

ICT as a Collaborative Medium for English in High School (IRAN- 2010)

Morteza Khodabandehlou, Shahrokh Jahandar, Gohar Seyedi *, Reza Mousavi Dolat Abadi

Abstract- Is technology (ICT) a collaborative medium for English language learning? This paper attempts to ameliorate the pedagogical status of ICT as integrated to English language teaching and learning and shed light upon its position in language pedagogy by arguing that we have the software, we have the hardware, but we lack the human ware in that many schools now have computers that are being used ineffectively or run the programs that do not actually require pupils to learn effectively. To this purpose, a project is examined in two phases and the results showed quite clearly that there is a link between high computer use and high achievement or value added scores in English language learning. And it is suggested that a real catching up process can only be achieved through acquiring the teachers' ICT skills, subject knowledge, planning activities, confidence, focusing on learning and effective explanation.

Key words- Information Communications Technology (ICT), Collaborative Learning, Computer-Meditated Instruction, Grammar Instruction

Although 'Computer revolution' may seem like a relatively recent phenomenon, computers have been around for a long time. The building of the first programmable computing device, Charles Babbage's difference engine, began in 1823. However, it was not until the late 1970s, when several makes of small computers (microcomputers) were coming onto the domestic market, that the enormous potential of computers began to be appreciated. The 1980s also saw the introduction of the term information technology (IT) into the educational settings. Although IT itself is a broad term, covering all aspects of transmitting or manipulating information using some form of technology, its use in the school context tend to be limited to activities involving the use of computer in lessons. In the 1990s, information technology evolved into information and communications technology (ICT) which reflected the educational policy to the increasing importance of schools' connection to the internet and e-mail as communication technology. The role of computer in education has gradually been transformed from that of tutor to that of tool. This is certainly the case in the field of second or

foreign language teaching in which ICT now has implications not just for the methods used for teaching and learning English but also for the ways in which that learning may be implemented by the teacher to complement their other resources and aid in the communication of concepts and practices to the pupils. Computer

supported learning environments are those in which computers are used to either maintain a learning environment or used to support the student learner in the Vygotskian sense (DeCorte,1990) that Glickman (1991) argues have been ignored or failed to be implemented widely in the past. Additionally, with much of the information on the Internet appearing in English, the web offers an abundance of English language teaching resources. Also, the information available on the Internet is frequently updated and current; making students aware of global issues and concerns (Frizler 1995, p.72).

THE PURPOSE OF THE STUDY

In the current atmosphere of state school's English policies in IRAN, the pedagogical role of ICT as an aid in the communication of concepts and practices in English language teaching is underestimated in that too many schools now have computers that are being used ineffectively, either by running programs that do not actually require pupils to learn effectively or by not using them at all and this is in case that English language is taught in schools as a component of national curriculum for the purpose of equipping pupils with the foundations of Trinidad and Clarkson (2002) declared that during the 1980s, computers became more affordable to schools, permitting a rapid decrease in student-to-computer ratios. While tutorial software continued to be developed (Chambers & Sprecher, 1984), a range of other educational software was developed that was not based on the premise of teacher replacement, for example, simulation software, modeling, and tool software. However, the major argument used to support the introduction of greater amounts of computer hardware into schools concerned the perceived need to increase the level of computer

- Assistant Professor of state research institute of higher education in Rodaki. Tonekabon, Iran. Dr. Morteza.Khodabandehlou@gmail.com
- Assistant Professor of state research institute of higher education in Rodaki. Tonekabon, Iran. ShahrokhJahandar@gmail.com.
- *Correspondent Author. Department of Foreign Language, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran. Seyedig@yahoo.com
- An MA student in TEFL. Mazandaran Science and Research Branch, Rm14aaa41@gmail.com

literacy of students (Downes, Perry, & Sherwood, 1995).

Towards the end of the 1980s and into the 1990s, while the computer literacy rationale still remained (Hannafin & Savenye, 1993; Hussein, 1996), the major rationale for having computers in schools was more concerned with the need to use computers to improve student learning. Broadly speaking, computer literacy is a component of Technology Education, which is distinct from using technologies such as computer systems to support learning and teaching processes. Since the beginning of the 1990s, educators have been particularly concerned that very little of the potential of computers to support learning in schools seems to have been realized, despite a sufficient installed base of computers. Numerous studies (Becker, Ravitz, & Wong, 1999; Plomp & Pelgrum, 1992) have shown that few teachers facilitate student use of computers. One of the reasons often given for this anomaly is that the technology is not sufficiently accessible, particularly if students have to go to a special room to gain access.

Westminster Institute of Education (2000) claims, it is rare that classes or groups have access to one computer or piece of other ICT equipment per pupil. In any case, one of the benefits of ICT is the way in which it stimulates collaborative or co-operative learning; thus small groups or pairs sharing equipment may have positive advantages.

Nutta (1998) also conducted a study that compared post-secondary ESL students' acquisition of selected English structures based on the method of instruction: computer-based instruction versus teacher-directed instruction. The results indicate that computer-based instruction can be an effective method of teaching L2 grammar. The most recent study was that of Torlakovic and Deugo (2004) that support the fact concerning computer-based grammar instruction.

Internet has additionally been found to facilitate the development of language skills. In spite of the abundance of comparative research on computer assisted instruction in other academic fields such as reading (Rachal, 1995; Ganderston, 1997) and the growing body of research on methods of teaching grammar, only recently have researchers investigated the use of computer-based L2 grammar instruction (McEnery, Baker & Wilson, 1995; Nagata, 1996). The results of these studies seem to indicate that computer-based grammar instruction can be as effective as or more effective than traditional instruction (e.g., workbooks and lectures). Ellis (1993) has also suggested that the use of computer based grammar instruction can

complement individualized structural syllabi in communicative classrooms and more effectively enable students to use the newly acquired structures to negotiate meaning.

Similar positive effects were observed in the integrative teaching of reading and writing. In a project called Web-based English language learning, P'Rayan (2003) discovered that there was improvement in his participants' reading and writing skills after they took part in various email exchanges, discussion forums and commenting activities based on the reading materials that were presented on the Internet. There were also studies done on vocabulary acquisition through Internet-based instruction. Many of the studies (eg, Al-Jarf, 2007; Kaur & Hegelheimer, 2005; Smidt & Hegelheimer, 2004; Yaworski & Ibrahim, 2001) showed that students learned vocabulary more effectively when they were involved incidentally or directly in vocabulary tasks and activities in the Internet-based learning environment.

In his project, Higgins (2004) points that the consistent and significant increase in the attainment of pupils in English suggests that where ICT is targeted at specific areas of learning, with a clear rationale for its use from a broad research base it can have a positive effect and it can make a difference to pupil's learning; however these gains do not prove that ICT will raise attainment. However, the impact of ICT use on students is highly dependent on teaching approaches and better skill results when student-centered guidance, group work and inquiry projects are used (Law et al, 2008).

PEDAGOGICAL BENEFITS OF ICT

EFL learners do not need to passively listen to audio tapes alone after class; through the use of the internet and computer-mediated communication (CMC) tools, they can easily participate in more interactions by posting and replying messages on discussion boards, writing and replying emails to their key pals, or joining on-line chat rooms anytime when they feel comfortable or have free time. This new way of learning that engages learners in authentic social interactions (Chamot & O'Malley 1996; Finlayson & Rogers, 2003; Newhouse, Albon & Trinidad, 2002) can greatly expose learners to the TL not only in the classroom but also outside it (Gitsaki and Taylor) and practice what they have learned in the classroom (Blake, 2000; Campbell, 2004, Leh, 1999, Lightbown & Spada, 1999). Students produce a greater quantity of discourse than in an oral classroom (Kern, 1995; Ortega, 1997) and CMC can also lead to more equal participation between students (Warschauer, 1996). "Technology thus becomes an 'environment for

learning', as well as both tutor and tool" (Egbert and Hanson-Smith 1999 quoted in Carter and Nunan 2002, p.108) and not an end of learning in itself (Westminster Institute of Education, 2000). Smeets (2005) points out: "in powerful learning environments, rich contexts and authentic tasks are presented to pupils. Active, autonomous (Warschauer, Turbee & Roberts, 1994) and co-operative learning is stimulated, and the curriculum is adapted to the needs and capabilities of individual pupils".

Based on Tinio (2003)'s study, ICT can enhance the quality of education in several ways: by increasing learner motivation and engagement (The Committee on Developments in the Science of Learning, 2000; Higgins, 2004; Blin, 1999; Lightbown & Spada, 1999; Toyoda, 2001), by facilitating the acquisition of basic skills, and by enhancing teacher training. Marcinkiewicz & Welliver (1993, p. 4) point out: "The integration stage is further characterized by the dimension of a teacher's emergent self-awareness of a role change in teaching from teacher-centered [in its worst form characterized by memorization and rote learning] to learner-centered". Additionally, it leads to more intellectual outcomes in learning. One additional contribution of the computer, according to Lefrancois (1991 p.361), is the unique cognitive processes it fosters. These are characterized by an explicitness, clarity, and rationality as well as problem-solving and learning how to learn orientation.

Pennington (1999, as cited in Chen, 2005) suggests the efficiency of electronic writing tools such as the word processor that enable learners to easily compose and revise texts and check spelling, and grammar from dictionaries and revise anytime they want that can promote learners' confidence in their ability to write better and generate more writing products. Learners who are afraid of embarrassingly making errors in class are more willing to contribute through on-line communications (Pennington, 2004). ICT can thus allow both methods of acceleration and means of enrichment or even extension (Westminster Institute of Education, 2000).

Outcomes/attributes provide the vision of what the learner should achieve that of thinking critically, analyzing information and problem solving. Lefrancois (1991 p.346) cites that applying these principles to classroom practice involves presenting small units of information so as to maximize immediate comprehension and minimize the number of errors students make while learning (Newhouse, Albon & Trinidad, 2002). There is an increasing interest in the use of computer-assisted language instruction because it has several advantages as summarized by a number of researchers (e.g., Hall, 1998; Nagata,

1996, 1998; Nutta, 1998, Taraban, 2004; Torlakovic & Deugo, 2004; Meskil & Mosoop, 2003; Bikowski & Kissler, 2002; Gruba, 2006; Vilmi, 2003; Toyoda & Harrison, 2002; Wang & Beasley, 2002):

- The computer individualizes learning. The learner is not dependent on other members of a class, but can choose the pace at which he or she progresses, control the degree of difficulty (e.g., by leaving out elements which are too easy or too difficult), decide whether and how often to repeat an exercise, and so forth.

- In CALL exercises, the computer can give immediate feedback for each answer and correct their errors from the system.

- Many aspects of work with the computer have an interactive element which is missing in books, tapes, television, and so on.

- Using the computer can save teachers time (Ragan et al., 1993) and work, with routine marking, for example, that can then be used for more creative aspects of language teaching (thus benefiting the learner).

- By using the computer for the presentation, explanation, and application of grammatical structures, more classroom time could be dedicated to real communication that focuses on expressing meaning and using appropriate grammatical structures to express that meaning (AbuSeileek- Ghaleb A. Rabab'ah, 2007).

According to Gitsaki and Taylor, exposure, however, is not enough to trigger language acquisition. Students need to be involved in tasks that integrate the use of computers and enhance language acquisition. Higgins (2004) believes that there is evidence from research that ICT can help pupils to learn and teachers to teach effectively. However there is not a simple message in such evidence that ICT will make a difference simply by being used. Findings suggested that although ICT can improve learning there are a number of different issues that need to be considered if such technology is going to make a difference that will be discussed in detail in next section. Some caution is therefore called for at this broad level of where and how ICT might have an impact. The potential of each technology varies according to how it is used.

PRINCIPLES FOR EFFECTIVE USE OF ICT

Tinio (2003) declares that attempts to enhance and reform education through ICT requires clear and specific objectives, guidelines and time-bound targets, the mobilization of required resources, and the political commitment at all levels to see the initiative through. Some essential elements of planning for ICT are discussed in details below:

For ICT to be effectively adopted into schools, planning is vital. As a part of the planning process, the philosophy, aims, goals and objectives of the school must be used as a guide for the vision, goals and objectives of the technology program (Cole, 1999) with the main focus on the educational needs and skills of the students (Teeler & Gray 2000, p.82). The specification of educational goals at different education and training levels as well as the different modalities of use of ICT that can be best employed in pursuit of these goals. This requires of the policymaker an understanding of the potentials of different ICT when applied in different contexts for different purposes, an awareness of priority individual differences in abilities, need and motivation between students. Some aspects make the Web an exciting tool for teaching, especially the emphasis on constructivism (O'Haver, 1998), problem solving (Boud & Feletti, 1991) during tasks and projects and collaborative learning (Warschauer, 1996), rather than or in addition to direct instruction by the teacher (Hanson-Smith, 2000 as cited in Carter & Nunan, 2002, p.107).

Smeet (2005) claims: "ICT should largely be integrated in ways that support and supplement existing classroom practices". Providing opportunities for work using ICT should not mean isolating this work from other methods of learning (Finlayson & Rogers 2003; Hennessy et al 1995; Osborne & Hennessy, 2003). Learning through ICT is most effective when it is contextualized and related to real problems (Hampel and Hauck 2004; Collins, Brown & Newman, 1989, p. 487), issues and learning being encountered throughout the curriculum. Wherever possible, teachers and classes in all subject departments should have easy access to ICT, ideally within, or very close to, classrooms rather than simply in isolated ICT suites and other 'specialist' settings such as recording studios. AbuSeileek and Rabab'ah (2007) point out that the computer should be used to replicate what they believe ought to occur in the classroom (e.g. Quinn, 1990; Underwood, 1993; Figueredo & Varnhagen, 2006). Many proponents of Computer-Assisted Language Learning (CALL) have advocated the development of communicative computer programs that provide opportunities for meaningful communication (Garrett, 1991; Lavine, 1992; Lambek, 2004; Fukushima, 2006). Although some educators have decried the use of computers as electronic workbooks for drill and practice exercises (Chun & Brandl, 1992; Underwood, 1993), others have advocated their use for tutorials and drills to free up more classroom time for real communication (Gilby, 1996; Hoffman, 1996). With gifted and

talented pupils, Jonassen (2000)'s concept of 'mindtools', in particular, should be valued; he views these types of ICT as 'intellectual partners' (Olson 1985 cited in Lefrancois 1991) that facilitate knowledge construction and reflection by learners' cognition. Able pupils should be challenged to decide for themselves when and whether to use ICT, how, why, and for what purposes; i.e. they should be encouraged to use it selectively and thoughtfully. They should also be given chances to be active critics, if not designers or re-designers, of programs and hardware. Additionally, no ICT should be regarded as a substitute for teachers. Teachers will still need to manage, supervise and where necessary adapt the ICT available to suit pupils' needs, monitor and possibly modify the pace at which it is used, etc. The findings of Underwood et al. (1994) suggest that some ICTs may be suited more to provide reinforcement and/or supplementary and enrichment opportunities for pupils than to replacing, or becoming an alternative to, other classroom learning methods.

It also needs to increase the level of computer literacy of students and one of the first skills students has to acquire, Osborne & Hennessy (2003) found, is successful web-browsing and web search strategies. In order to save valuable time, based on Teeler & Gray (2000, p.37), deciding how to search is at least as important as the search process itself. Students have to learn how to put together their research questions first, how to use effective keywords, how to combine keywords, how to browse through information and select what is the most useful to them. Frizler (1995: 55) also said: "I'm beginning to realize that just putting students on WWW isn't enough. They need focused tasks to help them best utilize the Web. Thus, teachers must create interactive activities which involve WWW."

Consistent with other studies, Laurillard (1995) found that the main factors teachers reported which promoted their use of computers in administrative tasks were: access to computers, colleague assistance, time to practice, ease of use of computers, encouraging school environment, and training to use computers. Barriers he found were: lack of training, limited access to hardware, lack of interest by teachers, fear of failure, lack of knowledge about integrating computers into the curriculum, too many other things to do, and fear of the computers. Hope also believed that significant hurdles to successful implementation were contributed by delayed delivery of computers, staff turn-over, and logistical decisions such as whether to mandate computer use.

Almost all of those who advocate major reforms of schooling, particularly through the use

of computers, have the view that learning needs to be more informed by constructivism (e.g. Clouse & Nelson, 2000). A critical component is the concept of proximal learning, based on the work of Vygotsky (1978), that posits that learning takes place by the learner completing tasks for which support (scaffolding) is initially required. This support may include a tutor, peer or a technology such as the applications of computers.

Ala-Mutka, Punie and Redecker (2008) point out that ICT and social computing can improve the effectiveness of learning and the learning outcomes, but results depend on the approaches used. Establishing and participating in teacher networks and following innovative practice development of the field should become part of teacher training. Networking between institutions can enrich the curricula provided for students and transfer subject-related knowledge between practitioners.

As a final contribution of ICT, Teeler & Gray (2000, p.82) point out, teachers need to decide how much of the course should be centered on it and when you will need to bring in other teaching tools. Entirely replacing your coursebook with the computer/Internet is clearly not appropriate in all situations. The course book should be an integral part of your syllabus and assessment scheme. Despite their beneficial effects, according to Lefrancois (1991 p.352), computers also have deficiencies in comparison to books that they do not understand ambiguous statements; they are not programmed to guess or to "read between the lines". Instead, they respond logically and rationally. As a result, to be intelligent in the computer society requires learning how to be completely explicit, context-free, repeatable, logical and rational (Calfee, 1985).

METHOD

SUBJECTS

Subjects were 600 freshmen high school students- children under 18- and 30 English teachers. 50 students were selected randomly from among those who enrolled in Remedial Grammar course during the second semester of the academic year. This study was conducted in 30 public high schools of Chalous and Noshahr, Iran.

MATERIAL

CAGI (Computer-Assisted Grammar Instruction) Model Software

The researchers of the present study designed software for teaching grammar using PowerPoint program (see Appendix 1). The program was designed to enhance the student's progress, and

to provide detailed grammatical feedback to learners' errors. The computer-based instructional software provided the students with help about how to use the program (?), applications about the rules, formative evaluation with questions hyperlinked to model answers, more information (!) which provides feedback such as enrichment activities, post-test, and useful links that included links related websites (such as: Dave's ESL Cafe, Grammar Safari, EnglishClub, ...), related research and projects done by students, and model assignments. In the computer-based grammar instruction, the instructor used Net-support-School to display his screen to students' workstations, send them the tasks they should do, and receive their assignments. The material is authentic, practices in context and the activities are communicative and task-based. The material aimed to train students on basic sentence structures with gradation moving from the simple to the complex. Emphasis was also laid on the extensive use of exercises and sentences. However, this study was restricted to seven verb tenses: simple present, simple past, present perfect, present continuous, past perfect, past continuous and simple future. Students can receive computer-based instruction outside the classroom as well. Communication with course instructor is more efficient way and questions can be handled anywhere and anytime more swiftly. Contact between classmates becomes feasible, making group tasks and project work some real options.

The researchers designed the material and tailored it to suit the learners' need and objective of course. The training material was presented according to the structure-guessing deductive approach in which the rules were preceded by clarifying examples, exercises and a test. The students were then required to elicit the grammatical rules before they had access to the answer. The first step in analysis consists of recognizing the words and identifying the structure of the sentence. The grading program is given two inputs, a description of the expected response and the sentences actually constructed by the student. Using its built-in knowledge of grammar, the program analyzes the student sentences for conformity with both the expected response and the applicable rules of English grammar and produces a comprehensive diagnostic report.

After that the rules related to the form (e.g: affirmative and negative sentences, yes/no and WH question form as well as passive and contractions) are presented, then their different uses are represented followed by clarifying examples, exercises, a test and maybe a real-life task. The exercises and tests were followed by

feedback about the students' answers. Each verb tense is presented separately; however, the exercises and quizzes or tests were mixed. For example, two verb tenses were included in the exercises or quizzes, and more than two tenses were included in the tests. For every exercise, the one is done as an example and it is designed to increase the difficulty of subsequent questions.

Presentation of the verb tenses included real-life situations, such as dialogues and telephone conversations. There are different types of exercises and practice such as fill-in-the-blank, click the correct answer, match sentence and tense and multiple-choice questions for further practice. Illustrative pictures were added to make the context clear. The program also comprises some grammar questions at the end for students such as "what's the difference between 'will' and 'be going to' to express a future intention?" to promote discovery learning.

The questionnaire (Appendix 2) was in two versions- for pupils containing 13 and for teachers containing 9 yes/no questions- and then they were interviewed to obtain a more detailed description of their attitude, motivation and patterns of ICT use. The ICT usage questionnaire implemented contains items assessing access to computer and Internet at home and in school; items focusing on the extent and character of computer usage; and items examining the subject's computer literacy. In order to avoid confusion and misunderstanding for the students the questionnaire was translated into learners' native language.

PROCEDURE THE POSTCARD PUPIL/TEACHER SURVEY OF COMPUTER USE

During the spring 2007, the postcards were administered by the head of ICMEHS (ICT as a Collaborative Medium for English in High School) project to all 30 high schools of Chalous and Noshahr in year 1, year 2, and year 3. The purpose of administering the postcards was to estimate how often pupils used computer in year 1, year 2, and year 3, the extent to which the teachers were supportive to students to use ICT and its impact on students' success. Insights into students and teachers' experience with computer-based instruction emerged from the interviews. The Grammar Remedial course aimed to train students in basic sentence structure using CAGI Model during their three years of study in high school. The main components of the course include parts of speech, phrases, tenses, types of sentences (including simple, compound and complex), various types of modifiers, as well as linking words. Over the three year period of education all the teachers underwent an in-

service training to use computer in classes. The results in percentages are given in table 1 and graphically in figure 1:

RESULT

Table 1. Reported Pupils' Computer Use Percentage

Year/ Group	Reported Pupils Computer Use						Total %
	Less than once a month	About once a month	About once a fortnight	Every week	Every day	More than once a day	
Year 1	4	10	23	40	5	3	
Year 2	2	8	20	45	7	5	
Year 3	4	6	13	48	10	6	

Table1, covering a 3-year period, shows the pupil's computer use percentages. The most common response for all three year groups was that pupils use computers once a week. The average number of hours per week students spend using the computer is about 7 hours, or about one hour a day. Most of this time (about 5 hours a week) was spent at home. Most other responses were split between 'every day' and 'about once a fortnight' with very small numbers reporting use as common as 'more than once a day' or 'less than once a month'.

The data collected presented that the most frequent uses of ICT are for playing computer games (about 84% of the students) and word processing (about 60%). Graphic processing, information retrieval and Internet usage comprised the next-frequent group of uses (about 58-72% of the students). Use of database and spreadsheet software, audio/video processing or programming was rather infrequent (about 30-40% of the students). Information gathering, communication, creation an Internet site, distance learning, downloading resources and school work comprised about 14% and only 10% of the Internet users indicated that the Internet is regularly accessible from school. The data suggests that about 90% of the students see themselves as ICT knowledgeable to some extent. Still about one tenth of them are computer-illiterate, and do not use computers at all. About 92% of the students have computers at home, half of them connected to the Internet. The majority of the students indicated that they prefer to use computers at home or in other settings. Based on data derived from the questionnaires, the computers are used in groups of 3 or 4, but most of them, especially more competent ones, prefer to have one computer per student. Due to the fact that computers are in computer lab, they can't use them every session and go to computer lab once a week to do more language exercises or listen to CDs for about 30-34 minutes. And only 8% of

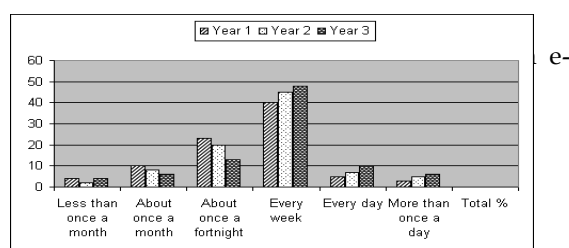


Figure1. Reported Pupils' Computer Use

In general, as presented in Figure 1, Year 1 pupils broadly reported the same frequency of use of about 4% as in Year 3, but in Year 2 the number reduced as half for 'less than once a month'. For 'about once a month' and 'about once a fortnight' the frequency has decreased slightly in Year 1 and Year 3. For 'every week', 'every day' and 'more than once a day', the frequency of use have increased modestly over these 3 years. So, in general, as it can be seen, the students are more likely to use computer 'every week'.

Table 2: Reported Teachers' Computer Use Percentage

Year/ Group	Most Teachers Used Computers						Total %
	Less than Once a month	About Once a month	About Once a fortnight	Every week	Every day	More Than once A day	
Year 1	2	6	20	39	3	2	
Year 2	1	8	18	41	4	4	
Year 3	3	6	23	41	7	6	

Table 2 gives teacher's computer use over a three-year period. The results indicate a qualitative improvement in the use of this valuable tool for information retrieval, teaching, and idea exchange, to find lesson plans, quizzes and other related activities. We have gone from only 22% of those polled having tried the web in 2007 to 72% of those polled being regular users this year. All three year groups mostly used computers every week. The average number of hours per week teachers spend using the computer is about 4-5 hours, mostly at home. Based on the data, only 5% of teachers are aware of helpful software and sites and introduce them to the students. All of the schools had in-service teacher training courses in computer use twice a week, 2 hours every session for about 2 months. Thus, about 86% of them are competent to use computer and nearly 92% believe that using ICT in language classes are efficient and students are highly motivated.

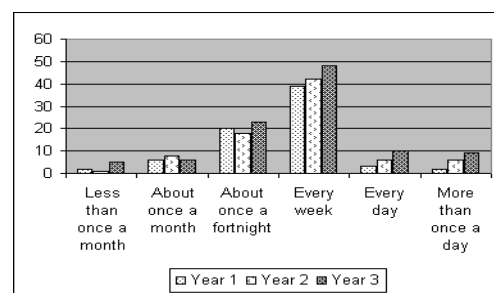


Figure2. Reported Teachers' Computer Use

Figure 2 reports teacher's computer use in three subsequent years. As depicted in the figure, the changes from Year 1 to Year 3 in 'less than once a month' category are broadly similar. In Year 1 and 3 the 'about once a month' category accounted 6% against only 8% in Year 2. In both years, from Year 2 to 3 for 'about once a fortnight' the frequency of ICT use increases modestly from 20% to 23%, while the figure dropping slowly in Year 2 to about 18%. The percentage of ICT use allocated to each of categories in 'every week', 'every day' and 'more than once a day' over three years rose gradually at the same rate.

To sum up, it can be concluded that the more the students were familiar with computer and used it for their learning purposes, the better scores they get in their grammar course and teachers' adequate computer literacy led to student's success in the subject.

DISCUSSION

The study showed that students in the computer-based group made greater gains and provides evidence in support of the effectiveness of computer-based method in teaching grammar. This finding is consistent with Nutta's study (1998) which showed significant differences in favor of the computer-based grammar instruction. Moreover, as it has been documented in the literature, the use of computer in language teaching has more advantages over the traditional teaching (i.e., chalk and talk). Our goal was to describe the benefits and principles in which teachers should utilize ICT effectively in their classroom practices to mediate student's learning experiences. In the present study, we observed that the center of gravity of this cultural and social process is not in the school, but in out-of-school settings, mainly the home and the most frequent use of ICT by students is to play computer games. Among all possible factors affecting the youngsters' use of ICT, the most

significant was accessibility from home. One possible explanation for this finding could rely on the gap between the (limited) technological capability and support which most schools and teachers offer, and the complex demands of work with the new communication technologies (i.e., hardware, software, knowledge, skills). ICT/Internet culture is generally perceived as overly democratic, open-ended, non-structured, and highly individualized, with no commitment to social equity.

From our observations, we believe that successful integration of ICT requires fundamental shifts in the core activities of schools. These shifts include new teaching. We observed classrooms and conducted interviews with teachers and students. By and large, students were satisfied with the computer-based instruction and expressed a desire to spend more time per day using it. It is also found that students spent more time (7 hours a week) using ICT rather than their teachers (4-5 hours a week), so they are more knowledgeable and competent. Due to this fact teachers have fear of failure in using computer and internet. We have found the internet to be the preferred option over books, library resources, video or TV, for class-based seminar presentations, and also for some kinds of essay. Students like using the Internet, mainly for the gathering of information.

One of the most critical problems in trying to assess the effectiveness of computers and the internet as transformational tools is that standardized tests cannot capture the kinds of benefits that are expected to be gained in a learner-centered environment. Moreover, since technology use is fully integrated into the larger learning system, it is very difficult to isolate the technology variable and determine whether any observed gains are due to technology use or to some other factor or combination of factors.

CONCLUSION

The purpose of this study was to characterize high school students' use of ICT, regarding their accessibility to computers and Internet, time spent on ICT-based activities, kinds of activities, and efficient factors affecting ICT use by the students. ICT contributes to learners' personal and social education by providing opportunities to work in contexts that allow learners to make decisions based on the values that underpin society, helping them become active and informed global citizens. The findings of this study also supported the effectiveness of ICT in teaching grammar in which the students who were familiar with computer and used it for their learning purposes get better scores in their

grammar course and teachers' adequate computer literacy led to student's success in the subject.

ICT is important because its use is widespread in the modern technological world and likely to grow and it is an important medium for learning and study at all educational levels. Consequently the use of computers has become very much more attractive but never can it be as a replacement for teachers or course books.

IMPLICATIONS AND FURTHER RESEARCH

This study is an implication for teachers, headteachers and governing bodies of maintained schools; local education authorities; initial teacher training providers; teacher unions and school representative bodies; national bodies with an interest in education. The huge ranges of materials that it offers make it particularly suitable for:

- EAP courses that demand detailed research and note-taking
- ESP courses that focus on specialized information and lexis

Collaborative project-based courses that need fast, dependable international communications

After-school courses whose objective is to supply a fun, enjoyable environment for younger learners to practice what they have learned

Emergence of electronic networks might extend this phenomenon and lead to changes in the role and character of the school. A necessary conclusion is that new research channels should be opened to study:

- that pays attention to the emotional aspects of learning in ICT-based environments, like the extent to which social and learning skills, self-managing skills, and other metacognitive capabilities are developed.
- in emerging new competencies, skills and meta-skills of teachers, tutors and other academic staff (as well as managers) for e-learning.
- people's information seeking strategies in ICT-based learning situations and its relation to the building of knowledge.
- at the strategic level, there should be longitudinal studies to investigate the sustainability and scalability of the recently introduced learning innovations, like the learning effects arising from learning with ICT (such as learning in new scenarios combining face-to-face and virtual learning), changing habits of study, new assessment components, long-term teaching effects, and promotion of the notion of "classroom observatory" type of activities.

Moreover, additional research is needed to ascertain which features of computer-based instruction programs promote the acquisition of

L2 structures (e.g., degree of learner control, feedback strategies, etc.). As the body of knowledge on the application of computer-based instruction increases, so will the flexibility and number of options available to teachers and students.

ACKNOWLEDGEMENT

We would like to thank all of our colleagues in high schools of Chalous and Noshahr, Iran have participated and helped to administer questionnaires from learners for the study. Additionally, many thanks are due to the students who participated in the experiment and research assistants who assisted with data collection and analysis.

REFERENCES

- [1] Abu Naba'h, A., J. Hussain, A., Al-Omari, and Shdeifat. (2009). The effect of computer
- [2] assisted language learning in teaching English grammar on the achievement of
- [3] secondary students in Jordan. The International Arab Journal of Information
- [4] Technology, 6(4), pp. 431-8.
- [5] Abu Seileek, Ali F., G. A. Rabab'ah. (2007). The effect of computer-based grammar
- [6] instruction on the acquisition of verb tenses in an EFL context University of
- [7] Jordan, Jordan. The JALT CALL Journal, 3(1-2), pp. 59-80.
- [8] Ala-Mutka, K., Y. Punie and C. Redecker. (2008). ICT for learning, innovation and
- [9] creativity: Policy brief. European Commission: Joint Research Centre,
- [10] Institute for Prospective Technological Studies. Spain. Available at: <http://ipts.jrc.ec.europa.eu/> and <http://www.jrc.ec.europa.eu>
- [11] Carter, R. and D. Nunan (ed). (2002). Teaching English to speakers of other languages. UK: Cambridge University Press.
- [12] Chen Yu Hua. (2005). Computer mediated communication: The use of CMC to develop
- [13] EFL learners' communicative competence. Asian EFL Journal, 7(1).
- [14] Daiute, Colette. (1985). Using microcomputers in elementary language arts instruction. ERIC Digest.
- [15] Doughty, Catherine J. and Michael H. Long. (2003). Psycholinguistic environments for
- [16] distance foreign language learning. Language Learning & Technology, 7(3), pp. 50- 80. Available at <http://llt.msu.edu/vol7num3/doughty/>
- [17] European Commission. (2009-10). Information and communications technologies (ICT). version 08-10-08.
- [18] Gillespie J. and J. McKee. (1999). Resistance to CALL: degrees of student reluctance to use
- [19] CALL and ICT. ReCALL Journal, Special Issue. 11(1), pp. 38-46. Available only via
- [20] the EUROCALL website at <http://www.hull.ac.uk/cti/eurocall.html>
- [21] Gitsaki C. and R. P. Taylor. (1999). Internet-based activities for the ESL classroom. ReCALL
- [22] Journal, Special Issue, 11(1), pp. 47-57. Available only via the EUROCALL website at
- [23] <http://www.hull.ac.uk/cti/eurocall.html>
- [24] Hampel, Regine and Mirjam Hauck. (2004). Towards an effective use of audio
- [25] conferencing in distance language courses. The Open University, United Kingdom.
- [26] Language Learning & Technology, 8(1), pp. 66-82. Available at
- [27] <http://llt.msu.edu/vol8num1/hampel/>
- [28] Higgins, Steve. Does ICT improve learning and teaching in schools?. Newcastle University.
- [29] Imel, Susan. (1991). Collaborative learning in adult education. ERIC Digest, No. 113.
- [30] Lefrancois, G. R. (1991). Psychology for teachers (Seventh Edition). USA: Wasworth.
- [31] Mohamad, Faizah. Internet-based grammar instruction in the ESL classroom. MARA
- [32] University of Technology, Malaysia. International Journal of Pedagogies and Learning, PP: 34-48.
- [33] Newhouse, C. Paul, Ph.D., Dr. S. Trinidad, Dr. B. Clarkson. (2002). Quality pedagogy and
- [34] effective learning with information and communications technologies (ICT): a
- [35] review of the literature. Published by Specialist Educational Services: Perth, Western Australia.
- [36] Nutta, Joyce. Is computer-based grammar instruction as effective as teacher directed
- [37] grammar instruction for teaching L2 structures?. University of South Florida.
- [38] CALICO Journal, 16(1), pp. 49-62.
- [39] Osborne, J. and S. Hennessy. Literature review in science education and the role of ICT:
- [40] Promise, problems and future direction. FutureLab Series.
- [41] Smeets Ed . (2005). Does ICT contribute to powerful learning environments in primary
- [42] education?. Computers & Education, pp. 343-55. Available on-line at www.sciencedirect.com
- [43] www.sciencedirect.com
- [44] Teeler, Dede and Peta Gray. (2000). Using the internet in ELT: how to. England: Pearson Education.
- [45] Tinio, Victoria L. ICT in education. Available at <http://www.eprimers.org> and
- [46] <http://www.apdip.net>
- [47] Westminster Institute of Education. (2000). The use of ICT with gifted and talented pupils. Oxford Brooks University.
- [48] _____. (2000-2003). Information and communications technology (K-12): Rationale and philosophy. Alberta Learning, Alberta, Canada.

APPENDIX: QUESTIONNAIRE (VERSION 1)

FOR PUPILS

- 1- Are there computers in your school?
Yes/No
- 2- Are the computers in
 - a. the computer lab?
Yes/No
 - b. your classroom?
Yes/No
- 3- Does the school have internet access?
Yes/No
- 4- Are you competent in using computer?
Yes/No
- 5- Do you spend much time to use computer in school? Yes/No
If so, specify how much? -----
- 6- Do you use computer
 - a. individually?
Yes/No
 - b. in small groups?
Yes/No
- 7- Do you use computer in school every session?
Yes/No
If not, specify how often? -----
- 8- Do several classes share one computer per classroom? Yes/No
- 8- Are computers meant to be used in all areas of language? Yes/No
If not, specify? -----
- 9- Do you contact with your teacher/ peers through e-mail? Yes/No

- 10- Is your teacher helpful to find good websites?
Yes/No
- 11- Do you use computer to do your homework?
Yes/No
- 12- Do you have computer/ internet access at home? Yes/No
- 13- Do you spend much time to use computer at home? Yes/No

QUESTIONNAIRE (VERSION 2)

FOR TEACHERS

- 1- Do you have computer/ internet access at home? Yes/No
- 2- Do you spend much time to use computer at home? Yes/No
If so, how much? -----
- 3- Do you introduce helpful software and sites in your class? Yes/No
- 4- Do you use computer in all areas of language?
Yes/No
If not, specify? -----
- 5- Are you competent to use computer?
Yes/No
- 6- Do you contact with your students through e-mail? Yes/No
- 7- Is the use of ICT efficient in students' achievement? Yes/No
- 8- Do the schools have in-service teacher training in computer use? Yes/No
- 9- Do you use computer to prepare lessons?
Yes/No

