CHAPTER II

REVIEW OF RELETED LITERATURE

Working with technology in language learning, can be based on a principle; that is, teachers seek a sound basis or foundation for decisions they make and the direction they follow. According to Jordan, theory wishes to build itself on previous knowledge by rigorously testing current theories with a view of refining and improving them. Theory is a position from which a person views a problem. Through this positioning, theory limits field of view; highlight what we focus on and what we do not. It also provides an inferential structure for analysis and interpretation.

Then as researcher, Fernandez Garcia and Martinez Arbelaiz appealed that a theoretical model should accomplish two goals: first, to describe the negotiation routines in an online chat environment; and second to guide the data collection such that may be used to provide grounds for determining whether the online chat interaction has led to language acquisition.⁸

Neuman said that:

Theory frames how we look at and think about a topic. It gives us concepts, provides basic assumptions, directs us to the important question, and suggests way for us to make sense data. Theory enables us to connect a single study to the immense base of knowledge to which other researchers contribute. To use an analogy, theory helps a researcher see the forest

⁷ Ibid p.110

⁸ Ibid p. 111

instead of just a single tree. Theory increases a researcher's awareness of interconnections and of the broader significance of data.

Hence, this chapter endeavors to describe a number of theory that have been used in E-Learning and education more generally.

A. SOCIOCULTURAL THEORY

Vygostsky (1896-1934) believes that learning results from social interaction rather that through isolated individual efforts and that engagement with others is critical factor in the process. ¹⁰ In his view, learning is at first social (intermental) and only later individual (intramental). Vygostsky believes that cognitive processes are constantly changing and impact the development of higher thinking of individuals. Thinking is a form of "cultural reasoning", or thinking like those around the student. In other words, people in community influence the way the student thinks and learns. This varies from community and cultural group to another.

Bandura believes that learning requires a natural setting. He views that young children imitate those people around them as part of their learning process. With practice, this knowledge or skill becomes individual's internal code. Bandura is concerned with the type of models learner in this process. He sees that models need to be attractive, credible, and offer the standards to guide the learner along.¹¹

10 Ibid p.116

⁹ Ibid p.111

As quoted in Sharon E Smaldino, et al, Instructional Technology and Media for Learning (New Jersey: Pearson Merril Prentiee Hall, 2008) 9th ed. p. 43

Pre-eminent tool for mediation is language. Vygostky pays special attention to the role that language plays in cognitive development and in mediating the learning process. Acquiring language enables the learning to think in new ways by providing a cognitive tool for making sense of the world.

The notion of language as cognitive tools for mediation is one of the most profound insights of Vygotsky, an idea derived from the work of Engels. Engels posits that humans interact with the environment using material tools that mediate the interaction that occur. Through the interactions, both the environment and human are transformed. He extended this notion to include language not only speech but also writing and any other sign systems as a psychological tool that provides the mediation means by which higher psychological functions develop.¹²

Within the Vygotskian view, the teacher is critical. The teacher's role is very much brought into the foreground in sociocultural theory-hence its high visibility in education. The teacher is regarded as an active, communicative participant in the learning process. The teacher acts as a support to help students until the time comes when she/he is able to operate independently. The teacher can examine the individual student's edited papers and provide additional feedback as to how well the student is doing in learning new skills. Thus, a role of teacher is warranted, in helping learners overcome the gap between what they can do alone and what they can manage with the help of others. Finally key term of Vygotkian is a *microgenesis*, which refer to

¹² Mike Levy and Glenn Stockwell, Call Dimensions Option and Issues in Computer Assisted Language Learning, (New Jersey: Lawrence Erlbaum Associates, Inc, 2006), p. 116

local, contextual learning process that begins with children and continues with adults as a new concept, and further continues to be acquired thought social/interactional means.

Sociocultural theory is responsible for the introduction of considerable number of new concepts. For example, CALL sets about identifying instances of *microgenesis*, as well as locating and examining collaborative episodes and the specificity of the computer as a mediational tool. Vygotsky's work has been made to support the following techniques and approach in language teaching and learning.

B. COMMUNICATIVE APPROACH

The communicative approach could be said to be the product of educators and linguists who had been dissatisfied with the audio lingual and grammar-translation methods of foreign language instruction. Educators and linguists view that students are not learning enough realistic, whole language. Students do not know how to communicate using appropriate social language, gestures, or expressions; in brief, they are at a loss to communicate in the culture of the language studied. Development of communicative-style teaching mushroomed in the 1970s; authentic language use and classroom exchanges where students engaged in real communication with one another become quite popular.

In the intervening years, the communicative approach has been adopted to the elementary, middle, secondary, and post-secondary levels. The underlying philosophy has spawned different teaching methods known under a variety of names, including

notional-functional, teaching for proficiency, proficiency-based instruction, and communicative language teaching.

Communicative language teaching makes use of real-life situations that necessitate communication. The teacher sets up a situation that students are likely to encounter in real life. Unlike the audio-lingual method of language teaching, which relies on repetition and drills, the communicative approach can leave students in suspense as to the outcome of a class exercise, which will vary according to their reactions and responses. The real-life simulations change from day to day. Students' motivation to learn comes from their desire to communicate in meaningful ways about meaningful topics.

Mergie S Berns, an expert in the field of communicative language teaching, writes in explaining Firth's view that language is interaction; it is interpersonal activity and has a clear relationship with society. In this light, language study has to look at the use (function) of language in context, both its linguistic context (what is uttered before and after a given piece of discourse) and its social, and situational context (who is speaking, what their social roles are, why they have come together to speak). ¹³

The role of the teacher in communicative approach is facilitator. Teachers in communicative classrooms will find themselves talking less and listening more-

¹³ S. Savignon & M. S. Berns (Eds.). Functional approaches to language and language teaching: Another look. In "Initiatives in communicative language teaching. A book of readings". (Reading, MA: Addison-Wesley, 1984) p.3-21.

becoming active facilitators of their students' learning. The teacher sets up the exercise, but because the students' performance is the goal, the teacher must step back and observe, and sometimes acts as a referee or monitor. The teacher may select cooperative learning as a strategy. Working in collaborative groups, students are given maps, bus schedules, materials for collecting information about traffic issue and other materials they will need to fix the problem. The teacher's role is to ask challenging question, prompting the students continue their inquiry into ways to resolve the problem.

A classroom during a communicative activity is far from quiet, however. The students do most of the speaking, and frequently the scene of a classroom during a communicative exercise is active, with students leaving their seats to complete a task. Because of the increased responsibility to participate, students may find that they gain confidence in using the target language in general. Students are more responsible managers of their own learning.

Communicative approach is very useful to prepare students for independent learning. The students can learn information and acquire skills without the teacher's direct instruction. They can learn the information without direct intervention. The teachers prepare the self-directed study setting, using materials that have been selected and developed. The students will be able to work at their own pace and be able to repeat any of the materials if needed.

The teacher may find times most effective and efficient in which the students learn content before coming to class. The textbook is a good example of the type of

media that teacher can use for independent study. In addition, learning centers can be designed to provide students with independent study. The teacher can use a variety of instructional materials such as text, audio, tape, video, and computer software. The intent of the learning center can be focused on extending students to study about a topic that is being presented as a part of class activities. Or, teacher can develop remedial materials for students who are having difficulty with the topic being taught in class.

C. E-LEARNING

1. Definition of E-learning

E-learning is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face-to-face teaching, in which case the term Blended learning is commonly used. Bernard Luskin argues that the "E" must be understood to have broad meaning if E-Learning is to be effective. Luskin says that the "e" should be interpreted to mean exciting, energetic, enthusiastic, emotional, extended, excellent, and educational in addition to "electronic" that is a traditional, national interpretation. This broader interpretation allows for 21st century applications and brings learning and media psychology into the equation. ¹⁴

E-learning is kind of teaching learning process that might present the materials to the students through internet, intranet, or computer. E-learning is a usage of multimedia technologies to support the teaching learning process such as mobile

¹⁴ Wikipedia. E-Learning (online) http://en.wikipedia.org/wiki/E-learning

technologies (PDA and MP3 player) and computer. E-learning also uses teaching materials based on web and hypermedia, CD ROM or websites, discussion forum, software, e-mail, blogs, and games. E-learning is not just accessing information but assisting learners with specific outcomes. In addition to delivering instruction, E-learning can monitor learners' performance and report learner progress.

The uses of E-learning in education are growing. Students no longer only have access to textbook, but also to educational materials located far beyond the walls of the school building. Teacher and student can obtain information housed in multiple, distant, physically accessible libraries around the world. Resources go beyond the dreams of all but the most affluent are readily available to everyone.

Students and teacher can enhance classroom learning by accessing information from an array of sources (databases, libraries, special interest group), communicating via computer with other students or with experts in particular field of study and exchanging data. Activities such as the *Monarch Butterfly Migration* conducted by Annenberg Foundation and *GeoBee Challenge* of the National Geographic Society make it possible for students and teacher alike to reap the benefits of connecting into a national of network student, teachers, and scientists to investigate a variety of topics.¹⁵

Teacher and students can access electronic document to enrich their study.

Student can actively participate because E-learning provides an interactive learning

¹⁵ Sharon E Smaldino, et al, *Instructional Technology and Media for Learning* (New Jersey: Pearson Merril Prentiee Hall,2008) 9th ed. p. 183

environment. Student can link electronic information to their papers and projects, making them "living" documents wired with hypertext buttons. Because of its ability to deliver information in any medium including print, video, and audio recordings of voice and music, the computer has become a boundless library. Students are able to communicate instantly with text, picture, voice, data, and two way audio/video, and the resulting interaction is changing the role of both students and teachers. Teachers can be separated geographically from their students, but students can learn from him/her and other students all over the world.

2. Pedagogical Elements and Approach in E-learning

Pedagogical elements are an attempt to define structures or units of educational material. For example, this could be a lesson, an assignment, a multiple choice question, a quiz, a discussion group or a case study. These units should be format independent, so although it may be in any of the following methods, pedagogical structures would not include a textbook, a web page, a video conference or Podcast.

When beginning to create E-Learning content, the pedagogical approaches need to be evaluated. Simple pedagogical approaches make it easy to create content, but lack flexibility, richness and downstream functionality. On the other hand, complex pedagogical approaches can be difficult to set up and slow to develop, though they have the potential to provide more engaging learning experiences for students. Somewhere between these extremes is an ideal pedagogy that allows a

particular educator to effectively create educational materials while simultaneously providing the most engaging educational experiences for students.

It is possible to use various pedagogical approaches for E-Learning which includes:

Instructional design: the traditional pedagogy of instruction which is curriculum focused, and is developed by a centralized educating group or a single teacher.

Social-constructivist: this pedagogy is particularly well afforded by the use of discussion forums, blogs, wiki and on-line collaborative activities. It is a collaborative approach that opens educational content creation to a wider group including the students themselves.

Cognitive perspective: focuses on the cognitive processes involved in learning as well as how the brain works.

Emotional perspective focuses on the emotional aspects of learning, like motivation, engagement, and fun.

Behavioral perspective focuses on the skills and behavioral outcomes of the learning process.

Contextual perspective focuses on the environmental and social aspects which can stimulate learning. Doing interacted with other people, collaborative discovery and the importance of peer support as well as pressure.

3. The Internet

The internet is a world wide system for linking smaller networks together. It is a network of networks with a frequently changing collection of millions of computers network serving billions people around the world. Each individual on the internet can communicate with anyone else on the internet. Users can access any information, regardless of type of computer they have, because of standard protocol that allow all computer can communicate with each other. Most information is shared without charge expert for whatever access fee is required to maintain an account with internet service provider (ISP) such as America Online, Yahoo!, or any of the many of local or community ISPs. Many schools provide internet accounts to teacher and students at no charge.

Both telephone companies and television cable companies provide high speed access to the internet. Integrated Service Digital Network (ISDN) lines provide speeds up to five times that regular phone lines. A Digital Subscriber Line (DSL) provides even faster access up to thirty times that of standard phone line. TV cable companies offer a high speed service through a cable modern. All of these access services are popular with the home consumer.

Special communication software connects the computer to a telecommunication service. When teacher make a connection to the internet, teacher enlist the help of four communication service: computer, Integrated Service Provider (ISP) the server (host computer), and the telecommunications network

(communication software and a modem and phone or cable modem).¹⁶ The computer runs communication software. The modem and communications software provide an open path between the computer and ISP. The ISP provides teacher a link to the internet.

Many educational and commercial organizations networks are developing ways to connect to the internet. These connections, refer to as gateways or portals, are designed to provide access to many internet services. The maze of connection is largely "transparent" to the user. User just *log on* (enter the computer system, often with a special password for privacy) to their computer, connect to their networking services or ISP, and begin to exchange information.

Complicating information retrieval is the fact that the internet does not operate hierarchically. There are no comprehensive directory trees or indexes for internet resources. There is no Library of Congress cataloging scheme or Dewey Decimal system. People can consider internet as a library where every shelf is labeled "Miscellaneous". Finding one interesting service or item of information is no guarantee that you are on the right track to others. In fact, most of the internet's resources are in little cul-de-sacs on the network, not linked in any predictable way to other, similar resource. People find information on the internet using *search engines*, programs that identify websites containing user entered keyword or phrases.

¹⁶ Sharon E Smaldino, et al, *Instructional Technology and Media for Learning* (New Jersey: Pearson Merril Prentiee Hall, 2008) 9th ed. p.191

When searching the internet it is important to respect copyright laws and the intellectual property of others, the same as when doing research using traditional methods. Material on the internet and items downloaded from commercial services are copyright protected. Unless a document indicates that people have a right to reproduce it (many internet posting do just that), they must obtain permission to make more than a single copy for personal use.

Each individual internet user has a unique address. An internet address contains three parts: the person's name or username (pseudonym), the computer network where he or she can be reached, and the type of organizations he or she part of. For example, the following is the e-mail address for one of the book's author: irussel@purdue.edu

a. Using the Internet to English Language Teaching

One of example of E-learning using a network is in a computer lab, with fifteen to twenty computers connected together. When a teacher wants each student to be working on a computer during a lesson, the lab makes it possible for the whole class to have access to computers simultaneously. Software and data files for a network can be located in one convenient place. Supervision and security are easier when all computers are located in a single room.

Students and teachers can access services and information both in and out of the classroom. Materials such as documents, government information,

database, online bibliography, articles, publication, and computer software are available. Other applications include science experiments that involve sharing data among many locations.

There are many advantages in using the Internet. First, taking part in the Internet is intrinsically motivating for students, since they see it as a trendy and useful tool, enabling them to be connected with the world. As English is the main language in the Internet, learners begin to appreciate the usefulness in learning the language. Using the net also gives students control over their learning, enabling them to go at their own pace and choose their paths according to their individual needs, which may also be motivating. It helps in promoting learner independence and the development of learning strategies, provided that learners receive appropriate guidance.

Secondly, the World Wide Web (WWW) give students instant access to a wide range of authentic material, from newspaper and magazine articles to radio broadcasts and informal chat-rooms, and also to material prepared specially for learners, such as grammar, pronunciation and vocabulary exercises and tests. Apart from retrieving information from the Internet, learners can also create their own materials, such as projects, and share them with partner classes or with the general public. This possibility also adds a great deal of interest, as learners communicate with a real audience.

Because the internet is primarily text driven, it appeals to shy students, giving them time to think and participate in exchanges in a chat room, e-mail

or class conferencing. Another positive outcome of Internet use is improved reading and writing skills. Furthermore, because language used on the Internet tends to be lexically and syntactically more complex than oral discourse, students may gain a broader range of English. Communication with native speakers forces students to practice specific skills such as negotiating, persuading, clarifying meaning, and requesting information. In the near future, technical developments will probably make it easier to exchanges messages orally as well, which will mean even more chances for skills development.

The last, the Internet allows learners to participate in the culture of the target language and to see real language in context, away from course books and the classroom.¹⁷

Concluding, although teachers certainly do not think technology should take over the language classroom, teachers believe the Internet shows great potential for use in English Language Teaching. Therefore, we ought to endeavor to make informed choices about how the Internet can be successfully integrated into our teaching, being open to analyzing the results of such experiments.

¹⁷ Solange Moras, Computer Assisted Language Learning (CALL) and the Internet (Cultura Inglesia de Sao Carlos, Brazil, 2001)

4. The Intranet

A special type of network, called an intranet, is one that is not used by the general public, but internally by school or organization. It is proprietary or closed network that connects multiple sites across the state, within the country, or around the world. Systems connected to an intranet are private and accessible only by individuals within a given school or organization.

Intranets provide internal networks for school. Intranets are a way of increasing communication, collaboration, and information dissembling within schools where divisions, department, and workgroup each use different computer platform (hardware and operating system), or where users work in geographically distant locations. Even thought an intranet may be connected to a larger network (for example: the internet), a software package call a firewall prevent external users from accessing the internal network, while allowing internal users to access external networks.

5. The Benefit of E-Learning

The vast movement towards E-learning is clearly motivated by the many benefits it offers. However much E-learning is praised and innovated, computers will never completely eliminate human instructors and other forms of educational delivery. The important thing is to know exactly what E-learning advantages exist and when these outweigh the limitations of the medium.. Some of the most outstanding advantages E-learning are:

- Variety of media. The internet is a versatile means of delivering information to learners around the world. Internet site may contain a variety of media, including text, audio, graphics, animation, video, and downloadable software.
- Up to date information. Until recently, students were limited to the resources
 in their schools buildings. Now, with ability to connect to resources in the
 community and around the world, students can access libraries and databases
 that often update on a daily basis. E-learning expands the opportunities for
 smaller schools as well as for individuals participating in home schooling.
- Reduced overall cost is the single most influential factor in adopting E-learning. The elimination of costs associated with instructor's salaries, meeting room rentals, and student travel, lodging, and meals are directly quantifiable. The reduction of time spent away from the job by employees may be the most positive offshoot. Learning times reduced, an average of forty to sixty percent, as found by Brandon Hall.¹⁸ The cost of hardware, software, and internet services are nominal and are decreasing.¹⁹
- Increased retention and application to the job averages an increase of twenty five percent over traditional methods, according to an independent study by J.D. Fletcher.²⁰

¹⁸ Kevin Kruse, The Benefits and Drawbacks of E-Learning (www.e-learningguru.com) retrieve at June 24 2010

¹⁹ Sharon E Smaldino, et al, Instructional Technology and Media for Learning (New Jersey: Pearson Merril Prentice Hall, 2008) 9th ed. p.183

²⁰Kevin Kruse, *The Benefits and Drawbacks of E-Learning* (www.e-learningguru.com) retrieve at June 24 2010

- Expert knowledge is communicated, but more importantly captured, with good E-learning and knowledge management systems. Students can engage in "conversation" with expert in specific fields of study.
- Convenient communication. E-mail allows students in various locations to share ideas. The can "speak" to each other at different times and respond at their own convenience. Records are kept of their exchanges.
- On-demand availability enables students to complete training conveniently at off-hours or from home.
- Self-pacing for slow or quick learners reduces stress and increases satisfaction.
- Confidence that refresher or quick reference materials are available reduces burden of responsibility of mastery.

6. The Drawback of E-Learning

Nevertheless, E-learning has limitations, among them:

- Up-front investment required of an E-learning solution is larger due to development costs. Budgets and cash flows will need to be negotiated.
- Students need to have access to computer and internet access. They also need to have computer skills with programs such as word processing, internet browser, and e-mail. Without these skills and software it is impossible for the students to succeed in E-learning.

- Technology issues that play a factor include whether the existing technology
 infrastructure can accomplish the training goals, whether additional tech
 expenditures can be justified, and whether compatibility of all software and
 hardware can be achieved.
- Inappropriate material. One concern is that some of the topics discussed on computer networks, especially on the internet, are not appropriate for students.
- Portability of training has become strength of E-learning with the proliferation of network linking points, notebook computers, PDAs, and mobile phones, but still does not rival that of printed workbooks or reference material.
- Reduced social and cultural interaction can be a drawback. The impersonality, suppression of communication mechanisms such as body language, and elimination of peer-to-peer learning that are part of this potential disadvantage are lessening with advances in communications technologies.
- Students may feel isolated from instructor. Instructions are not always
 available to be help learner. So learners need have discipline to work
 independently without the instruction's assistance.
- Students need to have good writing and communication skills. When
 instructor and other learners are not meeting face to face. It is possible to
 misinterpret what is meant.
- Copyright. Because information is so easily accessible, it easy for an

individual to quickly download a file and illegally appropriate it. Thus, students may turn in a paper or project that is "cut and pasted" and not their own work.

- Finding information. It is estimated that several thousand new website are
 added to the internet everyday. This growth makes finding information more
 difficult. Teacher needs to work with the school media specialist to help the
 student learn effective search strategies.
- Access speed. Another limitation is the speed at which users can access
 information. Lengthy wait times can be prevented through prudent web
 design. If the teachers are creating their own web pages, they should take
 some time to incorporate images, colors, and text that will be meaningful to
 intended users.
- Lack of quality control. Students need to be critical thinkers and reader who know how to evaluate information. Everything posted on the internet is not fact. Anybody can post anything on the web including unsubstantiated, erroneous, or untruthful information.

D. COMPUTER AND MULTIMEDIA IN CLASSROOM

Computers are one of the key instructional technologies used in education.

The computer has a multitude of role to play in the curriculum, ranging from tutor to the students learning tool. Teacher can use the computer as an aid to collecting

student performance and managing classroom activities. To make informed choices, teacher need to be familiar with the various computer applications; games, simulations, tutorials, problem solving programs, and productivity and graphics tools.²¹

It is extremely important to develop critical skills in appraising instructional software because there are so many available programs. The hardware, too, become much less intimidating when teacher knows some of basic technologies. Whether teacher teaches with a single computer in a classroom or a room full of computers, teacher can optimal use of the computer to support student learning.

Educating students has shifted from providing information to students to open doors, to explore topics and to create meaningful learning experiences for themselves. Computer technology has been incorporated into this process. The implication is that educators are moving away from the idea of a school as a place to get knowledge to the view that school is a place to learn how to learn. The example of students working on an ecology report is not new within the school curriculum, but approach certainly can be. The challenge for the teacher is to provide opportunities for all students to use technology in meaningful ways to accomplish learning task. This may mean that teacher selects specific software for individual students.

The teacher can use computer tools to assist in the process of facilitating student learning. For example, teacher can use the computer at the end of the day to

²¹ Sharon E Smaldino, et al, *Instructional Technology and Media for Learning* (New Jersey: Pearson Merril Prentice Hall,2008) 9th ed. p.125

assist teacher in preparing instructional materials such as handouts or presentations. The teacher can take data collected during observations of students at work to help teacher make decision about the type of learning experience necessary to help student reach the intended outcome. This type of use is called Computer Managed Instruction (CMI).²²

The teacher should be a model user of computer software for students. Student will quickly notice if the teacher makes illegal copies of programs and does not follow copyright guidelines. Teacher should know that action speak louder than words.²³

Students can interact directly with the computer as a part of other their instructional activities, which can take the form of material presented by the computer in a controlled sequence, such as a drill and practice program, or as a student-initiated creative activity, such as a desktop published book of student poems. The computer can help both instructor and students in maintaining information about their learning and in guiding instruction. That is, the computer can organize and store easily retrievable information about each student and about relevant instruction materials. Learner may take test on the computer or input information into a personal E-portfolio. Further, the computer can diagnose the learning need of the students and prescribe optimal sequence of instruction for each student.

²² Sharon E Smaldino, et al, Instructional Technology and Media for Learning (New Jersey: Pearson Merril Prentiee Hall,2008) 9th ed. p.127

²³ Ibid. p. 127

Putting computer and multimedia in classroom is only part of the task. The ultimate value of technology in education depends on how fully and seamlessly they are integrated to the curriculum. The computer in the classroom is not an additional thing that teachers must include, but rather is integral to support and extension of learning for all students. Instructors need a framework for using computer technology that cover a variety of learning styles and accommodate varied teaching strategies. In classroom where computer technology is integrated successfully, students use it with the same ease with which they use books, maps, pencils, and pens. In technology rich classrooms students and teachers engage in problem solving, cultivate creativity, collaborate globally, and discover the value of lifelong learning.

With ease of use, computers and multimedia are becoming more natural tools to use in problem solving and cooperative learning strategies. Multimedia materials are valuable for task that must be shown rather than simply told. Some instructions cannot be adequately presented by printed materials and lecture alone. If the learners need to interact with the instruction, multimedia is an appropriate choice. One thing need to consider that ability to use the software automatically bestows expertise either in instructional design or visual design. These skills are usually developed through special study and lots of practice. The interactive nature of multimedia is the essence of its advantages. Multimedia engages learners to make choices about moving within the materials in meaningful ways, thus fulfilling the requirement of learner participation.

1. Computer Facilities

There are a variety of facilities for computer use. They range from one or more computers in a single classroom to the computer laboratory.

a. The One Computer Classroom

In some schools access to computer still limited. Often there is a single computer lab where a teacher can take a whole class of students to work on computers as part of lesson. However, increased interest by many teachers incorporating the computer into their lesson limits the number of times per week that any one teacher can use the computer lab. One solution has been to have a computer placed in each classroom. This single computer is therefore available to the teacher and students to use throughout the day.

The one computer classroom allows teacher to use the computer in many ways:

- Large group. With a data projector teacher can demonstrate to whole class how to use a particular software program or how to manage a particular set of data.
- Small group. A small group of students can work together on the computer.

 Students can interact with a program in groups, and then return to their seats, allowing other to have some time on the computer. Each group has a turn using the software to gather or present data.

- Learning center. Individual students or small group can go to a learning center that has at its core a computer. Integrating a specific software program into the center, teacher creates another type of interactive learning center.

b. The Multiple Computers Classroom.

A classroom could also have several computers in it. This can be helpful when groups of students need to use the same software simultaneously. Students can work in groups of two or three and share one computer. The teacher may have a projection device to display information for all students on one screen.

A variation of the multiple – computer classroom is the mobile computer cart. Many schools use the laptop cart as way to provide multiple computers for the classroom but without the major expense of putting computers into the room permanently. The cart allows teachers to move a set of laptop computer into their classrooms when they are needed for group of students work. Teachers can share the use of the cart and still benefit from having computers within their classroom setting, rather than having to leave the classroom to go to a computer laboratory. Additionally, many of the carts take advantage of wireless technology, thus giving the students access to the internet or to the software that available on central school server.

c. The Computer Laboratory.

When a teacher wants each student to be working on a computer during a lesson, it is necessary for the whole class to have access to computer simultaneously. Schools often place twenty to twenty five computers together in a single room called a computer laboratory. The computer laboratory is appropriate if teacher want students to be working independently or in small groups on different programs and different activities. To monitor student activity, to keep them on task and to prevent them from viewing inappropriate or irrelevant material, the computer can be placed around the walls of the laboratory with monitors facing the center of the room. Teacher can quickly see what each students doing and respond to student questions individually. In some networks the teacher can control and monitor what is shown on each student computer.

The trend is toward the multiple - computer classroom, in particular toward the use of laptop carts. In the early days when schools had a limited number of computers, they assembled them in a laboratory. As more computers become available, single computer is assigned to individual classroom. Teachers soon discovered how they could successfully use multiple computers in their classroom. Some schools have done away with their computer laboratories, distributing those computers to individual classrooms. Consequently, many classrooms that had just one computer now have several.

There are advantages to using a computer laboratory. A group of students can be taught the same lesson simultaneously, which might be more efficient for the teacher. Also, software can be located in one place conveniently. Supervision and security are often easier when all the computers are located in a single room.

The foremost limitation with the computers laboratory is access. If there are no other computers available to students outside the laboratory, then students may have a problem. If a class is scheduled to use the laboratory, students will have to wait until the laboratory is not scheduled to use the facilities. Also, because of scheduling problems, some classes may not have access to the laboratory at all. One solution that seems to be making this less of a problem is the increased use of laptop carts, now available in many schools.

2. The Advantages of Computer and Multimedia

There are some advantages of computer and multimedia on classroom:

 Individualization. Computer and multimedia allow student control over the rate and sequence of their learning, giving them the more control over outcomes. High-speed personalized responses to learner action yield a high rate of reinforcement.

- Special needs. Computer and multimedia are effective with special learnersat risk students- student with diverse ethnic backgrounds and students with disabilities. Their special needs can be accommodate and instruction proceeds at an appropriate pace.
- Monitoring. The record-keeping ability of the computer makes instruction more individualized; the teacher can prepare individual lesson for all students (particularly mainstreamed special students) and monitor their progress
- Information management. Computer and multimedia can cover a growing knowledge base associated with the information explosion. They can manage all types of information – text, graphic, audio, and video. More information is put at the instructor's and student's disposal.
- Multisensory experience. Computer and multimedia provide diverse learning experience. These employ a variety of instructional strategies and can be at the basic level instruction, remediation, or enrichment.
- Learner participation. Computer and multimedia require learners to engage in activities. These materials help to maintain student's attention.
- Extra resource. A special speaker to augment a class discussion or access to an area of study makes it possible for students to advance their learning.
- Advanced study. Students who need additional challenge in their study or
 have beyond what is available in their school can access extra coursework
 that allows them to continue to advance in their learning.

3. The Limitations of Computer and Multimedia

Although computer and multimedia has many advantages but it has some limitations too, there are:

- Copyright. The ease with software and other digital information can be duplicated without permission has inhibited some commercial publishers and private entrepreneurs from producing and marketing high quality instructional software.²⁴
- High expectation. Users, both teachers and learners, may have unrealistic
 expectations for computer and multimedia. Many view computers as magical
 and expert learning happened little or no effort, but in reality (and as with all
 other learning tools) users derive benefits proportional to their investments.
- Complex. More advanced program may be difficult to use, especially for student production, because they require the ability to use complex skills.
- Lack of structure. Students whose learning style requires more structured guidance may become frustrated. Students may also make poor decisions about how much information to explore.

E. PRACTICE

A glance at the literature reveals that the word practice is common in the title of recent books and article in CALL. It is often used in as an encompassing term for

²⁴ Sharon E Smaldino, et al, Instructional Technology and Media for Learning (New Jersey: Pearson Merril Prentice Hall, 2008) 9th ed. p.135

papers that describe the actual use of CALL in the classroom. The description of practice is provides an overview of the ways in which CALL can be used with the teaching and training in the language skills of listening, speaking, reading, and writing, and in language areas including vocabulary, grammar and pronunciation.

1. Computer in Reading and Writing

Many variables play a role in reading and writing achievement. Goals for reading and writing include speed, accuracy, and comprehension, and skills include summarizing, understanding the main point, identifying how a reading or writing is organized, evaluating how well a writer supports his or her argument, using strategies to understand unknown vocabulary, generalizing, using sight words, predicting, and drawing conclusion. Most important for skills development is *noticing*, or focusing attention on the differences between one's own language and the target language.

Since the early 1980s, second language (L2) writing specialists have been examining possible roles for computers in L2 writing instruction. So it makes the educators try to implement this way in students schools level. The students use computer for academic literacy purposes beyond the writing classroom, that is, across the curriculum, has not received much attention. The skills involved in reading and writing and how to practice those skills using a computer. Although educators are still debating whether skills learning or a whole computer approach is more effective, most agree that mixing these approaches is effective for language learning because it address varieties of learning style and focused on both fluency and accuracy.

The common purpose in writing class is to prepare students to write in these other domains, an awareness of computer-based literacy activities and learn how to write and read the literature for other class. One of the strengths of using computers in reading and writing is that technologies can provide forums in which learners can share their work with the others.

All students can use various resources of authentic reading materials either at school or from their home. The authentic material can be found by students in the internet like articles, news, short stories, poems, or other materials that already made by teacher for them. Those materials can be accessed twenty four hours a day at a relatively low cost. Then it will be possible to access the materials outside class.

Reading through the computer has been thought to have various benefits associated with it; namely, wide access to authentic materials instantly through the internet, the ability to add hypertext for accessing vocabulary or grammar explanations, greater access to reading authentic communication materials, inclusion of multimedia in conjunction with plain text, and the ability to control for reading speed.

There are, however, a number of concerns that have been raised about the use of internet, including the difficulty in locating appropriate materials due not only the amount of information available, but also to the varying levels of appropriateness, linguistically and socially. Provided that teachers aware of the possible limitation and

dangers, it is possible to find a great deal of material that is adaptable to classroom situation.²⁵

In conclusion, language learners do not need computers to read with comprehension or write for an authentic audience. However teacher can use computers to help them address individual learner needs, and provides effective, authentic tasks and texts.

2. Computer in Listening and Speaking

To speak and listen fluently and accurately in second language, learners need to be able to comprehend and produce in a native language like fashion-stress, intonation, rhythm, pacing, gesture, and body language and they need both linguistic and sociolinguistic competence. They should understand language functions such as sharing personal narratives, greeting and leave taking, informing, questioning, clarifying, and interrupting. For practicing and developing skill Peregoy and Boyle recommended activities such as singing, role-playing, dramatizing poetry, doing show and tell, tape recording children's books, and choral reading.²⁶

Speaking is a skill that has usually been regarded as a difficult one to teach through the computer. Although there are aspects of speaking that have been the subject of a number of studies in recent years, such as pronunciation, intonation,

²⁵ Mike Levy and Glenn Stockwell, Call Dimensions Option and Issues in Computer Assisted Language Learning, (New Jersey: Lawrence Erlbaum Associates, Inc, 2006),p.183

²⁶ Joy Egbert, CALL Essential Principle and Practice in CALL Classroom, (Virginia: TESOL, Inc, 2005), p.40

vowel contrasts, studies that focus on speaking itself as a skill have not featured heavily in the literature. As far as CALL concerned, it is advantageous to consider speaking and the computer in three ways: task that require the learners to speak, tasks that peripherally assist the skills required for speaking through focusing on other skills, and tasks that require the computer to recognize and response to language input.²⁷

The first of these is conducted through computer based instruction tools, such as video or audio conferencing, in which learners engage in speaking with teacher or native speakers and it is most common in distance education setting. The benefits for oral proficiency are obvious, because the learner directly involved in the act of speaking with the teachers, native speakers, or other learners. The second, the interactions occur through based means, and do not require the learner to physically "speak" with each other. The third way that the computer has been used for development of speaking requires the computer to recognize and respond to oral out put from learner. In cases in which incorrect responses are given, or the pronunciation of parts of the utterances is not recognized by the computer, appropriate responses are made by the computer.

When learners are capable of interacting with more fluent speakers, they can use the computer as a conduit to native speaker and more advanced second language learner around the world. Voice chat and audio e-mail can be modified to work

²⁷ Mike Levy and Glenn Stockwell, Call Dimensions Option and Issues in Computer Assisted Language Learning, (New Jersey: Lawrence Erlbaum Associates, Inc, 2006),p.181

effectively and efficiently for a wide range of classrooms that have access. Activities using both synchronous and asynchronous audio exchange include audio dialogue journals in which two or more participant record messages and send them to each other in a running stream of conversation. For example: learner can practice speaking and listening through the computer by recording audio segments in book making software such as Microsoft Power Point. Again, the major benefit of this task structure is that learner can interact socially and receive authentic orally input from peers and others.

By using computer in teaching learning process make students easier to listen and speak. They will directly listen to the simply English song or news then they can share the content with their friends. It is train them to speak. This is an application for listening and speaking purpose what we called Virtual Reality or Virtual Environment. Current Virtual Reality (VR) application include the ability to take walk a round a college campus, or other side, travel through a computer, and explore the inside of molecule. For language learners VR environments could include such common language class setting as a grocery store, a restaurant, or public bus, in which learner could explore and interact before actually leaving the classroom to experience the real environment.

As electronic technologies become more advanced, students will be able to work with the computer as a learning partner instead of working around and through it as a tool. For now, using computer as a tool provides learners with numerous opportunities to improve their target language listening and speaking skills.

3. Computer in Grammar Teaching

As with language skills and areas, there are variations in the approaches used by teachers to teach grammar. Grammar and vocabulary often appear together, and although there are several studies that focus on one or the other of these skills individually, complete separation of two skills is often difficult. Grammar teaching in CALL generally takes one of three forms grammar tutorial exercise, learner centered grammar instruction, or communicative grammar instruction.

First, Grammar tutorial exercises through CALL are more typically associated with the "traditional" CALL exercise, and were perceived as one of the greatest uses of CALL in the early days. Second, Learner centered grammar instruction places emphasis on the learners to deduce the rule of the target language for themselves. Third, Communicative grammar instruction also has an important role to play in second language teaching, because it allows learners to go beyond the scope of language included in grammar tutorial exercises and learner centered grammar instruction activities designed by the teacher. The only way in which learners are able to have access to "unlimited" language input is through authentic communication with native speaker or with other learners of the language.²⁸

So that E-learning is very useful to teach English because it can help teacher distribute the materials to the students. In grammar teaching using computer is easier way for students to do independent study and share with their friends. There are

²⁸ Mike Levy and Glenn Stockwell, Call Dimensions Option and Issues in Computer Assisted Language Learning, (New Jersey: Lawrence Erlbaum Associates, Inc, 2006),p.185-186

modern word processors do not only include spell checks and dictionaries but also grammar checks. These facilities help students to compose correct sentences and texts. For this purpose, the most common word processors on the market at present (Word, WordPerfect) will be tested on a variety of texts ranging from students' essays to newspaper articles and literary and academic texts. The use of computers and word processors becoming more and more common among both academics and university students, it begin to use in junior and senior high school a closer look at the grammar and spell check facilities of widely used word processors is called for in order to determine whether, indeed, the 'blind faith' that many people put in modern software is justified. Grammar and spelling check in computer include: Sentence Structures, Paragraph Structures, Subject and verb Agreement; Tense, Modal Auxiliaries, Conjunctions, Articles, Prepositions, and Punctuation.

F. AUTHORING TOOLS

Authoring tool also known as *authorware*, a program that helps to writes hypertext or multimedia applications. Authoring tools usually enable teacher to create a final application merely by linking together objects, such as a paragraph of text, an illustration, or a song. By defining the objects' relationships to each other, and by sequencing them in an appropriate order, authors (those who use authoring tools) can produce attractive and useful graphics applications. Most authoring systems also support a scripting language for more sophisticated applications.

The distinction between authoring tools and programming tools is not clearcut. Typically, though, authoring tools require less technical knowledge to master and used exclusively for applications that present a mixture of textual, graphical, and audio data. Authoring tools allow teachers to tailor activities to suit specific learning goals and objectives. They are varied in types, ranging software for producing individual tasks to integrated system that can be used to manage a large portion of course.

One of the better known authoring programs is *Hot Potatoes*, developed by Half Baked Software. *Hot Potatoes* has gone through several stages of development, and allows for processing of several languages other than English and other European languages. *Hot Potatoes* is particularly noted for its flexibility, ease of authoring, and lightweight HTML files, which can be used by teacher in a range of environment. It offers a free license for teachers who register, provided that they are not using it for personal profit and that they make their activities available openly.

Another authoring program is MALTED (Multimedia Authoring for Language Tutors and Educational Development), which aims to provide more of a focus on the multimedia aspects rather than pure textual feedback. Commercially available course tools are also commonly used, and many institutions have adopted one particular system to be used across a range of subject area, not only second language learning. Two of the more commonly used type of LMS (Learning Management System) sometimes refer to as course tools, course management system and VLE (Virtual Learning Environments) ere WebCT and BlackBroard. Both are

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powerful tools, providing bulletin board system (BBS), chat facilities and e-mail link, as well as online activities, quizzes, and even submission of assignments electronically. In addition to these tools, there are also other commercially available authoring programs, many of them sophisticated.²⁹

Hot Potatoes is relatively simple, and there are ways in which teacher can alter the script to forward result directly into a database. This simplicity does, however, open up other avenues for problems. The increasing technological skill of students mean that, without strict supervision, many are able to look at the source code of the test being administered and find the correct answers.

With the increased ability to pass information from authoring software such as Hot Potatoes, teacher can choose the tools that they want and tailor these tools to their individual learning contexts. With greater choice comes greater diversity, and this diversity opens up the avenues for further development of ideas and concepts in the future.

G. E-ASSESSMENT

Assessment is one of the most important aspects in language teaching and learning. Assessment has two main purposes; to make summative evaluation and to provide instructional feedback to help learners progress. Both summative and formative assessment can be formal (standardized) or informal (classroom-based).

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²⁹ Mike Levy and Glenn Stockwell, Call Dimensions Option and Issues in Computer Assisted Language Learning, (New Jersey: Lawrence Erlbaum Associates, Inc, 2006),p.207

Informally assessment provides feedback from peers and others; formally, it provides information against a standard about how student is progressing in specific areas. Everyone can be involved in assessment; peers, teacher, self, administrators, and external constituents. Assessment supports the conditions for language learning if it is interactive, formative, and authentic.³⁰

E-assessment is the use of information technology for any assessment-related activity. This definition embraces a wide range of student activity ranging from the use of a word processor to on-screen testing. Due to its obvious similarity to E-learning, the term E-assessment is becoming widely used as a generic term to describe the use of computers within the assessment process. Specific types of E-assessment include computerized adaptive testing and computerized classification testing.

E-assessment can be used to assess cognitive and practical abilities. Cognitive abilities are assessed using E-testing software; practical abilities are assessed using E-portfolios or simulation software.

An E-testing system designed to focus on lower level associations comprises two components: (1) an assessment engine; and (2) an item bank. An assessment engine comprises the hardware and software required to create and deliver a test. Most E-testing engines run on standard hardware so the key characteristic is the software's functionality. There is a wide range of software packages. The software

³⁰ Joy Egbert, CALL Essential Principle and Practice in CALL Classroom, (Virginia: TESOL, Inc, 2005), p.119-120

does not include the questions themselves; this is provided by an item bank. Once created, the engine uses the item bank to generate a test. Traditional paper-and-pencil testing is similar, but the test is pulled from the bank at only one time, when it is sent to publishing.

Generally, computer used in assessment in two ways. First, computers are used to perform the actual assessment. For example, some CALL software programs can assess learner based on the number of question they answered correctly. In addition, computer can help in assessment by allowing learner to post their product to the Web for feedback or send their output electronically to experts to evaluate. Comments from external evaluators can be counted for part of the project grade. Furthermore, the computer can be used to create rubrics and record observations and reflections. Computer can also help teachers and students keep a running total of point earned and function as a tool during assessment to help teacher record, weigh, summarize, and report on the students' progress.

Second, teachers assess the product and process of the students' work with and through the computer. In other words, computer-enhanced tasks that students complete and the work process that they use while completing the tasks can be assessed. The assessment focus is the same as language learning tasks that they are produced with other tools. However, because this project may have multiple components (sound, visuals, text, and graphics), assessing a multimedia presentation develop a team may require the teacher to consider and evaluate criteria that would not be use to evaluate a printed essay.

One of the most commons of E-assessment is Electronic portfolio (called E-portfolio) store all the student work as digital files. For example, any computer generated products such as spreadsheets, word-processed reports, or WebQuests can be directly added at the portfolio. Whereas, students work created on paper, such as drawing, handwritten poems, or illustrated stories, need to be converted into a digital format with a scanner. Digital audio and video are also important components of an electronic portfolio. This capture actual student performance, such as reading, a skit or presentation, a student created 3-D model, or the student conducting a lab experiment. The digital format allows students to add their self reflections as text or audio narration. E-portfolio can be created with specialized software, an online site, or basic programs such as PowerPoint.

The Drawbacks for E-portfolio are equipment, access, security and time. Both students and teachers need access to equipment. Security is a concern when deciding who will have the access of the files, as parents, principals, counselors, teachers and other students. Creating E-portfolios is initially time consuming because teacher and students need to learn how to scan, save, and format document in a useful and appealing manner. However, once the process is mastered, E-portfolios take less time to maintain and obviously require less storage space than traditional portfolio.

Furthermore, E-assessment is becoming widely used. It has many advantages over traditional (paper-based) assessment. The advantages include: Lower long-term costs, instant feedback to students, greater flexibility with respect to location and timing, improved reliability (machine marking is much more reliable than human

marking), greater storage efficiency - tens of thousands of answer scripts can be stored on a server compared to the physical space required for paper scripts, enhanced question styles which incorporate interactivity and multimedia.

H. PREVIOUS RESEARCH

Some researches have proven that the implementation of E-learning gives impact both in learning process and students' achievement. One of the researches is by Fayiz Aldhafeeri and Mohammed Almulla. This research is about the teachers' expectation of the impact of E-learning on Kuwait's public education.³¹

E-learning has emerged as a necessity to meet the challenges posed by the development of information technology and its potential for greater access to knowledge. E-learning technology is becoming more visible in schools in many parts in the world. Kuwait, like many other countries, has started to study adoption of an E-learning system in Kuwait- twelve (K-12). E-learning in schools must meet certain standards that make students competent in a number of areas. The purpose of this study is to investigate teachers' opinions of the impact of E-learning on public education system in Kuwait. Based on responses by five hundred and nineteen teachers, to a questionnaire survey consisting of thirty six items, the study identifies the following six educational improvement areas: 1) basic operations and computer

³¹ Fayiz Aldhafeeri and Mohammed Almulla. *Teacher expectation of the impact of E-learning on Kuwait's public education.* (Social Behavior and Personality, 2006) 34 (6). p.711-728

concepts; 2) ethnical human issues; 3) productivity tools; 4) researcher tools; 5) problem-solving and decision-making tools; and 6) communication tools.

This study focused on the Kuwait twelve (K-12) public school teacher from various education stages in Kuwait, which is divided into three spans, namely grade 1-5 (elementary stage), 6-9 (intermediate stage) and 10-12 (secondary stage).

The findings show that the school stage variable had statistically significant effect on all six dependent variables, except the communication tools variable. Therefore, teacher of elementary, intermediate, secondary schools differ in expectations regarding the significance of E-learning competency areas upon implementing E-learning in Kuwait's educational system. A multiple comparison procedure was carry out to establish which school stage level make the difference for each of six E-learning competency areas was used to do multiple comparisons among the three school stage level. The finding indicate that elementary school teacher have significantly different opinion from both intermediate and secondary school teacher regarding students' attainment on the five areas.

The gender factor does not have any effect on the attainment of E-learning competency areas upon implementing E-learning in Kuwait schools, except for basic factor operation and computer concept where male school show a lower mean score than female school.

The implementing E-learning in the schools of Kuwait makes students competent. Kuwaiti teachers believe that implementation of E-learning technology would provide students with the tools that would make them more productive.

Other research was done by Pie Chen Sun and Hsing Kenny Cheng which is about the design of instructional multimedia in E-learning: a media richness theory based approach.³²

The rapid development of computer and internet technologies has made E-learning become an important learning method. There has been a considerable increase the needs for multimedia instructional material in E-learning recently as such content has been shown to attach a learner's attention and interest. The multimedia content alone, however, does not necessarily result in significant positive learning performance and satisfaction.

The experiment proceeds in accordance with the schedule of the subject school. The four experiment groups are tested in computer rooms with similar equipment. The instruction system allocation in computer servers had been carefully tuned to assure a good network performance during the experiment. All students are advised to complete their E-learning in 50 minute. Students work through the program at similar pace as the multimedia content is delivered to the student's computer through video streaming. Video streaming also make reviewing the content not possible. When all the students finish in the time a test is conducted to measure the learning performance receive from the instruction. Finally, a questionnaire is given to the students to assess their subjective satisfaction focusing the instructional presentation design.

³² Pie Chen Sun and Hsing Kenny Cheng. The Design of Multimedia in E-learning: A Media Richness Theory Based Approach (Science Direct, 2005) (Online) www.sciencedirect.com

The objective of this study is to propose and empirically test a model that examines the impact of the fitness of the instructional content media on a learner's performance and satisfaction. A major longstanding difficulty in the design of multimedia content for E-learning has been lack of knowledge regarding the relationship between instructional media and learning content. A main contribution of this research is to fill the void of understanding this relationship by applying a well establish media richness theory.

This research finds that whether it is learning score as an objective measure or learning satisfaction as a subjective measure. The course unit with high uncertainty and equivocality in content needs high richness media representation. On the other hand, it is ineffective to use high richness media to promote learning performance for the course unit with low uncertainty and equivocality that can be stated in regular text. No negative effect is observed in this case mostly because the instructional media both in the low and high richness media are "informationally equivalent". That is, no excess unnecessary multimedia content is presented in the course unit with low uncertainty and equivocality.

The previous study has proven that E-learning can improve students competent and make them become more productive. Moreover, teachers have big expectation in E-learning because the tools would enable students to study independently. However, other research finds that use the richness media is ineffective to promote learning.

Consider the result of research above; this study concern with the implementation of E- learning in the English teaching at SMP Negeri 4 Surabaya. This study is to answer how SMP Negeri 4 Surabaya implements E-learning in English teaching. The methodology, tools and material, and assessment are the areas that the researcher focuses on.