stress, however, on observational. In other words, we should notify our learners' behaviors and after that we can decide what do they need to learn, how learn it and may in what is the appropriate time they can make the more benefit of it. For that matter, Skinner and his followers does not may consider anything correlated to cognitive abilities or mental processes of the human's mind [31].

More significantly, acquisition and learning happen more and can be done by practice, trainings, simulation and exercises. Based on this, one can conclude that both acquisition and learning here are rely on relation to learners as they only spread. In other word, teachers here really are doing everything; learners are only training the models they have been provided with. Even in language acquisition, they only hear models from daily life and then collect up the language they need to learn or acquire. At all rates, all here are monitors; theorists monitoring actions of people and then decide and produce theories. Again, language teaching specialists are observers; they observe what teachers need based on the theories and then design learning and teaching materials. Once again, teachers notify their learners, learners notify people around them involving their teachers, and the process continues.

Unsatisfied with the *behaviourism* theory viewpoint, a new theory in the late half of the 20th century has evolved. *Cognitivism* theory which was led by both the Swiss epistemologist and psychologist Piaget and Vygotsky emphasized on the mental cognitive ability of the human's brain or/and mind, [31 and 29].

Unlike behaviourists, cognitivists emphasized on the interior abilities and factors of learning. In this regard, very different from to behaviourists who observe, cognitivists attempt some predictions and expectations.

Before everything and compared with the *behaviourism*; *cognitivism* explain the learning process in terms of long-memory and short-memory storing of the

acquired or learned information. Because of this, for them the learning process here is less dependent and person can say semi-independent learning.

With the *cognitivism* theory the partially satisfied is achieved, a new theory derived and affected partially by such a theory called *constructivism* has developed. For constructivists acquisition and learning is achieved when learners are forced with as several authentic facilities and situations as possible. In this regard and a comparison with both behaviourists and cognitivists, constructivist explain learning in terms of engaging learners with learning attitudes. Again, for them an instructor must not teach, instead she or he must instruct and serve as a guide for her or his learners so that learners can achieve construction of learning and acquisition as much independently as it could be.

One further main theory in language learning is the *social psychology* theory. According to this theory, more learning that is effective and language acquisition happen in social life situations; that is, contacting others. As indeed, social psychologists focus on the idea that group and cooperative learning and teaching situations where in the place of teaching is social-life-like, is the possible explanation for how effective learning happen. Finally but not the final and in my opinion, the most significant theory that supports the use of assistances is the theory of *connectionism*. In fact, from the name of the theory a person can conclude that there is something like correlating / connecting two things together or linking something with something else, etc, [31].

According to this theory, acquisition or/and learning happen in terms of associations. Say it differently, a specific word is linked with its basic meaning, for instance. Later on and in advanced stages, it will be linked with additional meanings-say symbolic meaning(s). Additionally, not only words coupling with words but the process extends to link of words with phrases and phrases with sentences and so on and so forth. It should be noted that such a theory has be significantly affected by computer analogy. To clarify, in the computer simulation theory computer can do nothing unless the valid data or has been entered earlier, so far, but specific actions can be done based on some possibilities, associations and connections which have not been necessarily inserted before. As a result, human mind and how it learns and acquires language can be handled with alike. [23]

3.1.3 Second Language Acquisition Theory

ELL learners may acquire language for individual communication and for schooling. Two theories do not agree with ELL when the learners enrolled at grade-level in L2. In the first theory, ELL learners can learn English by getting through Basic Interpersonal Communication Skills (BICS) within 2 years and evolving Cognitive Academic Language Proficiency (CALP) within 5 to 7 years [32]. After 5 to 7 years, ELL learners can have the capability to acquire perceptive academic content in their L2 as efficiently as ELL students learn content in their L1 [32]. The second theory challenges the idea that ELL students require 5 to 7 years to develop capability to acquire perceptive academic content in the L2 and, alternatively, supposed that learning the content depends greatly on teaching and environmental factors [36]. Opponents may be agree basic communication skills before academic language capability. Aukerman suggested distinguishing among basic communication skills and communication skills for acquiring perceptive academic content is difficult. Whereas a farmer and scholar possess have communication skills, a farmer's basic communication skills may be in opposite to a scholar's basic communication skills. Basic communication skills for someone might represent perceptive academic skills for the other.

ELL learners face the challenge to gain English for academic purposes in a period appropriate to the number of years presenting in school. An ELL student who enter U.S. schools in third grade will have 10 years to develop cognitive academic skill, but a student who enters eighth grade will have 5 years. Cummins described two levels of English student's requirement. BICS is the first level, which evolves within the first 2 years in second language learning, and CALP is the second level, which evolves within 5 to 7 years after ELL students' beginning entry into their second language. Cummins stated ELL learners may use a diversity of sources for getting BICS, and one of the sources is the use of media for education or entertainment.

In support of the period for second language learning, Krashen suggested ELL learners acquire language through understandable input, namely, language ELL students may understand. Krashen named understandable input as $i + 1$, the learner's current language proficiency level in addition to new language ideas. Krashen

illuminated the process is slow because most of the understandable input must be small in with respect to the language input the learner has stored into mind [5]. In core, the greater the quantity of new input a teacher currents to ELL learners in a lesson the lower the likelihood of students integrating the new knowledge into their working memory. Krashen supposed ELL learners exposed to “rich sources of input” (p. 34) outside of the schoolroom may valuably increase ELL learners’ L2 acquisition when the sources produce low attention connections to learners [5].

3.2 Computer Based Education

Computer based education has become one of the most trends in CALL because of its attractive features like speed, sound effect, video effect, image effect and ease of store, retrieve transform and transmission facilities that have no match in the classical education systems moreover, the availability of e-books , e-libraries and e-dictionaries.

3.2.1 Present Trends In Teaching English

The 21st century introduces its citizenship with new options opportunities and challenges due to the all-prevailing technology into all domains of life. In this time, the educational institutions cannot stay just places for the transmission of a specific set of information from teacher to student over a specific duration of time rather the educational institutions must strengthen “learning to learn” i.e. the acquisition of knowledge and skills that make possible continuous learning over the life-time. Therefore, it becomes the responsibility of the teachers to form up accordingly to meet the claimants of the day. The need of the day is to provide people with proficiency in the English language and this is possible only with a suitable combination of enlightenment and e-learning tools (modern technologies). Traditional learning and teaching models have been shaken by the effect of the combination of e-learning tools into educational practices. E-learning is a variety of technological tools and systems that can be used by teachers who creative and capable to enhance learning and teaching situations. These are utilized to make learning more stimulating, motivating, meaningful, and interesting to the students.

These tools have been described as probable and powerful enabling tools for educational reform and change as they are making marked ways into the integration of English language learning and digital technologies [24].

3.2.2 Language Learning Paradigms

In last decades new methods or paradigms have been founded to raise the instructional or teaching level by embedding technology to classroom, this represented by Electronic Learning (e-Learning), Mobile Learning (m-Learning), Ubiquitous Learning (u-Learning). Figure 2 illustrates paradigms development.

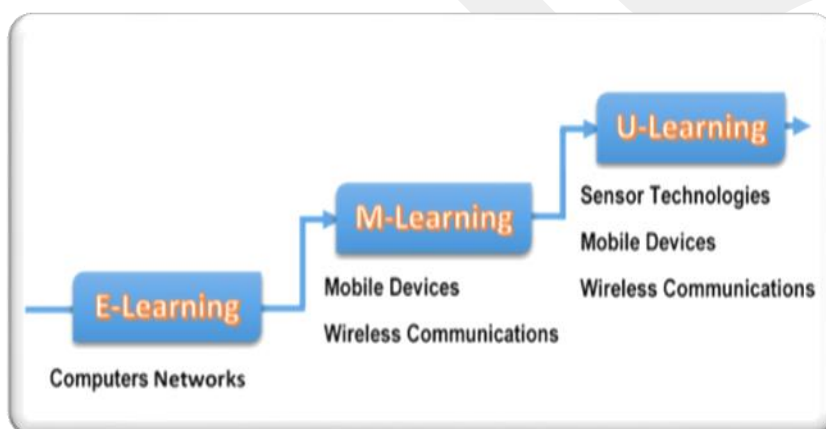


Figure 2 Paradigms development.

3.2.2.1. Electronic Learning (E-Learning)

E-learning term is means something diverse to almost everybody who uses it. Some use the term e-learning to point to packaged content parts and others to technical infrastructures. Some believe only of web-based self-study while other believe e-learning can include real time learning and cooperation. Almost all scholar agree that e-learning is an effective process that should be combined in to a company's current teaching mix. E-learning refers to the use of wireless technologies or internet to deliver a wide range of training solutions.

The usage of internet technologies to provide a wide range of solutions that improve performance and knowledge. The American society for training and

development defines e-learning, “As a widest of processes and application which contains virtual classroom, computer based learning, web-based learning and digital” about elearning.com. Anon defines e-learning is basically the network enabled transfer of knowledge and skills [34]. E-learning implies learning that has an electronic component in its releases. For example distributed learning or online learning where digital formats or video conferencing or e-mail is used.

E-learning can accessed by an unlimited number of users virtually at a same time. Everybody obtains the same content, presented the same method. However, the programs can also be customized for different groups of people or different learning needs. In other meaning we can said that e-learning provides the future to provide the correct information to the correct people at the correct time and places using the correct medium. Thus, the term e-learning can be summarized in a single statement release of education or any learning by any electronic means.

Types of e-learning

There are two main types of e-learning-

(1) e-journey: e-journey is essentially correlated to internet. It is a trip of your website search, you can explore the web for what you need. This program takes the learner through different data providing sites and enable him to determine what he thinks is better for him.

(2) Blended learning: Blended learning is more modern method to words e-learning. It embraces the usage of all models of e-learning which includes internet as well as products such as CD Rom etc.

Features of e-learning: Some significant features of e-learning are as follows, flexible learning, large mass covered, environment friendly and economic, effective and efficient learning, more planned and organized system of learning, reduces students indiscipline and unrest problem, larger autonomy, transparent and authentic system of educator, error free and speedy technology [26].

3.2.2.2. Mobile Learning (m-Learning)

Language learning is one of the application areas for mobile learning, because it is depends on cooperative and situated activities that could occur

whenever and wherever people have problems to solve. Particularly, vocabulary is essentially used for communication and mostly seen as the largest source of problems faced by second language learners (when the students travel, they do not carry grammar books, they carry dictionaries).

Miller and Gildea compared the method that children learn words from dictionary definitions and little exemplary sentences with the method vocabulary is usually learned outside the classroom. They pointed that people usually can learn words outside the classroom. So, System for Capturing and Reminding Of Learning Log (SCROLL) captures what the students have learned outside and inside school. In addition, improved second language readers can learn more vocabulary when they give the meaning of unknown words through marginal glosses or when they look up meaning in a dictionary than when no external information concerning unknown words are available. Thus, SCROLL offers online dictionary for the learners to find the meaning of unknown words and also gives test to increase the learning opportunity. The influence of three annotation types (picture-only, text-only, and an integration of the two) on second language referential vocabulary retaining in a multimedia reading setting were matched. The findings indicated that the integration group outperformed the picture-only and text-only groups on the instant tests. Hence, SCROLL allows the learners to association words and visual information [25]. Figure 3 illustrate the idea.



Figure 3 Mobile learning

Features of m-learning :

Accessibility - The learners whenever need to use information is always available.

Immediacy - The learners can retrieve the information immediately.

Interactivity - The learners can interact with experts and teachers effectively and efficiently through diverse media.

Context-awareness - The environment can advocate the real situation of learners to provide sufficient information for the learners.

Permanence - The information stays unless the learners intentionally delete it. Majority of mobile devices have less prices than desktop PCs. Similar size and lightweight than desktop PCs. The m-learning can provide location depend educator by using GPS technology.

Types of M-learning: The major types of mobile devices for m-learning used in teaching process are:

Tablet PC – These are one of latest mobile devices. They also have full scope of capabilities as personal computers. Some of them have not keyboard but have software to discriminate hand written text. It is relatively costly.

Note Book computers - Despite their small size, the abilities of these are similar to desktop personal computers. In addition, these support wireless communication, and their price is costly.

Smart Phones - They are hybrid devices that integrate the abilities of PDA and cellular phones. They have bigger than cellular phones and smaller sizes than PDA. They use windows, Symbian mobile or other operating system. As they have internet browsers. They have possibility to be successfully used in the mobile multimedia education. Nowadays there are many communication technologies which are used in mobile devices. Their ability vary hugely.

Cellular Phones – The low class devices mostly can be used for receiving and sending of text message (sms) and voice communication. Some of their side effects are low data transfer rate and low memory capacity. Cellular phones can be significantly used to internet access through WAP or GPRS technologies. Their price continuously decreases.

Personal Digital Assistance (PDA) – The key operating system used are Palm and Microsoft pocket PC. They have small sizes and large processor power.

Global System for Mobile Communication: (GSM) is one of the main digital mobile system. GSM has become the world's most widely used mobile system in use in over 100 countries. It provides combined voice mail, fax, paging, high speed data. It provide the best voice quality of any existing digital wireless standard.

Wireless Application Protocol (WAP) – This is a free unlicensed protocol for wireless communication. It makes probable emerge of advanced communications services and access to internet pages from mobile phone.

General Packet Radio Service (GPRS) – A packet-linked technology that allows high speed wireless internet and other data communications. GPRS Provides about four time bigger speed than traditional GSM system.

Bluetooth – Wireless technology is short-range radio technology. Bluetooth enables of transfer signals over short distance among telephones, computers and other devices and there by simplify synchronization and communication.

3.2.2.3. Ubiquities Learning (u-Learning)

Ubiquitous learning significantly enriches the modern learning methods. Guidance in the modern learning theory, people continues to update the learning ways by using information technology [21].

Ubiquitous learning or u-learning is a new learning model. It is said to be an extension of previous learning models as we move from traditional learning to electronic-learning (e-learning) and from e-learning to mobile learning (m-learning) now we are shifting to u-learning. The advancement of ubiquitous computing is accelerated by the development of telecommunication capabilities, wireless, continued increases in computing power, open network, improved battery technology and the appearance of flexible software architectures. There is no distinct definition of u-learning due to quick changes of learning environment until now, researches have diverse viewpoints in defining the term “u-learning”. A wide definition of u-learning is ‘anytime and anywhere learning’. The definition is pointing to any environment that allows any mobile learning devices to access the teaching and learning contents through wireless networks at any time in any location.

U-learning is a learning model which takes place in a ubiquitous computing environment that allows learning the right object at right situation and time in the right means [26].

1. U-Learning as Learning Strategy

In e-learning, the education is limited to single desk while in u-learning, it is too much flexible. U-learning is 24 X 7 type learning. Therefore, now it will be illuminate ubiquitous computing or U-computing that is integration of m-learning and e-learning. The late Mark Weiser first coined the term ubiquitous computing; a researcher at Xerox Palo Alto Research Center (PARC) in the late 1980's which points to the process of seamlessly combining computers into the physical world. Mark Weiser in 1991 stated that '**the most technologies are those that disappears.....**'. Can be considered Ubiquitous learning as the new mixture in the communication and information world. It is normally correlated with a large number of small electronic devices (small computers) which have communication and computation capabilities such as contactless smart cards, handheld terminals, sensor network nodes, smart mobile phone, Radio frequency IDentification (RFIDs) etc which are being used in our everyday life. These small computers are provided with actuators and sensor, thus allowing them to deal with the living environment. Additionally, the accessibility of communication function allows data exchanges within devices and environment. In the emerge of this new technology, learning approaches has advanced from electronic learning (E-learning) to mobile learning (M-learning) and from mobile learning to ubiquitous learning (U-learning). The most important role of ubiquitous computing technology in U-learning is to create a ubiquitous learning environment that allows anyone to learn at any time and place [26].

2. Ubiquitous Learning Environment

In the Ubiquitous Learning Environment (ULE), each learner carries a wireless device (Personal Digital Assistance PDA's or mobile phone) equipped with headphones, Sensor aids the ULE server module to track and find each learner within the u-space. When the learner approaches an object, then data from that object

transfers to the students' device. Ubiquitous technology plays a main role in all aspects of G & R (Games & Robotics) research. In the u-learning mode/system, depend on the instructional activities & time of interactions & on the location, there are three types of learning modes-Synchronous, Asynchronous & hybrid mode [26].

3.2.3 The Impact of Games on Language Learning

Games have been recommended as being a good means to encourage learners to strongly participate in learning activities. Researchers have pointed that game-based learning can be the best method to start students' learning motivation. Moreover, it has been described that a game-based learning paradigm might offer a good opportunity to stimulate children's abstract thinking during the process of cognitive progress, and further raise their higher order thinking ability. The computer games are able to increase motivation due to some features, such as challenge, adventure and freshness. Thus, if teachers are able to apply computer games to learning, students can not only have better learning gains, but also learn happily through these games, figure 4 highlighted the idea [27].



Figure 4 The Impact of Games on Language Learning

Many studies have adopted game strategies to language acquisition for enhancing English vocabulary or grammar acquisition. For several language learners, the conventional method of learning a new language is to "look and remember"

frequently without internalization, and some students cannot pronounce word when they write new words to translation. Research has found that the cramming way of language learning is not an effective method and that after a short period, several learners may gradually forget the learned vocabulary. However, educational games could be facilitated language learning and a lot of research has addressed that game-based teaching strategies have positive impacts on language acquisition. For example, Decarrico (2001) used a web-based game to help learners' English vocabulary acquisition and found that the learners had the chances to be in control of the lessons through games and were able to transfer at their own pace to complete the learning. Besides, both less advanced students and advanced and not advanced students worked together to complete the learning task. On the contrary, students who learned without using games as support were passive and reliable instructors totally for the input of new materials without intervention for self-development. On the other side, another study found out that the use of games had positive effects on supporting teachers to participate learners of different language proficiency levels in a more enjoyable method of learning English compared to conventional teaching methods such as mechanical drilling [15].

In summary, the advantages of depending on game strategies for language learning highlight on the possible for:

1. Retaining and learning knowledge more easily.
2. Keeping learners' interested and getting engaged actively.
3. Unlimited practice repeating in a game-based method.

However, most of the review studies depend on game strategies for language writing or reading skills; using game-based methodology for speaking training has been less studied. Moreover, in the application of CALL, there is an absence of methodical approach to achieve the main factors in ASR-based CALL systems that may improve the effectiveness of learning speaking, and more study is suggested to explore the effectiveness of using games for speaking learning. Hence, this research aims to construct an interactive speaking system from the viewpoint of learning-theory foundations invoked to support educational computer game design. At the same time, the study investigates whether the developed system depending on the game-based activities could simplify students' vocabulary acquire, pronunciation, and also to recognize the possibility of using games for pronunciation learning.

3.2.4 Multimedia in Learning Language

Web-based learning has become a common optimal in education institutions with computer technology. Moreover, the diversity of media such as graphics, text, video, and audio for releasing content has attracted several teachers and students to use the Internet for distance education. These multimedia components hold and get learners' interest, which several researchers adopt is important when teaching the video generation. Graphics and visual text are some of the broadest used tools in on-line learning. In several cases, graphics can be utilized to represent significant information and are used for supporting text. Using these methods, the most widely used asynchronous online learning tool is courses basically posted in static graphics and visual text [39].

Multimedia is undoubtedly significant for Foreign Language Teaching (FLT) because it is known that they synchronously influence more senses at one time. This is not a new discovered since great teacher of nations already promoted this idea in the 17th century who insisted on providing teaching stuff as several senses as possible. After two centuries Edgar Dale, an American scholar, designed the so-called *Cone of Experience*, which illustrates how people generally remember experiences and things and what they are capable to do as illustrated in Figure 5.

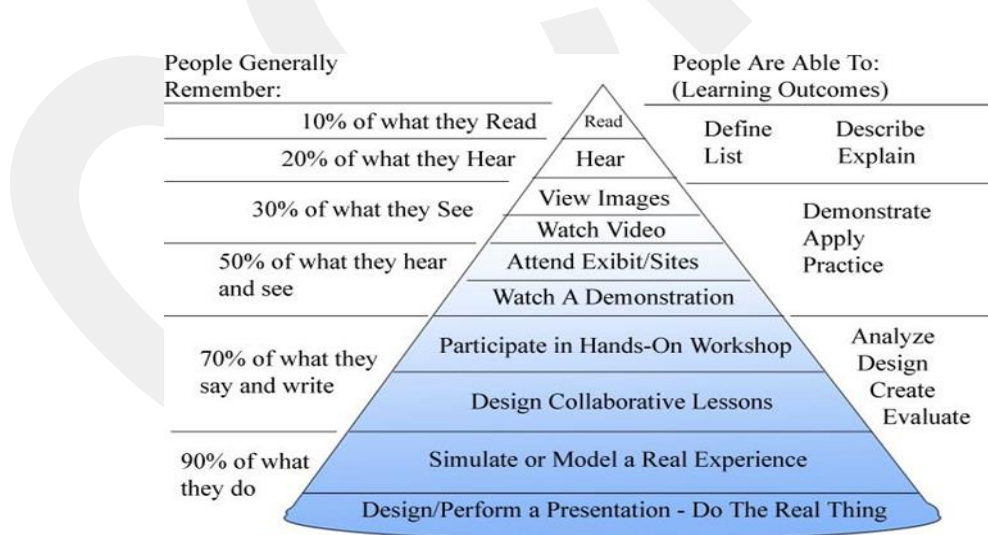


Figure 5 Dale's Cone of Experience.

The multimedia can provide a real and sensory learning experience; it provides a larger possibility for learning. Moreover, multimedia can serve as an

essential tool for students and managers in their efforts to associate and apply classroom theory-based learning with the analysis of real-world problems. Additionally, the multimedia enhances deeper learning.

Therefore, multimedia should be an integral part of FLT in order to simplify FLT and help with the second language acquisition (L2) learning. Nowadays multimedia is a common education resource, assistance or tool in foreign language (FL) classes since it is:

- modern/fashionable;
- up-to-date as it can be usually easily modified;
- user-friendly;
- relatively inexpensive;
- eye-catching/appealing to students;
- stimulating; and simply, a natural means of student’s everyday use.

Moreover, the utilization of multimedia in FLT changes the conventional form of learning.

Teachers become rather mediators and facilitators and learning concentrations more on students themselves. At one hand, it increases their independence, but on the other hand, it enforces greater demands on them and makes them accountable for their own learning.

Multimedia in FLT delivered via web pages; this is what is called web-based multimedia, or it is delivered via compact discs and then it is called the CD-based multimedia. Table 1 illustrates differences between these two types of multimedia.

Web-based multimedia	CD-based multimedia
-low resolution and limited in picture size	-can store high end Multimedia components, such as video
-can be damaged, changed or deleted by irresponsible persons	-can be permanently stored and is unchangeable
-information for multimedia is cheaper and can be updated easily	-information on a multimedia can be quickly expired

Table 2 A Description of Variances Between the Web-Based and the CD-Based Multimedia

Foreign language teachers use both kinds of multimedia delivery. They typically use CDs like their counterparts to their course books. In addition, they exploit the web sites to revive their language lessons and make it more attractive [28].

3.2.5 English Teaching with ICT

During the last two decades Information and Communication Technology (ICT) has saw significant development and, as a result, has greatly improved. Concurrently, teachers have looked into methods of combining the use of computers into their schoolroom practice while researchers have implemented many research projects regarding the use of ICT-based tasks. These involve knowledge hunts, Web quests, online communication and so forth.

The teaching society has increasingly accepted that the Internet and computers can improve the process of learning, involving language learning. Though, while it can reasonably be discussed, **that technology does effect on and changes the outcomes and learning process**, there still remains inadequate empirical evidence to prove the belief that such change represents an improvement in all aspects. Actually, it is claimed that the usefulness and efficiency of CALL, particularly when it is achieved through cooperative tasks, has yet to be fully examined.

CALL can be of two types, *asynchronous* or *synchronous* communication. Both types have been the subject of many investigations by a number of researchers and keen teachers, each trying in their own method to experiment with and explore the benefits (or otherwise) of CALL practices. Actually, over the years, technology has become a more discussed matter in the language-learning scope and an area generating huge) interest. This is explains by the increasing reports or articles in peer-reviewed, paper-based (CALL, ReCALL, System) and online journals such as ALSIC (Apprentissage des Langues et Systèmes d'Information et de Communication) or LLT (Language Learning and Technology), as well as the growing number of contributors in international conferences such as CALICO or EUROCALL [8].

With the dramatic evolution of modern information technology, network and computer technology in the application of English learning is becoming increasingly

extensive and in-depth. Construct an intelligent online English learning system, enhance the efficiency of students' English education and enhance the efficiency of the management of students' English education process, become the evolution trend of modern college English education management work. Networked English online learning system gives a number of updating resources, support teachers and students class outside or inside the network-learning platform, overcome the limitation of time and district. Adopting the reform of college English teaching, continuously improve the learning requirements, enrich the English learning content, made by the C/S mode to construct learning management system cannot meet the requirements of the current English learning finely, so you need to have a more ideal model to construct a more complete English online learning system.

The designed system is based on structure B/S of a group of complete and secure online English learning system. Using this system can interact with the difficulties facing the students to acquire English and instructors manage the problem of students learning process. For instance: this system can help students become the leading of English learning, with the tools of system feature of student, during the study of self-education to complete different tasks; At the same time, this system can assistance teachers comprehend the students' English learning process, real-time enhance supervision and management, can also be used to test system functions from the original varied paper homework, enhance teaching efficiency greatly [16].

3.2.6 Technology and Education Change

Means B. referred to the classroom- and school-level practices that relate with higher advanced gains in classes using math and reading software [20]. Means B. selected two groups from seven schools that were classified as having lower-than average or higher-than-average progress gains after using instructional software. The two case study groups diverse in terms of the average criteria class gain (0.77 for the high-gain group against -0.70 for the low-gain group) but were similar in terms of student demographic variables. Descriptions for school practices such as classroom practices, major support, perceived outcomes, and conditions were collected through school interviews and visitations with managers, teachers, and technology coordinators.

Means B. pointed differences between how low- and high-gain schools use the software and how those differences related to teachers' classroom practices and school-wide support for software coding [20]. The quantity of time students from low- and high- gain schools used the software did not differ valuably. The low-gain schools started around 7.7 weeks. In the high-gain case study, schoolteachers began software construction 4.5 weeks after school started. Means B. discovered that teachers required to develop classroom routines to move from teacher-led education to increased software use [20]. In terms of classroom management, all of the teachers from the high-gain schools were evaluated as effective matched with only 17% of teachers from the low-gain schools.

During the study, several educators had difficulty mapping the current lesson with the math and reading software. Some let the reading and math program take its course and passed students onto the next skill level [20]. Means B. pointed that 86% of teachers in high-gain schools against 77% of teachers in low-gain schools trained themselves with the software and adjusted it to the current lesson. This practice aided teachers support and facilitate what students were learning while using the software in non-technology-based education and also improved teachers' technology skills. Data-driven instructional software can provide teachers with developmental assessments, which can enhance learning if teachers use it to direct future teaching [20].

Of the teachers in the high-gain schools, 78% said they used the software reports for all of their students at least weekly, matched with 17% of teachers in the low-gain schools. The teachers' aspect for using this technology marked the largest variance between the two groups of case study schools [20].

Means B. also found that high school-level practices were more strongly achievement gains when using the software for reading and math. Interested parties in education, such as region officials, managers, and teachers, play an important role in supporting and implementing the combination of technology into the classroom.

Means B. identified significant implications for software implementation and classroom performance efforts. Means B. recommended using and reviewing evaluation data from educational software to help in addressing students' standards or skill lacks [20]. Also, reports of software can be used to identify specific topic scopes that students are having difficulty with and provide teachers the option to

support those scopes through ordinary classroom time. A second implication of the research is that support and training around educational software should concentration more attention on the relevant of classroom management. Diverse physical settings and class sizes should be taken into account when trying to construct efficient routines for software use [20].

3.2.7 Electronic Media Usage and Academic Achievement

Literature on watching television programs indicates support for [32, 33], but the quantity and kind of viewing by kids could influence kids' school behavior and performance. Recommendations for watching television highlight the necessity for guiding children into viewing educational programs and decrease hours of general entertainment programs. Watching moderate amounts of television programs rises student academic performance versus students view extreme amounts or do not watch television. ELL students who watch television might share similar advantage in academic school performance.

Computer usage might provide an additional source of low concern input for ELL students with abilities for English acquisition. The previous research concentrated on behaviorist learning practices but computer applications and software development have evolved into different levels of sophisticated interactions between the computer and the learner. While some researchers recognize computer technology in second language classrooms as quite useful for ELL students, the college ELL students may obtain equal levels of English skilled through effective educational approaches as students using computer technology [5].

Furthermore, and based on the previous survey of educational methods and means. It can be concluded that computer and web-based education should be adopted. Accordingly, we will move forward to implement and apply the proposed web-based system (IYEL) to enhance and rise student's level in SLA.

CHAPTER 4

THE PROPOSED SYSTEM DESCRIPTION

The system design and implementation will be with aid of the latest technology of SW industry that make it most reliable and fast response in spite of the huge number of users. It will use the most attractive utilities like audio, video, and animation effects that make the system most attractive to the students.

4.1 The Proposed System Architecture

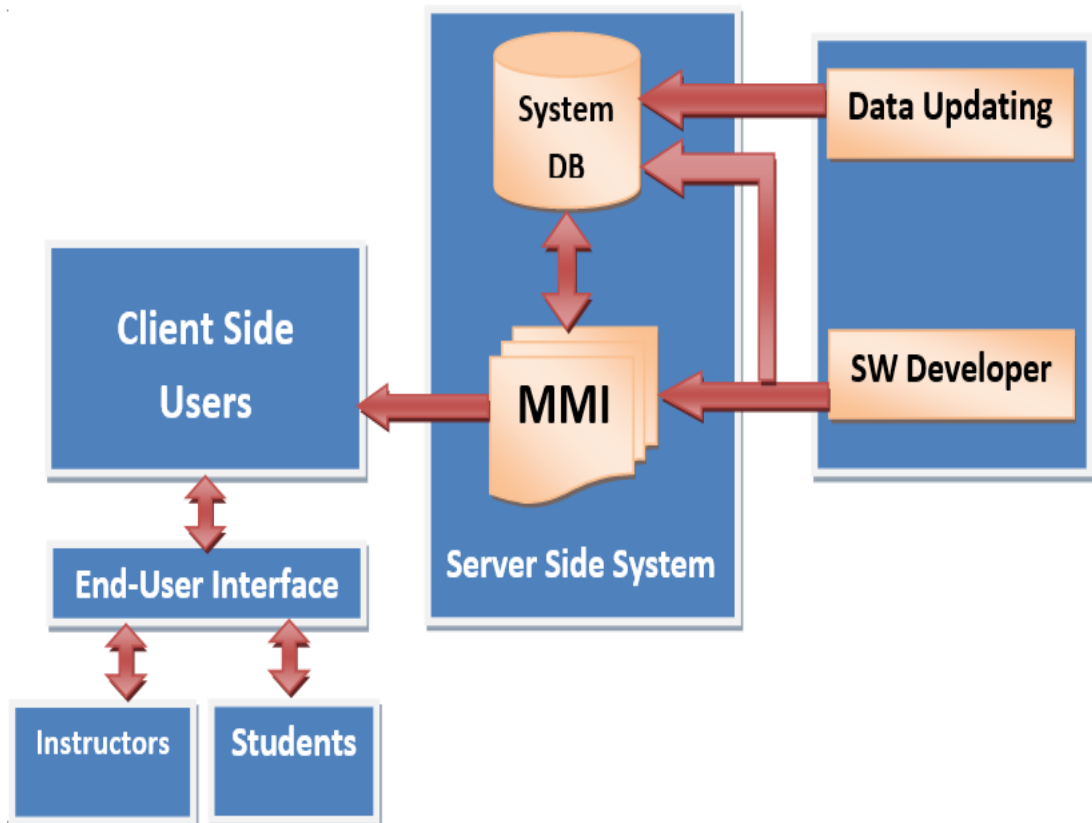


Figure 6 The Proposed System Architecture.

The proposed system can be described as follows:

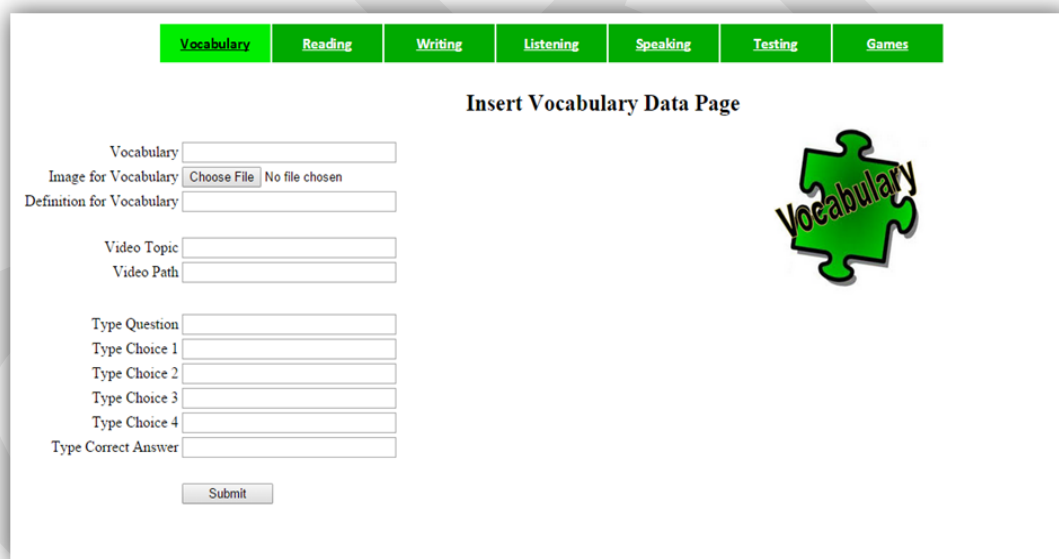
4.1.1 The Server side sub-system

4.1.1.1 Data updating group

This group is responsible about the data updating which include uploading the new files to the database like the new movies, animations, pictures, questions, examples, vocabulary and sounds used by the students or instructors. Deleting or upgrading the old data and replacing it with the newest data using the following web pages figure 7 to Figure 13:

1- Insert Vocabulary Data Page:

First page in data updating group is used to insert vocabulary data that include words, image, definition, video path of video and question with choices and the correct answer, and another requirement that filling the tables' fields that describes the vocabulary such as uploading the attached URLs that give more details. The *Submit* button upload and insert all data to the server. Figure 7 illustrates this page.



The screenshot shows a web page titled "Insert Vocabulary Data Page". At the top, there is a navigation bar with seven tabs: Vocabulary (highlighted in green), Reading, Writing, Listening, Speaking, Testing, and Games. The main content area contains several input fields: "Vocabulary" (text box), "Image for Vocabulary" (file upload button labeled "Choose File" and "No file chosen"), "Definition for Vocabulary" (text box), "Video Topic" (text box), "Video Path" (text box), "Type Question" (text box), "Type Choice 1" (text box), "Type Choice 2" (text box), "Type Choice 3" (text box), "Type Choice 4" (text box), and "Type Correct Answer" (text box). A "Submit" button is located at the bottom left. On the right side, there is a green puzzle piece icon with the word "Vocabulary" written on it.

Figure 7 Insert Vocabulary Data Page.

2- Insert Reading Data Page:

This page responsible for inserting the specific data relating to reading tables by instructors or teachers. This data representing the passage topic, reading, questions and the multiple choices and the correct answer. The *submit* button uploads the data to the database in the server. As shown in figure 8.

Figure 8 Insert Reading Data Page.

3- Insert Writing Data Page:

Through this page the teachers or instructors upload home work of writing activity and some examples which is necessary for students to learn how they can write passages. This done by filling the fields in page (home work topic, example title about writing and the example passages). The submit button uploads the data to the database which resides on server. Figure 9 shows this page.

Figure 9 Insert Writing Data Page.

4- Insert Listening Data Page:

In this page the teacher or instructor fills the fields to be submit into listening tables in database by press **Submit** button. The fields include (listen topic, sound file, image file, questions, the multiple choices, and the correct answer). Figure 10 illustrates this page.

Vocabulary Reading Writing Listening Speaking Testing Games

Insert Listening Data Page

Listen Topic

Sound file No file chosen

Image file No file chosen

Question1 Question2 Question3

Choice 1 Choice 1 Choice 1

Choice 2 Choice 2 Choice 2

Choice 3 Choice 3 Choice 3

Correct Answer1 Correct Answer2 Correct Answer3

Figure 10 Insert Listening Data Page.

5- Insert Speaking Data Page:

This page allows teacher to upload the “*Home Work Topic*” to speaking tables in database to be seen by students in list of homework’s in speaking page. Figure 11 illustrates this page.

Vocabulary Reading Writing Listening Speaking Testing Games

Insert Speaking Data Page

English speaking

Insert Home Work Topic

Figure 11 Insert Speaking Data Page.

6- Insert Testing Data Page:

This page allows teacher and instructor to put questions to be presented to students in two types of questions such as (drop down list, radio button list). The *submit* button uploads the data to testing table witch in database to be appear in testing page. Figure 12 shows this page.

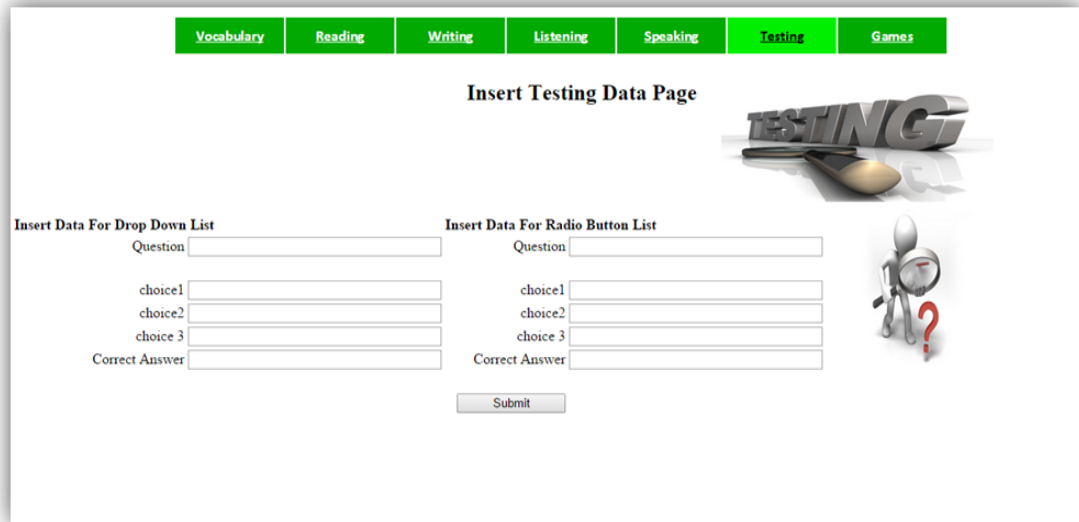


Figure 12 Insert Testing Data Page.

7- Insert Games Data Page:

Games data page responsible for uploading games to database of (IYLE) system. This done by type topic of the game in text box and choose file of games from hard disk of teacher or instructor and press submit button to be upload into games table in database. Figure 13 illustrates this page.




Figure 13 Insert Games Data Page.

4.1.1.2 SW Developer

This subsystem component is used to enable SW Developers to add new functions to the system using advanced SW Developers tools. It is built using Visual Studio 2010 with C#.NET and ASP.NET making benefits from the OOP facilities to produce an efficient system enriched with extra facilities of ASP.NET.

This component acts as a start point for the continues development process responding to user needs. Upgrading the system component by adding new features to software system or upgrading the existing system services, like enhancing system security or system availability.

4.1.1.3 MMI (Man Machine Interface)

This sub-system used to protect system data from disturb and control the students and instructors access rights. It has the abilities to control data updating and users interrogation to present them the at most useful data.

4.1.1.4 Database Entity Relation (ER) Diagram

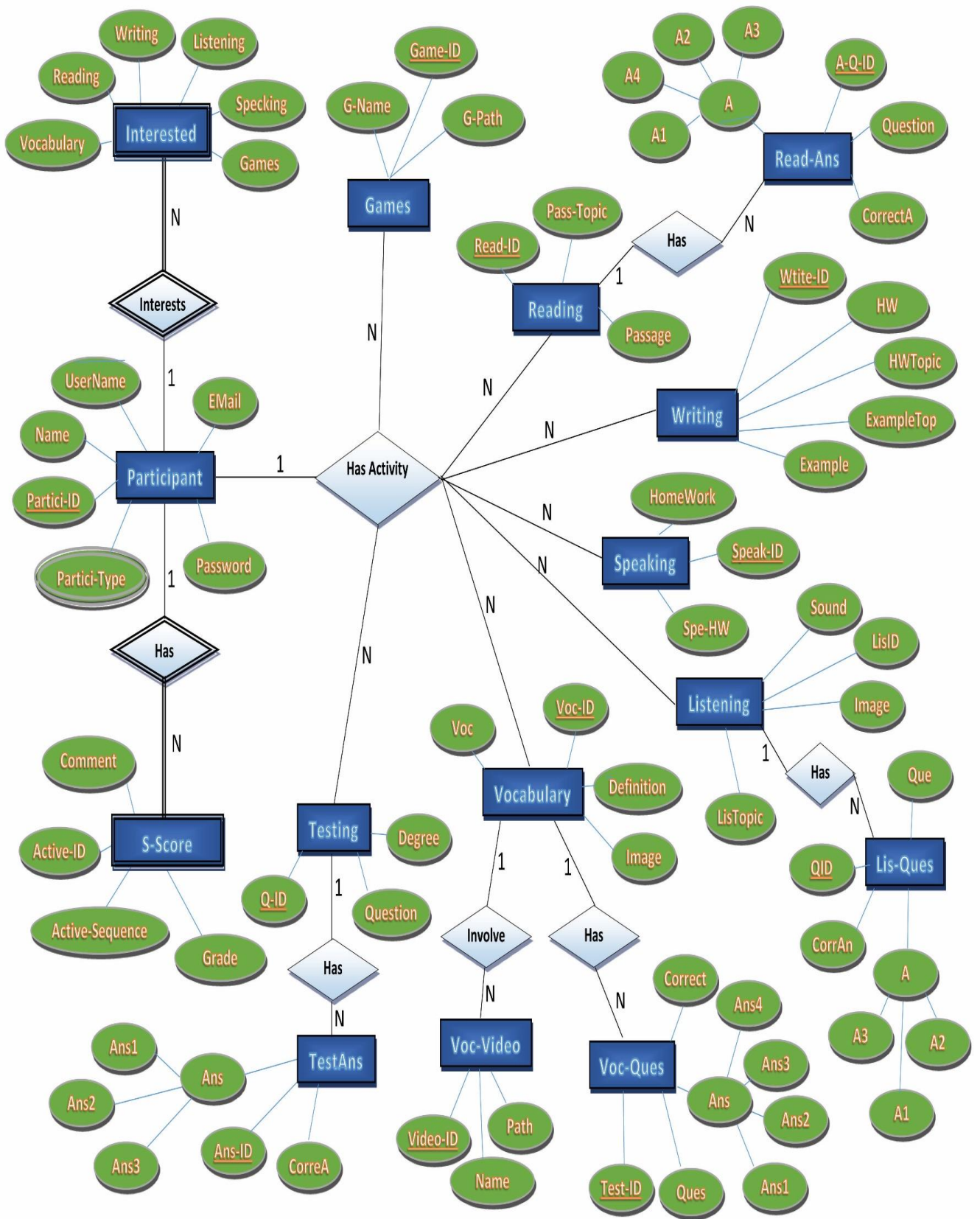


Figure 14 ER Diagram.

4.1.1.5 Relational Mapping of Data Base Schema

Activities

<u>Voc-ID</u>	<u>Read-ID</u>	<u>Write-ID</u>	<u>Lis-ID</u>	<u>Speak-ID</u>	<u>Q-ID</u>	<u>Game-ID</u>	<u>Partici-ID</u>
---------------	----------------	-----------------	---------------	-----------------	-------------	----------------	-------------------

Vocabulary

<u>Voc-ID</u>	Voc	Image	Definitio
---------------	-----	-------	-----------

Voc-Que

<u>Test-ID</u>	Ques	Ans	Ans	Ans3	Ans	Correct	<u>Voc-ID</u>
----------------	------	-----	-----	------	-----	---------	---------------

Voc-Video

<u>Video-ID</u>	VideoName	VideoPath	<u>Voc-ID</u>
-----------------	-----------	-----------	---------------

Reading

<u>Read-ID</u>	PassName	Passage
----------------	----------	---------

Read-Ans

<u>Read-ID</u>	<u>Ans-Que-ID</u>	Q	A	A	A	A	Correct-A
----------------	-------------------	---	---	---	---	---	-----------

Writing

<u>Write-ID</u>	HWTopi	HW	ExampleTop	Example
-----------------	--------	----	------------	---------

Listening

<u>Lis-ID</u>	LisTopi	Sound	Image
---------------	---------	-------	-------

Lis-Que

<u>Lis-ID</u>	<u>QID</u>	Q	A	A	A	CorrAn
---------------	------------	---	---	---	---	--------

Speaking

<u>Speak-ID</u>	Spe-HW	HomeWork
-----------------	--------	----------

Teasting

<u>Q-ID</u>	Question	Degree
-------------	----------	--------

TestAns

<u>Q-ID</u>	<u>Ans-ID</u>	Ans	Ans	Ans	CorreA
-------------	---------------	-----	-----	-----	--------

Games

<u>Game-ID</u>	G-Name	G-Path
----------------	--------	--------

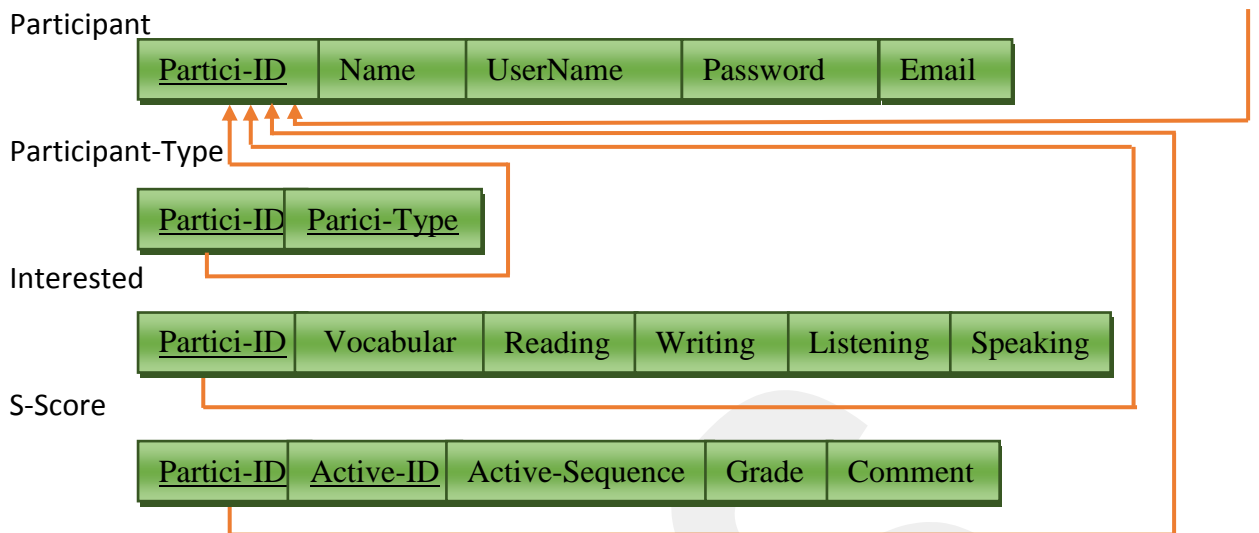


Figure 15 Relational Mapping

The schema consists of (17) tables:

- The *participant* table: consists of the fields describing the system participants like (Partici-ID, Name, UserName, Password, and EMail). Its primary key is (Partici-ID). It's also linked to four database tables as describes in figures 14 and 15.
- The *Participant-Type* table: This table is used to store the data related to participant's types (student or instructor), it consists of (Partici-ID and Partici-Type). It's also linked to *Participant* table via the foreign key *Participant-Type.Partici-ID* which compound of *Participanr.Partic-ID* to *Participant-Type.Partici-ID*. As describes in figures 14 and 15.
- The *S-Score* table: This table is used to store the data related to participant's scores, it consists of (Partici-ID, Active-ID, Active-Sequence, Grade, and Comments). It's also linked to *Participant* table via foreign key *S-Score.Partici-ID* which compound of *Participanr.Partic-ID* to *S-Score.Partici-ID*. As describes in figures 14 and 15.
- The *interested* table: This table is used to store the data related to participant's interested, it consists of (Partici-ID, Vocabulary, Reading, Writing, Listening, and Speaking). It's also linked to (*Participant* table) via the foreign key *interested.Partici-ID* which compound of *Participanr.Partic-ID* to *Interested.Partic-ID*.

- The **Activities** table: This table is used to link all the activities' participant (Vocabulary, Reading, Writing... etc.). It consists of (Partici-ID, Voc-ID, Read-ID, Write-ID, Lis-ID, Speak-ID, Q-ID, and Game-ID). It's linked to eight database tables. As describes in figures 14 and 15.
- The **Vocabulary** table: This table is used to store the data related to vocabulary, it consists of (Voc-ID, Voc, image, and Definition). Its primary key is (Voc-ID).It's also linked to three database table via foreign key **Vocabulary.Voc-ID**. As describes in figures 14 and 15.
- The **Voc-Ques** table: This table is used to store the question data about vocabulary, it consists of (Test-ID, Ques, Ans1... etc.). Its primary key is (Test-ID).It's also linked to **Vocabulary** table via foreign key **Voc-Ques.Voc-ID** which compound of **Vocabulary.Voc-ID** to **Voc-Ques.Voc-ID**. As describes in figures 14 and 15.
- The **Voc-Video** table: This table is used to store the video data about vocabulary, it consists of (Video-ID, VideoName... etc.). Its primary key is (Video-ID). It's also linked to **Vocabulary** table via foreign key **Voc-Video.Video-ID** which compound of **Vocabulary.Voc-ID** to **Voc-Video.Voc-ID**. As describes in figures 14 and 15.
- The **Reading** table: This table is used to store the data related to reading activities, it consists of (Read-ID, PassageName, and Passage). Its primary key is (Read-ID). It's also linked to two database table via foreign key **Reading.Read-ID**. As describes in figures 14 and 15.
- The **Read-Ans** table: This table is used to store the question data about reading passage, it consists of (Ans- Que-ID, Q... etc.). Its primary key is (Ans-Que-ID). It's also linked to **Reading** table via foreign key **Reading.Read-ID** which compound of **Reading.Read-ID** to **Read-Ans.Read-ID**. As describes in figures 14 and 15.
- The **Writing** table: This table is used to store the data related to writing activities, it consists of (Write-ID, HWTTopic... etc.). Its primary key is (Writi-ID). It's also linked to **Activities** table via foreign key **Writing.Write-ID**. As describes in figures 14 and 15.
- The **Listening** table: This table is used to store the data related to writing activities, it consists of (Lis-ID, LisTopic... etc.). Its primary key is (Lis-ID). It's

also linked to two database tables via foreign key *Listing.Lis-ID*. As describes in figures 14 and 15.

- The *Lis-Ques* table: This table is used to store the question data about listening activities, it consists of (QID, Q ... etc.). Its primary key is (QID). It's also linked to *Listening* table via foreign key *Lis-Que.Lis-ID*. As describes in figures 14 and 15.
- The *Speaking* table: This table is used to store the data related to speaking activities, it consists of (Speak-ID, Spe-HW, HomeWork... etc.). Its primary key is (Speak-ID). It's also linked to *Activities* table via foreign key *Speaking.Speak-ID*. As describes in figures 14 and 15.
- The *Testing* table: This table is used to store the data related to testing activities, it consists of (Q-ID, Question, and Degree). Its primary key is (Q-ID). It's also linked to two database tables via foreign key *Testing.Q-ID*. As describes in figures 14 and 15.
- The *TestAns* table: This table is used to store the answer data about testing activities, it consists of (Ans-ID, Ans1... etc.). Its primary key is (Ans-ID). It's also linked to *Testing* table via foreign key *Testing.Q-ID*. As describes in figures 14 and 15.
- The *Games* table: This table is used to store the data related to games activities, it consists of (Game-ID, GName, GPath). Its primary key is (Game-ID). It's also linked to *Activities* table via foreign key *Games.Game-ID*. As describes in figures 14 and 15.

4.1.2 Client Side Subsystem (End User Interface)

1- Start Page:

In start page two login links, one for the student (**Student Login**) and second one for staff (**Staff Login**). In first one, the student can login to student page. In second link, the staff can login to staff page. As shown in figure 16.



Figure 16 Start Page.

2- Student Login Page:

In this page enabled the authorize users entering to the (IYEL) system, When the user enter User Name and Password the system analyze and identify that user to provide appropriate information in next pages. The system rejects the entry if one or both fields is empty or didn't match with the database of system. This page consists of two buttons, one for login and getting started with system and second one to create new account for user. Additionally, the check box is used to keep **User Name** and **Password** in the cookies of the client's system. Figure 17 illustrates the idea.

Sign In To Your Account	
User Name	zaid
Password	...
<input checked="" type="checkbox"/>	Keep me logged in
Login	Create Account

Figure 17 Login Page for Student.

3- Create Account for user or student:

This page will create new user's account by fill all information in fields and save them in the data base. Another thing contain a student interested witch the system analyze user's preferences or avocation based on them. When the user press the **create account** button the system call the data maiming part to fetch all the preferences for that user. After fill all information fields and selected the interested choice and press **create account** button the page will transmitted to the login page. The system will object to create account if one of fields is empty or didn't match it with the required specifications. As you see in the figure 18.

Wellcome Student Registration

Account Information:

User Name: User Name is required

E-mail: E-Mail is required

Password: Passward is required

Confirm Password Confirm Passward is required

Student Interested

- Reading
- Writing
- Liseingn
- Speaking
- Vocabulary

Figure 18 Create Account Page for Student.

4- Staff Login Page:

In this page enabled the authorize staff entering to the (IYEL) system, When the user enter User Name and Password. The system will object to entry if one or both fields is empty or didn't match it with the data base of system. This page consist from two button, one for login and getting started with system and second one to create new account for staff. Additionally check box to keep User Name's user and Password and save it in the cookies in his system. As you show in figure 19.

Figure 19 Staff Login Page.

5- Create Account for user or student:

This page will create new staff's account (teacher, instructor, admin) by fill all information in fields and save them in the database. Another thing contain a staff's code field that must match with code filed in staff table in database. After fill all information fields and press **create account** button the page will transmitted to the login page for staff. The system will object to create account if one of fields is empty or didn't match it with the required specifications. As you see in the figure 20.

Figure 20 Create Account Page For Staff.

6- Home Page:

In the home page you will see greeting statement and user name with some pictures that work as a slide show. This will attract and increase the user's attention to use this system. Figure 21 shows the page.



Figure 21 Home Page.

The footer of all pages consists of curriculum books, actives books for all classes (intermediate and preparatory level) are embedded. Additionally, include links for some web sites that useful to improve and learn English language. Figure 22 illustrates the page.



Figure 22 Linkers and Curriculum Books.

7- Vocabulary Page:

This page contains a menu for vocabulary activities such as (**Vocabulary and Image**) that mean the system fetches the word and image from data base when select it. In this activity the user can select any letter from combo box and put all words that start with that letter in list box, it works like a dictionary. When the word selected the system will fetch the word and image with example to explain this word. In addition, the user can hear the pronunciation by click **Listen** button and the user can repeat this process unlimited number of times. Figure 23 illustrate the page.



Figure 23 Vocabulary and image.

Second activity is (**Vocabulary and Video**) the user can select any item from the list box which consist from set of vocabulary groups. That would increase the desire of students and attract them to the system. Moreover, this method will entrenched this words in the minds of the students. Figure 24 shows the page.



Figure 24 Vocabulary and Video.

Third activity (**Vocabulary Matching**) shows the user some questions that enable student or user to drag and drop the right answers in front of question, and check his answers by press **Check** button and getting the score of result. Figure 25 illustrate the page.



Figure 25 Vocabulary Matching.

Fourth activities is (**Vocabulary Testing**) which include numbers of questions that uploaded by teachers or instructors to check level of students as shows in figure 26. When student select it the (IYEL) system fetches the data (Question and choices) from data base. After user select right answer from check boxes, the system retains the values in memory to be added later to the value of the following question. Finally, the system gives student his grade for that test.



Figure 26 Vocabulary Testing Activity.

8- Reading Page:

Reading page include two parts, one for topic passage witch uploaded by the instructor or teacher that represented by list box. Second one for display the passage that selected and passage questions with multi choices answers. The user after select right answers he can check your answer by press the **Check** button. Figure 27 illustrate the page.



Figure 27 Reading Page.

9- Writing Page:

Writing page enable to the user or student write his homework or to reading some examples witch uploaded by teachers and instructors. As shown in figure 28 the left part consist from **Home Work** and **Examples**. The user will write homework in the **text box** and press the **submit** button to uploaded to the teacher who check it and save it in the database.

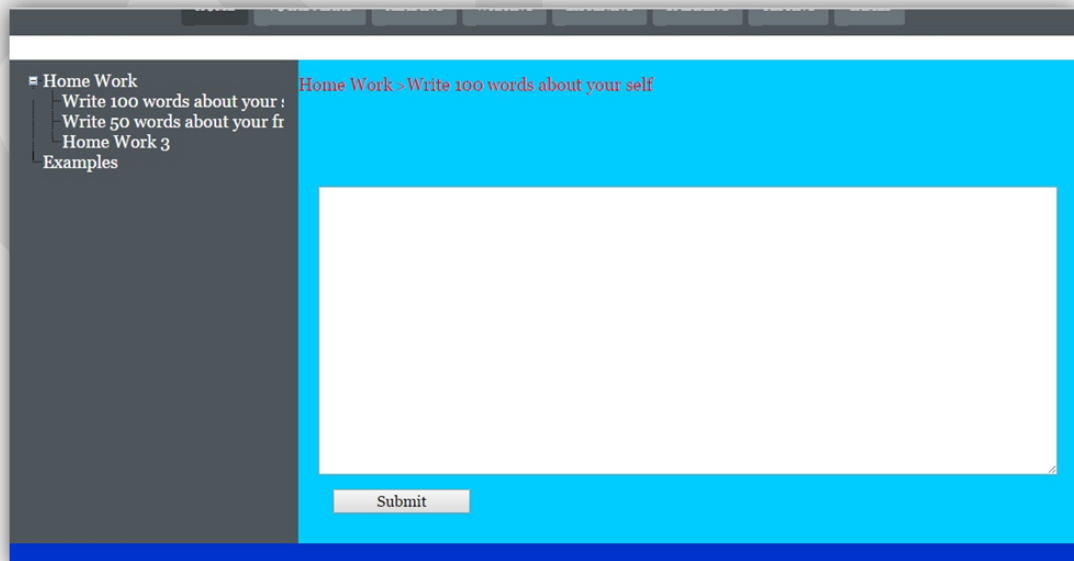


Figure 28 Writing Page.

10- Listening Page:

This page consist from two parts, left part to list the listening subjects. The user can select one of this subjects that uploaded by instructors. The right part displays the questions with multi choice answers and MP3 player to present the sound or voice for this subject. . The MP3 player witch receive sound file from database contain **play**, **pause** and **stop** button, and available **check** button to check the correct answer. Figure 29 illustrate the page.



Figure 29 Listening Page.

11- Speaking Page:

In this page the left part displays the speaking home work. The user selects the specific homework, and the user will begin to record his voice depending on the homework topic and questions that should be adopted. Through using record button (🎤), stop button (🛑) to be stopped, play button (▶️) to replay your sound, submit button (Submit) to uploaded to the database. Figure 30 shown the page.



Figure 30 Speaking Page.

12- Testing Page:

This page include comprehensive test for all previous activities. In the left side shown two level (intermediate and preparatory level). The right side include of the question that represented by **dropdown list** and **radio button** shape. Also shown the started and current time for testing, **next**, **previous** and **cancel test** buttons. Finally, the user when answers all questions will getting the score. Figure 31 illustrate the page.

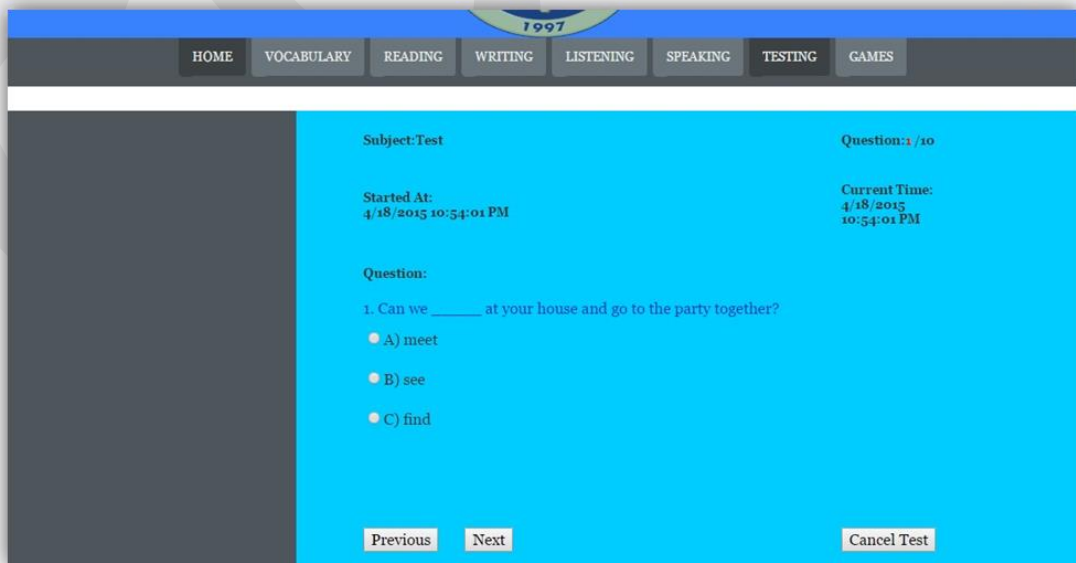


Figure 31 Testing Page.

13- Game Page:

Game page include group of games that have important role to increase the attention of students and attract them to use the (IYEL) system. This games can uploaded by the staff of system development (SW Developer) to the database. Figure 32 illustrate this page.

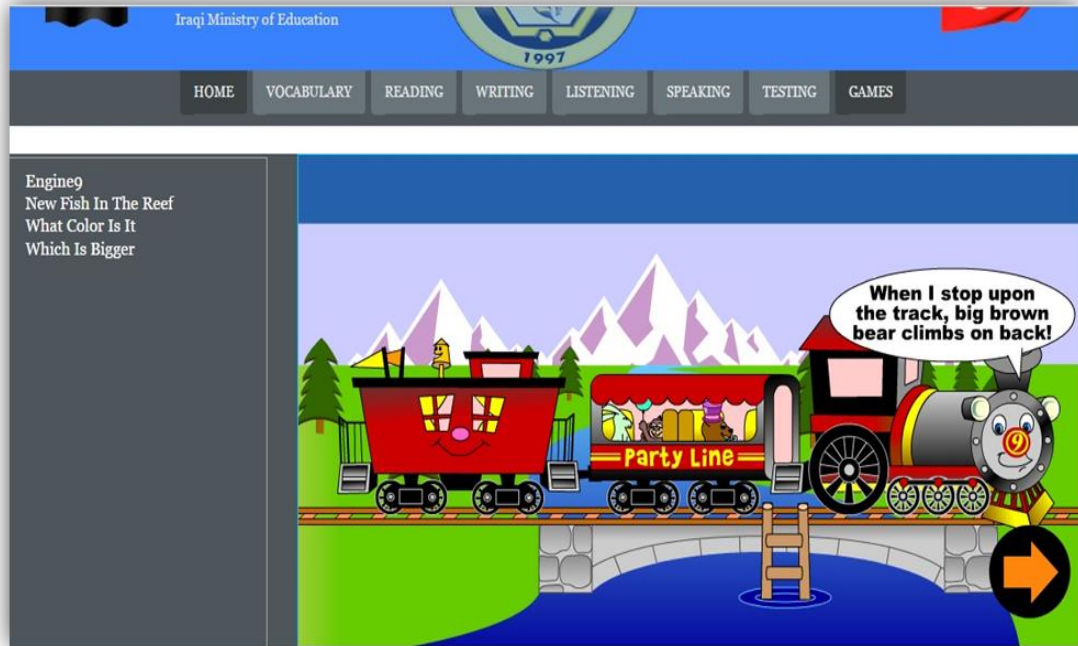


Figure 32 Game Page.

4.2 Case Studies:

4.2.1 Operating the Vocabulary Page:

This section illustrates the usage of vocabulary web page. In the tab vocabulary and image, if the user selects *Vocabulary* in menu bar to select one of the menu options which available in left side then the menu activated and as soon as he selects *Vocabulary and Image*, the page will be reform to a new fashion. As shown in Figure 33.

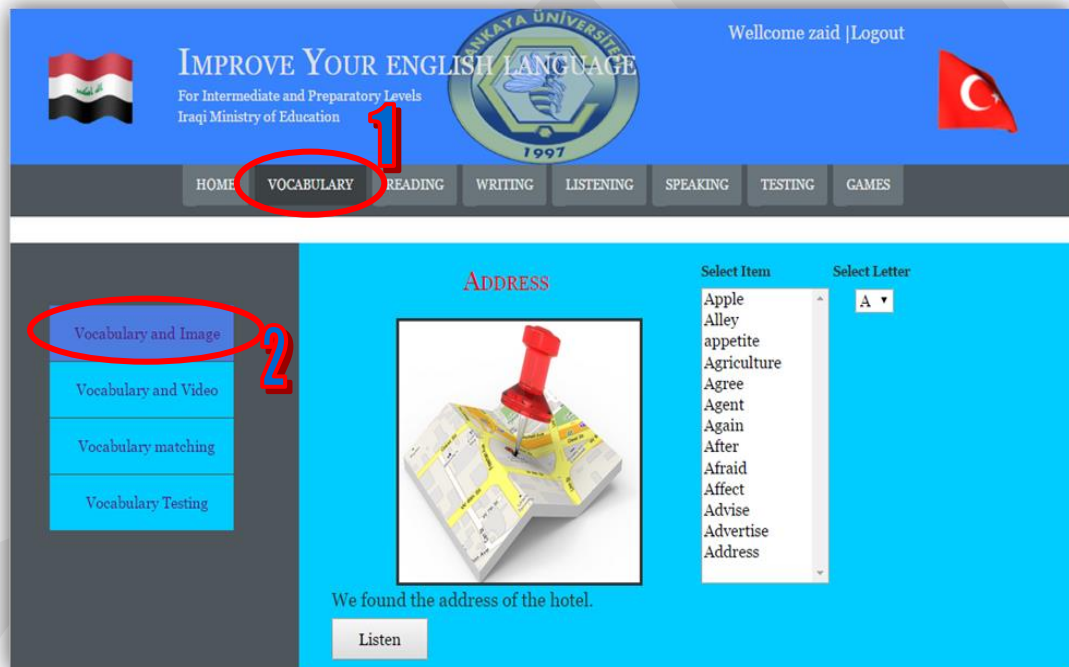


Figure 33 Selection Vocabulary and Image.

The menu in the right side of page is fill with words starting with a letter chosen from the menu addressed with “*Select Letter*”. Again the user can select any item from the list to her its pronunciation by clicking the button “*Listen*” as shown in figure 33. For example if the user selects “*Afraid*” from list box to see image, words and definition. Figure 34 illustrates this operation.

Wellcome zaid |Logout

HOME VOCABULARY READING WRITING LISTENING SPEAKING TESTING GAMES

Vocabulary and Image
Vocabulary and Video
Vocabulary matching
Vocabulary Testing

AFRAID

We are all afraid of the dark.

Listen

Select Item
Apple
Alley
appetite
Agriculture
Agree
Agent
Again
After
Afraid
Affect
Advise
Advertise
Address

Select Letter
A

Figure 34 Selection Word and Listening.

Select another letter for examples “C” to choose another list of words starting with letter “C” and so on. As shown in figure 35.

Wellcome zaid |Logout

HOME VOCABULARY READING WRITING LISTENING SPEAKING TESTING GAMES

Vocabulary and Image
Vocabulary and Video
Vocabulary matching
Vocabulary Testing

AFRAID

We are all afraid of the dark.

Listen

Select Item
Apple
Alley
appetite
Agriculture
Agree
Agent
Again
After
Afraid
Affect
Advise
Advertise
Address

Select Letter
C
A
B
C
D
E
F
G
H
I
J
K
L
M
N

Figure 35 Selection Letter.

You will see all words that started with this letter. Select word from list box such as “consumer”. And press *Listen* button. As you show in figure 36. The vocabulary in the menu is loaded from the dictionary stored in the system database.



Figure 36 Selection Another Word and Listening.

4.2.2 Operating the Listening Page:

This section illustrates listening activity and how it is used. When the user select *Listening* in menu bar, the page appears as shown in figure 37.



Figure 37 Selection Listening Page.


The user can select one of the listening articles which are shown in the menu to the left side of the form, for example “College Life”. The user can press play button () to run the mp3 player to listen to the voice reading this topic. Figure 38 illustrates this page.



Figure 38 Selection Article and Play Button.

After listening to the voice of the passage and understand its meaning then he can answer the related questions by selecting the correct choice. The user can check the right answer by clicking the button “Check” then right answer appears on the screen as shown in figure 39.



Figure 39 Selecting the Correct Choice and Check it.

CHAPTER 5

CONCLUDING REMARKS AND FUTURE WORKS

5.1 Concluding Remarks

As aforementioned in chapter one, the purpose of this study is to improve the Iraqi students' capabilities in English education as second language learning using web-based system (IYEL). The (IYEL) system helps students and teachers in the principle learning at any time and any where. Web-based and computer technologies are used in a parallel form with conventional educational systems to raise student's level to develop their linguistic skills in a best form. Additionally, the existence of e-learning systems with the student for unlimited period of classroom hours gives an opportunity for students to improve their vocabulary and skills, reading, writing, listening, and speaking. Consequently, IYEL enables people in rural areas to have more self-learning opportunities for English language acquisition.

Generally, Iraqi students have no high level of knowledge in English language. However, for this reason the system that presented in this study can address this situation. According to findings of previous studies about the impact of using WBL in educational process, the proposed system will enhance the students' capabilities when it is applied in Iraqi schools to meet the requirement of the aforementioned studies.

The IYEL implemented using ASP.net and C# with the aid of using html to give the most important tools to attract and draw the attention of students such as images, movies, sound, and games. This way of e-learning allows students to feel pleasure and fun with such a system, which aim to develop students and teachers linguistic skills. The IYEL system can be used for both teaching and learning. In addition, the system provide wide collection of new materials and subjects to complement classroom activities as well as it contain original books for both intermediate and preparatory levels.

5.2 Future Works

E-learning in Iraq is still in the beginning of its inception, and needs to be significantly supported by the government. So the system can be applied by the government in all Iraqi's cities and surrounding to be more effective. Moreover, we can connect the system to the intranet network to include areas that did not covered by education service.

Wherever the IYEL system is applied, many studies and analyzes can be done to improve the educational parameters to enhance the students weak ones. In addition, the system can be used as a platform for more future developments by adding new features for this system such as grammar and chat pages for students to increase the activity participate among them. Furthermore, we can add data mining techniques to prepare the intended data that support instructor to manage the lecture and to infer the student level with their interest and store them in the system DB to use it in the next user session.

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APPENDICES A

CURRICULUM VITAE

PERSONAL INFORMATION

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EDUCATION

Degree	Institution	Year of Graduation
M.Sc.	Çankaya University Mathematics and Computer Science	2015
B.Sc.	University of Babylon	2002
High School	Al-Mahaweel School	1998

WORK EXPERIENCE

Year	Place	Enrollment
2005- Present	Directorate of Education in the Province of Babylon	Teacher
2004	University of Babylon- Basic Education College	Trainer
2003	Mahaweel Youth Center	Trainer

FOREIN LANGUAGES

English

HOBBIES

Travel, Books, Swimming.