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Foreword

It is indeed timely for the Arab World English Journal (AWEJ) to dedicate a 2nd special edition to Computer-Assisted Language Learning (CALL) in July 2015.As guest editor it is my pleasure to present the Arab World English Journal 2nd special edition that is wholly devoted to CALL. The use of computers in language learning has come a long way. Technology has expanded its scope to the multifaceted domains of second language learning, requiring new knowledge and skills for those who wish to assimilate it into their professional practice or understand its impact on the language teacher and learner (Hubbard, 2009). However, the technological changes are so rapid that CALL knowledge and skills must be constantly revisited to stay abreast of the field.
Computer-Assisted Language Learning is recognized as an approach to language learning and teaching involving the active use of computers and technology. Levy (1997:1) defines CALL briefly as "the search for and study of applications of the computer in language teaching and learning". Levy's definition is upheld by the vast majority of CALL practitioners. Chapelle (2001) linked the design and evaluation of CALL tasks to a set of principles derived primarily from the research base of the interactionist perspective of second language acquisition (SLA). Recent techniques in CALL reinforce more learner-centred, explorative approaches rather than traditional teacher-centred approaches. These include the rapidly growing field of online learning, computer-based assessment, teacher and learner training, and a number of emerging areas such as mobile language learning and virtual worlds. A key focus of CALL is to raise awareness of its models for language learning development. The systematic studies and understanding of the growing learning concepts can be valuable to both language learning and teaching development.

The collection of papers and research reports in the 2nd special edition covers a wide range of topics: such as the importance of cohesion in producing interactive and meaningful discourse in online discussion forums, the role of online tutorials designed for improving language proficiency in writing essays, taking advantage of the proliferation of texts or corpus in electronic forms for language teaching and learning purposes, using a combination of e-learning and face-to-face learning (or blended learning) to design and pilot-test training programs for medical education in English , using bibliographic research software programs in post graduate English courses for using online databases and indexes, using technology and learning resources in translation programs, using ICT tools, and the concept of using ICT in English Language Teaching, and using Digital literacy measurement tools for English-language users of the Web for the creation of interventions designed to overcome difference in digital skill levels. Each of the papers demonstrates the application of CALL in various pedagogical approaches and contexts of learning.

In the paper on the analysis of cohesive links and content, interactional quality and objective measures based on the conceptual framework of Nandi, the author underscores the analysis of cohesive links based on the discourse analysis technique and the discussions analysis based on content, and interactional quality based on the framework of Nandi (2009). The results of the analysis revealed that the discussions which are long and deep have more usage of cohesive links than surface discussions or replies.

The paper on the use of online tutorials for advancing English writing skills explores an online tutorial package specially designed for advanced level students to improve their proficiency in writing essays and investigates to what extent the technology-based online tutorial assist the tutors and the students in the teaching and learning process.

The paper on the availability and use of technology and learning resources in translation programs explored the availability and use of technology and learning resources in translation programs at Saudi universities. The data analysis shows that most participating students perceived there was a lack of translation labs, machine translations, translation software, print media, and audio and visual materials in general in universities. In addition, the findings showed a deficit in the utilization and adaption of technology and learning resources in translation programs.

The paper on the application of information and communication technology tools for English Language teaching in the context of Oman investigated facilitating the teaching and learning of listening, speaking, reading and writing skills. The article summarizes some of the merits and the demerits of the use of ICT tools, and the concept of using ICT in ELT based on the researcher's review of recent studies and highlight findings on the effectiveness of the application of ICT tools on EFL (English as Foreign Language) writing performance of Omani EFL learners.

The paper on how learner corpora can be used in paperless classroom to promote ESL learners' vocabulary skills looks at learner corpora and introduces methods for Malaysian English teachers to compile their students' essays and utilize the corpus. The error analysis technique is used to identify students' language errors and detect low frequency words and then generate lists for redrafting their essays.

The paper on testing web-based digital literacy assessment tools with Arabic speaking internet users focuses on digital literacy for using web resources effectively. The paper reports on observations of native Arabic speaker's web searches, their Internet knowledge and their self-reported digital skill level. A quantitative regression analysis revealed that Internet knowledge is the best predictor of successful searches, although self-reported skill predicts search success. Implications for governments planning ICT development are further discussed in the paper.

The paper on the development and pilot testing of a blended learning program for medical education in English, reports on the design and pilot-testing of a training program. While the data showed that the program may be a useful starting point for future studies toward developing a revised program; the study commented that additional research would be necessary to determine the most effective type of training.

The paper on bibliographic research and data organization reports on a study conducted to investigate creating a bibliography efficiently and easily with a software package Zotero that also assist in the creation of personal databases. The paper concludes that there is an urgent needs to plan for technological tools in Algerian universities, and that presently students and teachers lack information literacy and readiness to use technology in classrooms.

Finally the paper on the educational gains derived through the use of mobile phone utilization in English Language Teaching (ELT) and the Second Language Acquisition (SLA) theory behind effective instructional use of such technology, discusses impediments to learning while using mobile devices and methods of engaging students at pedagogical levels. The paper further explores how mobiles can be employed as language learning platforms, and presents results in support of the foundation of a multi-regional synopsis of mobile phone use in ELT. The paper highlights in particular the considerations necessary for effective future implementation of mobile learning technologies in Afro-Asian contexts, and points to areas for further research.

I am positive that this special 2nd edition of AWEJ on CALL will provide encouragement to the empirical base for CALL, and contribute meaningfully to a better understanding of current technology and computer based approaches in language learning and teaching, as well as enhance ways of working across institutions and regions leading to a community of practice.

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Mobile ELT: East and South of the Red Sea

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Abstract
An exploration of the educational value behind mobile, or cellular, phone utilization in English Language Teaching (ELT), and the Second Language Acquisition (SLA) theory behind effective instructional use of such technology is presented. A number of hindrances associated with learning using these devices are uncovered, as are methods of engaging students at the pedagogical level. This establishes a grounded means of employing mobiles as a language learning platform, and results in support for the foundation of a multi-regional synopsis of mobile phone use in ELT. Several pedagogically significant points regarding the employment of mobile devices with learners across eastern Asia, India, the Middle East, and Africa then emerge in analysis. In particular, the considerations necessary for effective future implementation of mobile learning technologies in Afro-Asian contexts. What ultimately arises is the notion that although the concept of m-learning is still largely embryonic it is becoming increasingly embraced, as mobiles are viewed as an enabling technology that can deliver essential learning opportunities. The article closes by outlining several significant areas of pertinence to next-step research.
Keywords: digital pedagogy, ELT, m-learning, mobile phones, SLA

Introduction

Portable pocket-sized connected devices are ubiquitous, and their use now 'normalized' (Bax, 2003; Anzai, 2009) with the number of mobile or cellular phones, hereafter mobile(s), in northeast Asia seeing South Korea stand at 97.2% of the population (Wireless Federation, 2009b); 62.5% of the population in China (MIITPRC, 2010); and 84.1% of the population in Japan (Wireless Federation, 2009a). In India 56.6% of the population use mobiles (TRAI, 2010), with regional penetration crossing the 50% mark during 2006 in the Middle East (Blain, 2007), and while mobile penetration in South Africa is on par with countries like those of northeast Asia, at 73% (Kaiser Family Foundation & SABC, 2007), Africa overall is at 33% (Vosloo, 2009). Employed well, these devices can allow for the development of truly anywhere, anytime, convenient, connected, collaborative, engaging, flexible, interactive learning content provision that supports immediate sharing and instant feedback in educational environments.

However, before mobiles for language learning are implemented successfully and meaningfully, it is crucial that issues pertaining to the value of engaging such technology be explored (Kim & Chung, 2006). Questions arise, such as, how are mobiles typically employed in classrooms for English language teaching (ELT), and how does this fit with second language acquisition (SLA) theory? What are the hindrances involved with utilizing this technology for learning, and what are the strategic uses for employing mobiles in English as a foreign/second language education? What mobile-based learning contexts are present in Eastern Asia, India, the Middle East, and Africa? What mobile learning (m-learning) initiatives or activities have been undertaken in the ELT sector in these regions as found in the literature? Responding to these questions will come to see this article represent the first multi-regional review and analysis of mobile phone-based learning in the EFL context. Global key points emerging from regional initiatives, along with the important aspects of the future of teaching and learning with mobiles in ELT, will then be presented. A number of concerns impacting the process of next-step research can then be explored.

Background

It has long been recognized that it is not technology or devices themselves that lead to learning, but the pedagogy and design methodology behind use and implementation (O'Hagan, 1999). The educational use of technology from passive retrieval of information has recently shifted to that of expecting learners to actively access information and engage with learning content from digital contexts by increasingly participatory, interactive and collaborative means (Brown & Adler, 2008). The emergence of resulting digital literacy skills, the greater access to information available today, and the ability to engage in life-long, time-independent learning with portable devices now sees mobile technology emerge as suitable for distributing learning content while supporting flexible, collaboratively engaging, socially interactive, and constructivist learning (Sing, 2007).

A vast amount of learning content can be accessed efficiently anywhere, anytime, from mobiles via Digital Media Broadcasts (DMBs) through to educational applications and internet-based material, with the content accessed being both authentic and up-to-date. Abundant means of communication are embedded within these devices, along with the potential of peer-to-peer device communication through Bluetooth and wireless network infrastructure. The provision of content via mobiles also goes beyond simple information delivery, allowing for an unprecedented amount of on-the-go connectivity and interactivity, which can be student-centered and allows for the constant creation of individualized learning networks consisting of links to

resources and access to applications (Kim & Chung, 2006), as well as a continuous access to established electronic spaces for communicating with others of similar needs and interests (Ferdig, 2007). The technology therefore supports delivery of a digital study environment controlled and continuously constructed by learners, with portable learning going beyond e-learning by providing exceptional flexibility in terms of mobility and wireless access to content (Traxler, 2009). This flexibility also extends to utilizing mobiles as portable learning platforms in contexts spanning from tribal villages, desert plains, rice fields and isolated rural areas through to the dense urban confines of overcrowded megacities. Mobils can therefore be viewed as an enabling technology with the potential to provide access to educational opportunities and lifelong learning to all, while simultaneously providing a means to leapfrog the need for wired infrastructure, securing means of bridging the digital divide for much of the world's populace, and potentially providing equitable access to learning. However, the potential for m-learning device adoption will vary amongst individual learning communities. Ultimately, issues regarding the practicalities and realities of utilizing mobiles in such contexts must be uncovered so that this technology can be used in a pedagogically sound manner for ELT.

Main Discussion

Mobile use and SLA pedagogy.

A wide variety of pedagogy is supported through use of mobiles employed as language learning platforms, from behaviorist through to communicative and constructivist approaches. As Joseph & Uther (2009) discuss, behaviorist approaches generally treat learning as a mechanistic, repetitive process. Alternatively, constructivist approaches underscore scaffolding, learner autonomy, and collaboration which promotes socialization. The key to language learning is socialization, and in m-learning contexts so too is noticing (Kukulska-Hulme & Bull, 2009), comprehensible input (Nah, White, & Sussex, 2008), and the promotion of learner autonomy (Peng, Su, Chou, & Tsai, 2009).

If used to support noticing, Kukulska-Hulme & Bull (2009) illustrate that mobiles can encourage development of "explicit awareness of target language features" that could, in a process of adaptive learning, "be used as a basis to prompt further noticing (e.g. by suggesting to learners what they should look out for next, given the current state of their knowledge)" (p. 14). This leads to a need for systems to be built on learner modeling, that

> lead students to notice the mismatch between certain features of their interlanguage and the corresponding target language norms ... [where] highlighting is used to raise learner awareness of the target forms ... to prompt the learner to 'notice the gap' between their output and the target forms (p. 14).

Meanwhile, Nah et al (2008) argue that comprehensible input can be provided through mobile phone use by presenting

> opportunities for negotiation of meaning, by allowing language learners to interact with language learning software containing pre-programmed responses, and with real persons such as language teachers, peers and

> language experts. These features can also help the learners produce comprehensible output by writing, selecting or oral reporting based on what they have learned. They are able to respond directly ... at anytime, anywhere, especially in self-access and self-selected situations outside the normal classroom (p. 334).

Learner autonomy becomes a lynchpin for success as language learners can work both independently and collaboratively. In mobile learning environments,

> collaborative learning can be provided through encouragement, support and guidance from peers and teachers using synchronous and asynchronous communication tools including SMS, mobile email, mobile discussion boards, and mobile messengers. Student-centered learning can also be achieved by these communication tools ... (p. 334).

Learner autonomy itself is then encouraged by providing activities to help students construct knowledge and regulate their own learning, and by establishing an environment where students can begin to determine what resources are most enabling in the learning process (Peng et al, 2009). Stead (2006) sees the potential for learners to be empowered by becoming increasingly communicative participants rather than passive consumers of knowledge. For students in traditional learning environments, mobiles can act as personal gateways to activities and resources located outside the classroom, and students in non-traditional settings can reciprocate by using their mobiles to take educational opportunities found inside the classroom into the community and into remote locales.

Mobile use in the ELT classroom.

Mobiles have been used in a myriad of ways to provide ELT to learners in classrooms around the globe, supporting asynchronous and synchronous communication, assisting students in obtaining real-time help with homework tasks, and providing a multitude of means to disseminate, exchange, and submit learning content (Armatas, Holt, & Rice, 2005; Najmi & Lee, 2009). Further, podcasts have been used in conjunction with MP3 players and MP3-capable mobiles to enhance EFL students' listening abilities, and to present models for speech writing, oral communication, and conversation analysis (Anzai, 2009), with students showing increased motivation and improving fluency skills when hearing what they sound like when reading aloud (Shuler, 2009). In addition, SMS has been used to provide grammar lessons (Chuang, 2008) and vocabulary lists (Lu, 2008) with instant feedback to reinforce material and guide self-paced learners accessing content at convenient times. SMS has also been used to provide quizzes related to the MMS (multimedia messaging service) provision of content (Saran, Cagiltay, & Seferoglu, 2008), while GPS functions provide augmented reality lessons and context-based language learning (Liu, Tan, & Chu, 2010). So too, as Shuler (2009) along with Goh and Kinshuk (2006) highlight, vocabulary learning projects supporting indoor and outdoor learning activities have been developed, along with the provision of mobiles loaded with instructional English games and vocabulary to complement school curriculums, augment out-of-school educational opportunities, and increase digital equity. Mobiles have also been applied to help students learn vocabulary through captions and picture-based game formats as well as providing multiple-choice quiz formats to assist in TOEIC preparation (Kimura, Obari, & Handa, 2009). So

too, as Najmi & Lee (2009) and Yuen & Wang (2004) declare, mobile device allow for live tutoring opportunities, quiz taking, and phrase translation.

Hindrances to mobile use in the classroom.

While there are hindrances to the use of mobiles for educational content delivery, largely inherent to the mobility and flexibility associated with the form factor itself (Fetaji, 2008; Trifonova & Ronchetti, 2003), factors such as limited screen real estate can ensure that content is provided in such a way that it actually reduces cognitive load, with limited input modes necessitating a more focused delivery of content. Increasingly available access to wifi hotspots and wireless transfer of data will ensure concise information transfer and smaller data footprints. School students are generally aware of the strengths and weaknesses of various technologies (Conole, de Laat, Dillon, & Darby, 2006). There have always been problems such as battery life of calculators and the recharging of notebooks, but there are more pertinent issues associated with the use of electronic devices in classroom and learning contexts (Shuler, 2009).

The socioeconomic background of students is one such issue, and it is particularly evident when mobile phone based content necessitates access to paid wifi or cellular networks with the required download of large educational applications. Also, increased frequency in sending and receiving SMS and MMS for learning can impinge upon any data usage caps tied to cell phone plans (Wang, 2008), which may be beyond the means of impoverished families, or render student mobiles unusable until the cap is reset in the next billing period. With m-learning, some students will at times forget their mobiles, some parents may not allow ownership until certain ages or take them away as punishment, or the device may simply be unaffordable. The implementation of any technology by teachers can also prove time consuming, require constant monitoring and increased training, and at times prove disruptive. Learning approaches must accommodate these various in- and out-of class hindrances before any real chance of success can stem from learning with these devices (Shuller, 2009).

A synopsis of mobile use in ELT from eastern Asia, India, the Middle East, and Africa.

Eastern Asia.

Developments in eastern Asia indicate that it is set to become the world leader of mobile provided education (Motlik, 2008; Valk, Rashid, & Elder, 2010). The rise of m-learning in the region stems from the fact that mobile diffusion rates are relatively high in northeast Asia, and appreciable in southeast Asia, with mobile penetration across eastern Asia standing at over 700 million units (Wijayanto, 2006). What emerges, particularly for English language teaching, is a clear difference between nations in the region regarding the way m-learning is used and applied, generally based upon existing ICT (Information Communication Technology) infrastructure and government policies. This holds true for other regions around the globe.

In sparsely-populated Mongolia, SMS has proven to be less expensive than landlines to provide distance education. To this end, mobiles have been explored as educational tools by the English for Special Purpose Foundation (ESPF) to improve the language skills of bank tellers and wait staff (Batchuluun, 2007). The ESPF program consists of audiotape/compact-disc, dictionary, and workbook materials for self-study, and SMS is required for completion of each language module (Valk, Rashid, & Elder, 2010).

In Shanghai, China, interactive mobile learning initiatives for English language learning have been trialed at college level, and with mature-age, on- and off-campus students (Shen, Wang, & Pan, 2008). In this project, classroom teaching was streamed to online students via

mobiles, with SMS support provided for synchronous peer and tutor discussion and feedback. Students were able to participate in polls, quizzes, homework submission, and other class activities.

In Taiwan, Lu (2008) examined the effectiveness of utilizing timed-interval SMSs for the lexical development of high school English students and compared this to paper-based methods.

In Japan, Thornton and Houser (2005) conducted a mobile-based e-mail initiative with EFL college-level students, also conducted at timed intervals, and compared this to internet provided and paper-based methods.

In the most wired country in the world, Korea, there has been limited examination of the use of mobiles to provide English language learning via mobisites. To fill this gap, Nah et al (2008) provided learning content promoting English language acquisition via a WAP-based site accessible by mobile phone to teach listening skills, relying on a mobile forum for discussion and feedback, audio files for provision of main learning content, and short answer quizzes completed by mobile e-mail to solidify learning. Native-speaker EFL teachers have used mobiles with students, which has seen university students shoot English language video guides on campus, promote the use of spoken and written English skills to storyboard, make commentaries, and review and respond to other students' work (Meurant, 2007). Such UGC (user generated content) was then edited on the cell phone itself, before being forwarded as an MMS or directly posted to YouTube for peers to review and make comments.

Heading south to one of the texting capitals of the world, Ramos (2008) observes the educational use of mobiles rising in The Philippines. Valk, Rashid, & Elder (2010) support this, and highlight the viability of using SMS to teach English alongside a workbook, with the completion of each module passed by undertaking SMS quizzes and tests.

In Indonesia, the Urban English Language Learning Program targets school community members and businessmen, offering English language learning via SMS and audio based services. Lessons focus on everyday expressions and vocabulary for a variety of social daily living situations including entertainment, shopping, and eating out (Barton, 2010).

In Vietnam context-aware mobile learning that supports TOEFL (Test of English as a Foreign language) preparation has been undertaken with graduate students (Nguyen, Pham, & Ho, 2010), with CAMLES (Context-Aware Mobile Learning English System) delivered to mobiless as a locally installed application that adapts learning material to student knowledge as well as location, available study time, and concentration span.

India.

With more access to mobiles than toilets (UNU-INWEH, 2010), India stands second in the world in terms of mobile phone subscribers. In rural areas, the uptake of mobiles have proven to be cost effective, assisting villagers in obtaining the best prices for their produce, and keeping abreast of national developments (Sampangi, Viswanath, & Ray, 2010). Villagers no longer need to travel vast distances. Mobile learning can be an effective tool in reaching "the hitherto 'unreached' people in the socially, economically, and educationally deprived classes, by taking education right to their doorsteps" (Sampangi, Viswanath, & Ray, 2010, p. 351) by providing learning services to rural areas that, even if accessed by subscription, are viewed as investments rather than unnecessary expenses (Pahwa, 2009), and allow learners to continue working and to stay committed to the needs of villages and families (Sampangi et al, 2010).

Mobiles are used to keep in touch with friends and family, check bank balances, pay bills, access train/flight timetables, undergo exam tutoring, check exam results, and improve English

through subscription-based services (Venkatesh, Nargundkar,Sayed, & Shahaida, 2006). Mobile-based initiatives for English language learning include *Learn English*, *English Seekho*, Nokia Life Tools, and the MILLEE project.

Learn English is provided by subscription, and aims to teach spoken English through everyday situations and simple stories at basic and advanced levels. After subscribers have listened to and reviewed situationally or professionally related conversations, a summary of important vocabulary is presented so that users can then restudy the content or review daily SMSs and practice tests.

Also offered by subscription is the English phone tutoring system *English Seekho*. Lessons are daily five- to eight-minute audio clips, followed by interactive content in which learners can respond by keypad or speech. In the latter case, speech recognition is used to check user pronunciation and accuracy. At the end of each lesson, a summary is sent by SMS to the learner. Content focuses on social English skills, along with interview, job hunting, and job training topics, and target users include junior level clerks, taxi drivers, wait staff, unskilled laborers, and farmers (Abhijet, 2010; Sapna & Roseliz, 2010).

Alternatively, Nokia Life Tools provides information services in local languages that center on agriculture, education, and entertainment, and are available on all low cost phone models. They are targeted at, and within reach of, economically challenged segments of society, and the educational aspect provides general knowledge, along with English language learning content which is presented using a bilingual method. English words of varying difficulty are transmitted to the learner by SMS with options for viewing explanations in the native language, and this is followed up with periodic quizzes aimed at determining learner progress. A dictionary service for vocabulary development, along with text and exam preparation coaching and advice is also offered, as is the ability to receive notifications of national examination results (Sapna & Roseliz, 2010).

Finally, the MILLEE (Mobile and Immersive Learning for Literacy in Emerging Economies) project seeks to provide educational opportunities to students who do not regularly attend schools, and come from isolated and underserved population areas. Nokia has donated over 450 mobiles to the project, filled with interactive English language content that complements in-school curriculums, and teaches vocabulary to elementary and middle school children through games based on regional practices and traditions (Shuler, 2009).

The Middle East.

Over the 11 years from (1995 to 2005), ICT growth throughout the Middle East rose 541%, due to a rise in oil production and the resultant extensive infrastructure development (Shirazi, Gholami, & Anon Higon, 2009). Wealth generated by oil exporting nations has led states such as Kuwait, Qatar, and the UAE to invest significantly in ICT, and today, the UAE serves as a regional network hub for internet connection. Qatar is home to the Al Jazeera news network, and Kuwaiti investment in mobile telecommunication systems establishes Kuwait as an important mobile provider for Bahrain, Iraq, Lebanon, and Jordan. However, as Ibrahim (2008) notes, "expenditures in the educational sector are probably insufficient to educate users about how to use IT facilities for learning" (p. 1161), and although Middle Eastern countries are starting to embrace IT integration in education and training, "… Gulf countries and Israel are at the infusing level of policy, while the other countries in the region are at the applying-policy level" (p. 1161). This development has come to create a digital divide within the region, and has led to the adoption of m-learning, particularly in the language classroom, to vary across the Middle East.

Nonetheless, several examples of mobile phone-based ELT emerge in Iran, Kuwait, and Turkey.

In Iran, where computer ownership is modest, cabled Internet access limited, and power supplies are erratic, mobiles emerge as the sole mode of communication available for tribal-based or rural students, and are owned by most urban learners. This has led to the development of an informal language learning system as a prototype to teach English to teachers at primary, secondary, and university levels using a combination of mobile web, mobile dictionary, and SMS technologies (Fotouhi-Ghazvini, Earnshaw, & Haji-Esmaeili, 2009). Fotouhi-Ghazvini, Earnshaw, Robison, & Excell (2009) report on teaching technical language learning skills through game-based learning with MOBO City.

In Kuwait, the game-based model for language learning has been proposed to assist in reducing first language interference in universities, particularly for composition classes (Zaulkernan & Raddawi, 2006). Haggan (2010) had university EFL students render peer-composed text messages sent in textspeak in standard English.

In Turkey, utilization of mobiles for vocabulary learning amongst university students has been provided through MMS and supported by SMS multiple-choice based quizzes (Saran, Cagiltay, & Seferoglu, 2008), through mobile-based flashcard use (Basoglu & Akdemir, 2010), and for pronunciation improvement using MMS (Saran, Seferoflu, & Cagiltay, 2009).

Africa.

Africa, the world's second largest continent after Asia, is "a mixture of first world and third world societies" (Butgereit, & Botha, 2009, 1), and many of its countries vary greatly in terms of geography, population, and infrastructure. Educational opportunities are often inaccessible due to one or more factors including violence, remoteness, child labor, and AIDS (Davis, 2010). Schools can have large class sizes, undertrained teachers, sub-standard buildings if there are any, poor road and transport access, shortages of adequate materials for teachers and students, erratic if any electrical supply, and few modern PCs with even less user expertise to accompany them (Traxler, & Leach, 2006). Further challenges, particularly for mobile-phone- based education in Africa, include steep handset purchase prices, prohibitive voice call costs, and access to recharging facilities. Solar-powered mobiles and low-cost SMS services are now available (Zelezny-Green, 2010), but even without them, extensive mobile uptake is one of the most recent and rapid technological changes in modern-day Africa (Shrum et al, 2010), and this has led the region to a point where it can leapfrog "from an unwired, nonexistent e-learning infrastructure to a wireless e-learning infrastructure" (Brown, 2008, p. 863). According to Brown (2008), many m-learning projects can be found in countries like South Africa, but in some it is yet to emerge.

Although there is a lack of studies on the impact of m-learning and technology used specifically for English language learning across Africa (Zelezny-Green, 2010), it is worth noting that the role of m-learning in Africa is being considered for first-language literacy development of Nigerian nomads, where previous initiatives included pack animal or motor caravan collapsible classrooms, and radio and television broadcasts (Aderinoye, Ojokheta, & Olojede, 2007). In Mali, m-learning is supplementing lesson content in the *Road to Reading* program, with teachers accessing lesson plans posted to blogs via web-enabled mobiles and guided through SMS (Burns, Montalvo, & Rhodes, 2010; Davis, 2010). Kenya provides in-service teacher training through mostly automated messaging that is built around SMS-based forums, polls, and quizzes that lead to support through collaboration and discussion (Traxler & Leach, 2006).

In South Africa, Brown (2008) illustrates that mobiles are being used for administrative

support (including access to examination results and registration information) and academic learning support (including assessment, feedback provision, text and voice-based communication and interaction) rather than for language learning. A noteworthy exception is the Hadeda project, part of the MobiLED initiative, a means for primary and secondary school students to practice English language spelling and vocabulary using mobiles (Butgereit & Botha, 2009). The application uses registered parent or teacher created vocabulary or spelling lists created through a web-interface over a mobile phone-based browser or an internet connected PC. These lists are then turned into audio files by text-to-speech software, and are played back to students through mobiles.

Globally.

Although studies involving the use of mobiles for English language learning in the regions above are scarce, recent, and limited, results show that mobiles have had a positive impact on the learning process (Basoglu & Akdemir, 2010; Saran et al, 2009), and that mobile-based learning is generally and readily accepted for all aspects of language learning including test preparation, revision, and various homework tasks. While mobile use promotes motivation and increased engagement with learning material instantly accessible at times and in places of convenience, language learning appears to rely predominantly on the use of mobile applications, as either downloadable or on a subscription basis, mobile browsers and mobisites, or mobile e-mail, SMS, and MMS services. Built-in tools such as video camera and GPS are rarely used by ELT initiatives, as is the primary function: speaking to others over distances, a clear case of the underuse of this technology by the ELT sector.

Ultimately emerging from the various initiatives outlined above are a number of important lessons for the use of mobiles with English language learners, including the distribution of content. The usefulness of the mobiles to augment classroom learning in more developed regions, and its sole use to provide education in less developed regions sees the mobile emerge as a vital tool in providing m-learning across diffuse learner groups around the globe.

In terms of mobile phone use for ELT, regular access and revision of content, along with immediate provision of feedback, is essential for the success of any mobile-based language learning initiative, as frequency of engagement with content shows improved learning gains. Key to this is the promotion of learner autonomy, where each user decides their level of collaborative interaction with peers and instructors, when to access, and when to do their learning, revision, review, and tests or quizzes. The optimal delivery of learning content to mobiles appears to be discrete bite-sized chunks, and this is exactly how most mobile-based language learning content is currently provided to learners by way of SMS/MMS. It also appears that this is a particularly viable option for the delivery of vocabulary lists and quizzes to augment classroom-based learning with extra-curricular material and homework, and serves to engage learners who can't physically attend classrooms due to a need to work or for whom classrooms are otherwise inaccessible.

In terms of content provision, it is essential to provide students with meaningful material that is of a reasonable size for transmission and storage on a mobile phone so that both the device and the students do not become overloaded. Additionally, it is vital to store files on the device, particularly when cell tower locales and conservative battery use are essential considerations, so that even if mobile reception is lost or the user moves out of range, learning material is still accessible. Taking the learner context into account is also important when delivering and

designing learning content as it can serve as a means of pinpointing appropriate resources for students when on the move, and begin to provide situational-based learning opportunities that can be tailored to individuals. Ultimately too, in underserved communities, the mobile emerges as invaluable in establishing core mobile learning solutions as it is capable of acting as a mobile language lab for entire learning communities, or even working complementarily and adaptably alongside existing learning services. A single class, group, or individual project can be run with just one phone. Additionally, initiatives like the subscription based language learning services available to mobile users in India and Indonesia mark the start of provider-led initiatives disseminating fee-for-service wireless m-learning opportunities for those living in the 'middle of nowhere' to those living in one of the megacities of the region. Ultimately, such provision comes to see users increasingly dependent upon handheld-devices for content and educational delivery, bringing us a further step closer to normalizing CALL (Bax, 2003), and doing so without installation or reliance on wired infrastructure. Such initiatives also come to firmly establish the practical application of speech recognition engines in language learning contexts and, combined with the development of increasingly sophisticated mobile-based applications, are opening up exciting future directions for the use of mobile-based learning in ELT.

Future Directions

The future of teaching and learning with mobiles sees the need to deliver pedagogically acceptable content over portable devices, for both supportive methods of education in formal contexts and as primary provider in lifelong learning and distance education contexts. Any language learning initiatives provided on mobiles also need to be viewed by learners as worthwhile and engaging, adaptable to various learning styles, and providing a variety of content that is relevant and readily usable. As such, what must be increasingly considered for the future use of mobiles in ELT is the continued marriage of SLA theory to mobile learning theory, while taking into account aspects of Human Computer Interaction (HCI) and User Interface (UI) design and aligning this to pedagogy. This will see a need to develop content that takes into account dual coding theory, aspects of cognitive load, and principles of multimedia design, while simultaneously accommodating utilization of built-in phone features (including built-in cameras, texting capabilities, voice transmission) with the unique limitations of the device so that best-learning practice becomes the focus. This will ensure that the strength of the mobile phone as a communication medium can provide increasing support to learning paradigms such as social constructivism and problem- and inquiry-based learning, and thereby potentially increase the communicative use of the device in the language learning context as well as being supportive of existing activities based on behaviorist through to communicative and constructivist approaches.

As mobile phone-based learning increases, learners will constantly engage with content while 'on the go,' which essentially means that learning and studying can take place in contexts that are not conducive to learning at all, but arise mostly from convenience and opportunity. Content engagement would take place when learners are tired, distracted, and have taxed attention spans, and be accessed while they commute, stand in lines, go about other daily tasks, take coffee breaks, or change shifts. This aspect of user interaction with device and data heavily impinges upon what kind of material should be delivered to learners via mobile-phone based language learning initiatives, and how learners will be able to interact with other students engaged in the same initiatives. Further studies are needed here, but it may prove for the time being that mobile-based language learning is more serviceable for providing review content rather than initial learning, and for deductive rather than inductive learning activities that are

provided in short chunks. Such provision of content, while remaining flexible in terms of allowing anywhere/anytime access to learning opportunities takes advantage of the fragmented nature of learning on the move. This raises the question of whether students really want or need this kind of learning; particularly poignant for those who have a much stronger preference for extended study periods in quiet places like libraries rather than engaging with content over short spans of time in busy or noisy places where they are unable to concentrate.

Nonetheless, increased acceptance of learning via mobiles may intensify exponentially with the capability, sophistication, and user-friendliness of the devices learners employ in learning. However, any content provided to a new generation of mobiles also needs to be adapted to legacy mobiles, particularly in contexts where recycled mobiles are donated, or in regions where these devices and the cost of service provision are unaffordable to many, and where the mobile is the sole access point to educational environments. This means that multi-varied lesson types will need to be the norm, to ensure backward compatibility, and even though this adds to the complexity of lesson and content provision, it is a necessary step to ensure digital equity to learners. So too, the information that is being provided to learners must be available as and when it is wanted rather than delivered at timed intervals, to ensure that the anywhere/anytime provision and access to education can occur. One roadblock to this access is cost, which can be alleviated in the case of downloadable applications and provider subscription services if educational usage is supplemented by advertising-supported learning content and free trials. Whether this is fully acceptable to learners is yet to be determined.

Although mobiles are still not recognized in the mainstream as a language training tool, it is clear that they will become increasingly important in learning content provision. What will undoubtedly drive this is the availability of cheap handsets and data plans, along with increasing mobile-phone penetration rates world-wide coupled with the realization that use of SMS/MMS and downloadable data combined with voice provides learning benefits at a fraction of the cost of traditional methods for distance education and lifelong learners. It is also certain that mobile use will become economically viable for educational institutions, as it will prove cheaper to employ these devices in classroom contexts instead of large monitors and PCs in terms of initial institutional outlay as well as associated ongoing and content delivery costs.

Ultimately, it is not unreasonable to assume that the future of mobile phone use in education will become increasingly tied to the proliferation of smart phones in the market, which in turn will lead to an increased reliance on the sophisticated built-in functions of these phones to deliver learning. For example, GPS functionality can serve to deliver situated learning by providing vocabulary and sample dialogues to learners based on their locale. The ever-increasing sophistication of downloadable applications, some of which are free, will also drive mobile-based learning and use, with such applications as Google Talk auto-translating environmental text using the built-in camera, and Google Translate translating voice from one language into another or voice to text, while voice SMS solves text input problems which in turn leads to increased user friendliness of the device driving increased use.

Conclusion

No matter in what region of the world we live, technology is continuously playing a significant role in our lives and those of EFL learners, particularly as we become increasingly networked and dependent upon mobile technologies. The increasing use of portable devices in our daily lives will, for those of us that have access to them, bring about an increased level of technology use in our language classrooms, and bring the language classrooms to us wherever we are and wherever we go. However, what we must remain cautious of is that although these portable devices allow us as learners to consume knowledge with little or no effort, and provide us with information in very different ways to other technologies, diverse cultures and learning communities will also adopt this technology differently (Traxler, 2009), and what may prove beneficial and useful in one ELT context may not necessarily prove beneficial to all in another.

For now, the concept of m-learning is still largely embryonic in much of the global ELT sector. What is certain is that, as mobile phone ownership increasingly exceeds PC ownership and internet connection in each country around the world, next step research will need to ascertain: how to increasingly provide effective ELT to students through mobile devices; determine student levels of acceptability in acquiring knowledge from mobile technology, and how they want and need to learn from such devices; how instructors can best employ mobile devices to enhance the learning process and to strengthen and harmonize student learning strategies in their educational context; and more importantly, how to provide mobile language learning initiatives to those that have access to mobile technologies, and enable those learners that don't have access similar content in a similar manner. This will ensure that language learning with mobile technologies is not simply viewed as delivery of PC content ported to mobile devices, or used simply as it is available, but envisioned as delivery of learning content that is needs driven, learner appropriate, and pedagogically sound. More than that, it will be about personalizing language learning content so that it proves to be effective for each individual no matter their location, learning level, or financial and time constraints, while simultaneously aiming to produce skilled learners that are digitally literate, devoted to lifelong learning, and are, of course, increasingly linguistically competent.

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Development and Pilot Testing of a Blended-Learning Program for Medical English

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Abstract

There is a growing need for effective English communication in medical settings in Japan, especially with Tokyo having been selected as the host city of the 2020 Summer Olympics. With the development of education in information and communication technology, blended-learning systems have attracted attention for medical English tuition; however, research in this field is scant. The goal of this study was to design and pilot-test a training program in medical English using blended learning. We implemented 3-month face-to-face and blended-learning classes, and we compared them using written tests and a questionnaire. In all, 51 participants (28 female, 23 male) were included in the data analysis; all of them were allocated to both the intervention group and control group. The subjects were mainly aged 18 years. The intervention group had a significantly higher test score than the control group. The questionnaire results indicated a positive response toward e-learning among the students; they had no difficulty in inputting Japanese on the computer nor with other aspects of using a computer. Our findings demonstrate the effectiveness of the present program and indicate that it may be a useful starting point for future studies related to revised versions of the program. However, additional research is necessary to determine the most effective type of training in this regard.

Keywords: blended learning, e-learning, English education, medical English

Introduction

Background

There is a growing need in medical settings in Japan for communication in English, especially with Tokyo having been selected as the host city of the 2020 Summer Olympics. In Japan's higher education institutions, it has become vital to learn medical English for health-care communication. To promote learning in various places, such as schools and homes, information and communication technology (ICT) has been developed to facilitate multimedia education in higher education institutions. Miyaji et al. (2009) defined a representative form of multimedia education, e-learning, as follows: "E-learning refers to an educational environment that allows students to study anytime and anywhere." This type of learning style involves studying on the Internet and using ICT. Following the introduction of computer-assisted language learning for students in Japanese universities, e-learning has been beginning to be prevalent. Despite the benefits of ICT, there are still few e-learning programs in Japan. The reasons for ICT not having prevailed in Japan include the uneven level of ICT literacy among Japanese students and students being unfamiliar with e-learning. These problems may be addressed by combining face-to-face learning with e-learning, i.e., blended learning. With blended learning, even if some students are unfamiliar with e-learning, they can receive instruction from a teacher in a face-to-face setting.

Blended Learning

Blended learning is a learning style that combines several different types of media and learning methods (Singh, 2003). Miller (2004) maintains that blended learning is a combination of e-learning and face-to-face learning. Like Miller, we define blended learning in the present study as a combination of e-learning and face-to-face learning. Various blended-learning systems have been introduced in Japan. In the teaching of English, CALL (Computer-assisted language learning) is used to assist in teacher tuition and in presenting audio materials. By using CALL, students are able to take lesson contents home for review and further practice. In addition to CALL, various other online resources are used within and outside class. The contents are varied, and they include Web sites of online resources and online quizzes. Tei et al (2008) suggest that e-learning in Japanese universities is often conducted to supplement regular (face-to-face) lectures. E-learning allows students to review easily the content they studied in lectures, thereby allowing them to deepen their understanding of the subject matter. In the process of this e-learning review, students may also discover additional areas of interest that they can investigate by themselves, and this can also help expand their knowledge. Previous studies have found e-learning to be useful for accumulating knowledge and also for improving English-language skills and student motivation (Ota, 2012).

Fujishiro (2009) conducted a questionnaire survey after teaching a class using e-learning. The survey found that "e-learning contributed to the improvement of listening skills, motivation for speaking in English, and understanding in interactive communication." Their survey also determined that e-learning was effective for accumulating knowledge and improving listening and communication. When introducing e-learning to a school class, it may be inappropriate to conduct e-learning alone because students would lack the opportunity to interact and collaborate. Although students have the chance to collaborate online, if they are together in the same place they are able to engage in face-to-face activities. Accordingly, in higher education, blended learning tends to be favored over e-learning alone. To conduct both e-learning and face-to-face study would appear to confer educational benefits. Iwata et al. (2013) maintained that blended learning offers advantages over both face-to-face learning and e-learning. The advantage over

face-to-face learning is the ability to convey the same message to many students simultaneously. E-learning allows feedback to be provided to the class irrespective of time and place; e-learning also permits students to study at their own pace. Thus, blended learning utilizes the advantages of both face-to-face learning and e-learning.

Previous Studies: Blended Learning in Teaching Medical English

We conducted a literature review to clarify the current situation with respect to blended learning in teaching medical English. We identified six Japanese studies of blended learning. Iwata et al. (2013) conducted blended learning using CALL (in 2008) and employed an e-learning system developed by the Japanese company ALC (in 2009) and Moodle (in 2009); they evaluated the effect of the learning experience through a questionnaire. The results of the questionnaire performed after the tuition reflected a favorable response. Blended learning was found to be particularly effective in terms of class management, proactive class participation, and motivation in learning English. That study of Iwata et al. demonstrated that blended learning could positively affect the learning environment and promote class proactive participation. Another study (Kobayashi et al., 2008) found that blended learning was favorably accepted by students and helped improve their study motivation. Kobayashi et al. conducted a blended-learning program, which combined e-learning and face-to-face lectures toward acquiring medical English vocabulary at medical school. The authors found that the blended-learning program was very well accepted by the students. There is a growing need for a blended-learning system in Japan for teaching medical English; however, few studies have been conducted in this area.

Objectives

The goal of this study was to design and pilot-test a training program for medical English education using blended learning.

Methods

Participants

The class participants in this study were first-year students at Teikyo University, Itabashi campus, Tokyo. The class consisted of about 50 students and comprised students from three departments: clinical laboratory, paramedic, and orthoptic. Upon enrollment, the students took an English proficiency test (devised by the university) and were divided into six classes based on English-ability levels. Accordingly, the English ability level in each class was approximately the same. The eligibility criteria were as follows: age >18 years; ability to complete over one-third of the course classes (30 classes in the course). For evaluation, students sit for the two exams conducted in May and November 2014. Students who missed either or both tests or failed to attend over one-third of the course classes were excluded from the evaluation.

Study Design and Program

This study adopted a crossover, longitudinal design, in which the subjects underwent a sequence of different exposures. The students first took a series of face-to-face classes (control group) and then a series of blended learning classes (intervention group). Both face-to-face and blended-learning classes included 15 classes in total. The length of a complete series of face-to-face and blended learning classes was about 4 months (from April 2014 to July 2014 for face-to-face class, from mid-September 2014 to the beginning of January 2015 for blended learning classes). A 2-month summer vacation took place between the classes for the intervention and control

groups, which was able to operate as a washout period. Both the intervention and control programs were based on the typical 90-minute class periods at Japanese universities. The classes were held once a week for a total of 15 weeks per semester.

We designed a training program based on the eight factors identified by Bersin (2004): type of program; course objectives; participant familiarity with e-learning; budget; human resources; development time; frequency in upgrading the program; and infrastructure of the program. For both the intervention and control groups, the program was a compulsory class for university freshmen. The course objectives were the ability to read and understand English sentences about human body systems and memorize a thousand medical terms in 1 year. All the participants attended a lecture about ICT before the classes: they were therefore familiar with e-learning.

We did not require any budget or development time for the classes since all the face-to-face classes was conducted as part of a regular university course; also, e-learning systems, such as LMS (Learning Management System) and other online resources, were provided free of charge by the university. In terms of human resources, one teacher with experience in teaching medical English covered the entire program. The development time was 1 month prior to class commencement.

Different content regarding human body system was presented in each class. Two tests (once for each group) were given for both intervention and control groups in May and November 2014.

The program consisted of face-to-face classes, LMS, and online resources for the intervention group. The control group studied only in traditional face-to-face style. In the control group classes, the teacher used a conventional black- or whiteboard, PowerPoint, both.

The participants in both groups studied the basic skills of reading and vocabulary, with a content that focused on topics related to human body systems. The teaching materials for the classes were selected by the course director. The teaching materials were based on the textbook *Easy Medical English*, published by Igaku Shoin. The texts covered basic human anatomy together with some knowledge about physical examination.

The control group focused on understanding English passages by means of images and videos presented using PowerPoint. For the intervention group, some e-learning was included as extracurricular activities. The following tools were covered in the intervention group: (1) online word list (Quizlet), allowing students to study online and on their smartphones; (2) self-study tool (Quizlet) for help with dictation and spelling; (3) word quiz (Quizlet); (4) test-generating system (Quizlet); (5) online references (LMS); (6) self-study tool (LMS) for word-order tests; and (7) online bulletin board (LMS) for communication among students.

Instrument: Written Test and Questionnaire

The primary outcome measure was the test score for both the intervention and control groups. We evaluated knowledge of medical English using a written test. We prepared an original written test with 100 as the maximum score. The test lasted 60 minutes and consisted of English-Japanese translation of medical terminology and short sentences related to medical practice. The written test was implemented in May and November 2014: the same style was adopted for the two tests, though they differed in terms of content. A comparison was made of the test results between the intervention and control groups. In addition to the written test, the students were asked to complete a questionnaire. We used a five-point Likert scale to assess the questionnaire items, which related to the students' impressions of blended learning and the learning content,

with the items ranging from “strongly disagree” (1) to “strongly agree” (5); this was a measure of the psychometric properties of the learning experience. A detailed description of the questionnaire appears in Table 1. The questionnaire was conducted once in January 2015.

Table 1. ***Description of the questionnaire***

Q1：I am confident in my English.
Q2：I am interested in acquiring vocabulary in medical English.
Q3：I have a basic knowledge regarding anatomy and other medical backgrounds.
Q4：I expect the effect in this e-learning.
Q5：I would like to conduct e-leaning.
Q6：I will use this leaning system outside the class for the review.
Q7：Acquiring "Medical English" could help for leaning professional medical knowledge.
Q8：I am negative to use computer for acquiring vocabulary in medical English.
Q9：It is hard for me to memorize words while using the display.
Q10：I am not good at using computer.
Q11：It seems difficult to input Japanese.
Q12：It seems difficult to input English on the computer.
Q13：It seems to be advantageous when someone who are familiar with handling computer use this learning system.
Q14：The online word test in Quizlet was useful for my study.
Q15：The test generating system in Quizlet was useful for my study.
Q16：The tool for word quiz in Quizlet was useful for my study.
Q17：The application of Quizlet (for iPad/smartphone) was useful for my study.
Q18：The reference provided by the LMS was useful for my study.
Q19：The quiz uploaded on the LMS was useful for my study.
Q20：The combination of face-to-face lecture and e-leaning was useful for my study.

Data analysis

Differences in the scores between the two groups were analyzed using *t* tests for continuous variables and group comparisons were made. All the analyses were performed using PASW Statistics 21 (SPSS Inc, Chicago, IL, USA), and $p<0.05$ was considered significant. There were no differences between the intervention and control groups in terms of age, gender, or profession.

Results

Participants

There were 51 participants (28 female, 23 male) for the data analysis, all of whom were allocated to the intervention and control groups. In those groups, all the participants were eligible for analysis. The subjects were mainly 18 years old. Their level of English proficiency was the second highest of six levels commonly used in Japan. All participants completed the questionnaire at the end of each course.

Program Implementation

The control program (face-to-face class) was implemented from April to July 2014; and after the 2-month washout period, the intervention program (blending learning) was conducted from mid-September 2014 to the beginning of January 2015. Details of the program content appear in Table 2. In both the intervention and control groups, the lectures focused on comprehending English passages by means of pictures and videos presented using PowerPoint. Both the intervention and control programs included some collaborative activities in the class, and additional resources were distributed in class.

Table 2. ***Program content for the intervention and control groups***

	Contents of Intervention (Intervention) (Date: April 14 to July 19, 2014 10:45-12:15)	**Contents of Intervention (Control) (Date: September 22, 2014 to January 10, 2015 10:45-12:15)**
In class (face-to-face)	**[Lecture]** The lecture focused on understanding English passages by using pictures and videos presented with PowerPoint. **[Test]** A English-Japanese translation of the medical terminology and short sentences and took 60 minutes.	**[Lecture]** The lecture focused on understanding English passages by using pictures and videos presented with PowerPoint. **[Test / Questionnaire]** A English-Japanese translation of the medical terminology and short sentences and took 60 minutes.
e-learning	**[Practical Training]** (a)online word list (Quizlet) which allows student to study online and on the smartphone (b) self-study tool (Quizlet) for dictation, spelling (c) a tool for word quiz (Quizlet) (d) test generating system(Quizlet) (e) online references (LMS) (f) self-study tool (LMS) for word-ordering test (g) online bulletin board (LMS) for communication of the students.	**No e-learning**

Figure 1 shows detailed contents of the e-learning program, which included the following tools: (1) online word list (Quizlet), allowing student to study online and on their smartphones; (2) self-study tool (Quizlet) for help with dictation and spelling; (3) word quiz (Quizlet); (4) test-generating system (Quizlet); (5) online references (LMS); (6) self-study tool (LMS) for word-order tests; and (7) online bulletin board (LMS) for communication among students (Figure 2).

Figure 1. Detailed content of e-learning program

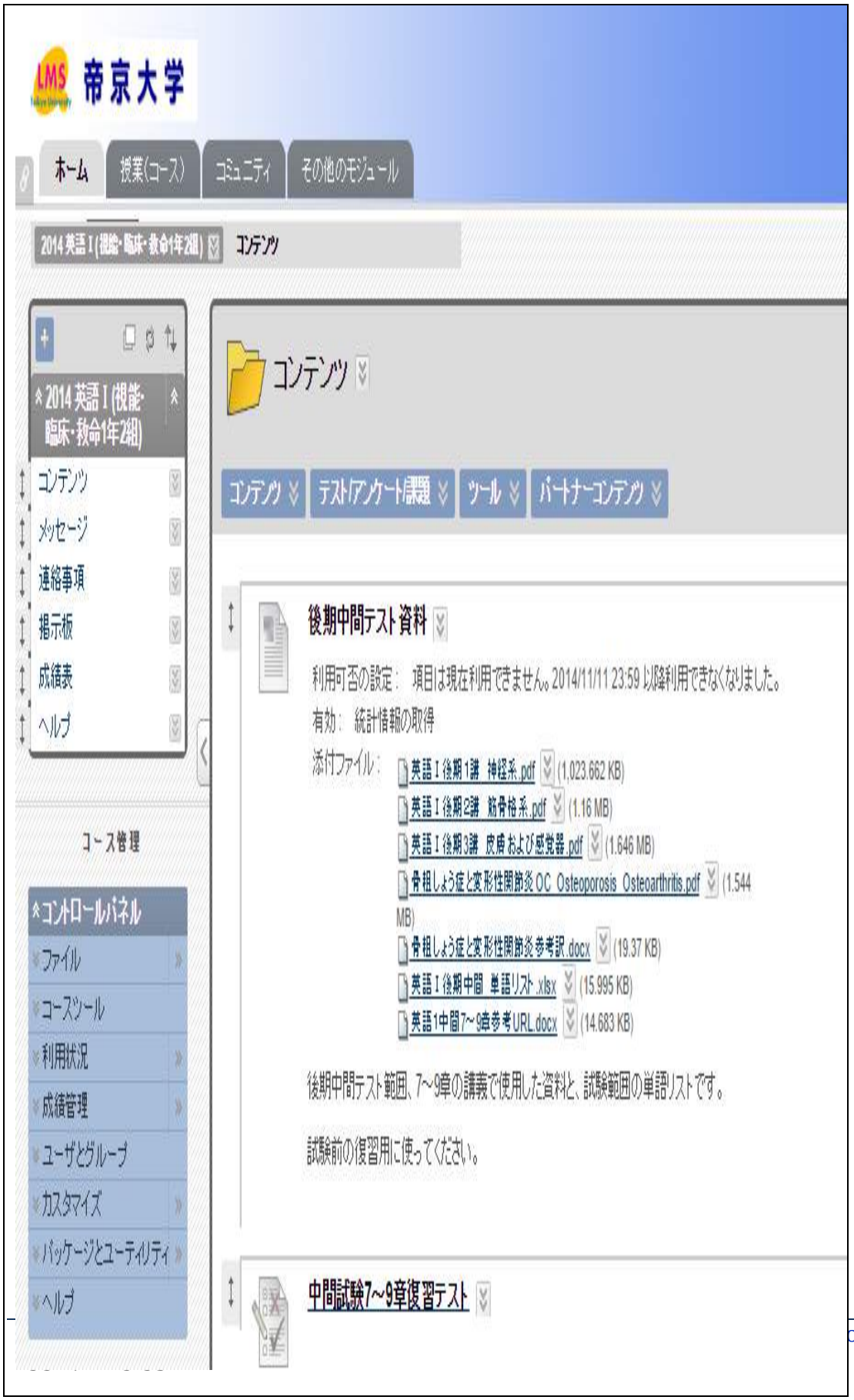
(a) Online word list (Quizlet) allowing students to study online and on their smartphones

(b) Self-study tool (Quizlet) for dictation and spelling

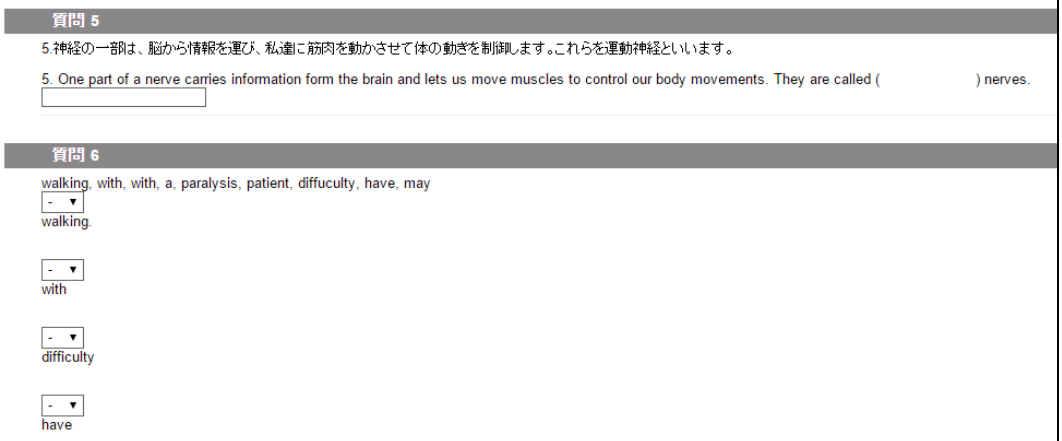
(c) Tool for word quizzes (Quizlet): matching and typing

(d) Test-generating system (Quizlet)

(e) Online references (LMS)


帝京大学
ホーム
授業(コース)
コミュニティ
その他のモジュール
2014 英語 I (視能・臨床・救命1年2組)
コンテンツ
2014 英語 I (視能・臨床・救命1年2組)
コンテンツ
メッセージ
連絡事項
掲示板
成績表
ヘルプ
コンテンツ
コンテンツ
テスト/アンケート/課題
ツール
パートナーコンテンツ
後期中間テスト資料
利用可否の設定： 項目は現在利用できません。2014/11/11 23:59 以降利用できなくなりました。
有効： 統計情報の取得
添付ファイル：
英語 I 後期 1講 神経系.pdf (1,023.662 KB)
英語 I 後期 2講 筋骨格系.pdf (1.16 MB)
英語 I 後期 3講 皮膚および感覚器.pdf (1.646 MB)
骨粗しょう症と変形性関節炎 OC Osteoporosis Osteoarthritis.pdf (1.544 MB)
骨粗しょう症と変形性関節炎参考訳.docx (19.37 KB)
英語 I 後期中間 単語リスト.xlsx (15.995 KB)
英語1中間7~9章参考URL.docx (14.683 KB)
後期中間テスト範囲、7~9章の講義で使用した資料と、試験範囲の単語リストです。
試験前の復習用に使ってください。
コース管理
コントロールパネル
ファイル
コースツール
利用状況
成績管理
ユーザとグループ
カスタマイズ
パッケージとユーティリティ
ヘルプ
中間試験7~9章復習テスト

(f) Self-study tool (LMS) for word-order tests



(g) Online bulletin board (LMS) for communication among students

In Figure 1a, the online word list (Quizlet) allowing student to study online and on their smartphones, various useful functions were available, including a read-aloud function and the ability to create custom-made lists. Students were able to highlight particular words or phrases by placing asterisks beside them. Then only starred items were displayed, and students could perform quizzes and tests for just those items.

In Figure 1b, the self-study tool (Quizlet) allowed students to type in what they heard during dictation. Through repeated input, the students were better able to remember the spelling of words.

The tool for word quizzes (Quizlet) in Figure 1c included scatter and race games. In the scatter games, some English and Japanese word pairs were scattered, and the student had to find the right pair and put them together by clicking on words in the box. After the game, the time required to find all the pairs was displayed. If the students wished, they could race against their classmates. This was intended to create a sense of togetherness and competition, thereby helping improve motivation. In the race game, students had to remove scrolled words by typing in the translation from the other language. Students were able to remove the scrolled words in any order as long as they did not scroll beyond the screen. This was a kind of time trial and helped students quickly remember the meaning of words.

The test-generating system (Quizlet) in Figure 1d consisted of four types of tests: written, matching, multiple choice, and true or false. The test could begin with either Japanese or English. Students could create these tests with a single click of the mouse and freely determine the duration themselves. They could repeat their custom-made test as often as they wished. The answer was displayed immediately upon completion of the test so that students could their percentage of correct answers.

The online references (LMS) in Figure 1e offered various resources, from PowerPoint slides to visual aids for part of the human body. LMS could be accessed only via the Internet from a personal computer using an ID and password, not from a smartphone.

The self-study tool (LMS) in Figure 1f was for word-order tests. The sentences used in the tests were extracted from medical textbooks. Original word-order tests were created by the teacher, and such tests are popular in Japan. Determining the correct word order demanded a proper understanding of grammar and sentence structure, and so these test are frequently used to assess students' comprehension of those elements.

The online bulletin board (LMS) in Figure 1g was for communication among students and permitted casual interchange after the class. The teacher instructed the class in its use by means of a bulletin board and conducted various class activities using that board. The teacher was also able to give homework by means of the online bulletin board.

Written Test and Questionnaire Results

Table 3 shows the results for the written tests. The average score in the tests was 59.00 in the intervention group and 73.00 in the control group. The highest scores were 96.00 in the intervention group and 91.00 in the control group. The lowest score was 17.00 for both groups. A significant intervention effect was seen in the total knowledge test ($p < 0.00$), and the degree of freedom was 50.00. The results indicated significant differences between the intervention and control groups for the written-test score.

The questionnaire results showed revealed that almost all students were familiar with e-learning (Table 4). The highest mean score was obtained for question 14: "The online word test in Quizlet was useful for my studies" (mean, 3.83; SD, 1.04). The second-highest score was for question 7: "Learning medical English could help me acquire professional medical knowledge" (mean, 3.81; SD, 0.89). The lowest mean score was for question 11, "It is difficult to input the Japanese" (mean, 2.46; SD, 0.92), and the second-lowest score was for question 8, "I am disinclined to use a computer to acquire medical English vocabulary" (mean, 2.54; SD, 0.87).

Table 3. ***Results for the written test***

	Intervention		**Control**			
	mean	(SD)	mean	(SD)	p-value (t-test)	Degree of freedom
Written test (total)	**73.00**	**(15.84)**	**59.00**	**(15.82)**	**0.00**	**50.00**

Table 4. ***Questionnaire results***

Questions	**Mean**	**(SD)**
Q1：I am confident in my English.	2.65	(0.98)
Q2：I am interested in acquiring vocabulary in medical English.	3.31	(0.95)
Q3：I have a basic knowledge regarding anatomy and other medical backgrounds.	2.85	(0.74)

Q4： I expect the effect in this e-learning.	3.60	(0.89)
Q5： I would like to conduct e-leaning.	3.56	(0.92)
Q6： I will use this leaning system outside the class for the review.	3.69	(0.99)
Q7： Acquiring "Medical English" could help for leaning professional medical knowledge.	**3.81**	**(0.89)**
Q8： I am negative to use computer for acquiring vocabulary in medical English.	**2.54**	**(0.87)**
Q9： It is hard for me to memorize words while using the display.	2.92	(0.99)
Q10： I am not good at using computer.	2.90	(1.12)
Q11： It seems difficult to input Japanese.	**2.46**	**(0.92)**
Q12： It seems difficult to input English on the computer.	2.81	(0.98)
Q13： It seems to be advantageous when someone who are familiar with handling computer use this learning system.	3.67	(0.91)
Q14： The online word test in Quizlet was useful for my study.	**3.83**	**(1.04)**
Q15： The test generating system in Quizlet was useful for my study.	3.67	(1.02)
Q16： The tool for word quiz in Quizlet was useful for my study.	3.60	(1.07)
Q17： The application of Quizlet (for iPad/smartphone) was useful for my study.	3.65	(1.02)
Q18： The reference provided by the LMS was useful for my study.	3.33	(0.81)
Q19： The quiz uploaded on the LMS was useful for my study.	3.31	(0.75)
Q20： The combination of face-to-face lecture and e-leaning	3.50	(0.88)

was useful for my study.		

Discussion

Three main findings emerged from the present study. First, the written-test results for the intervention group showed significantly higher scores than those of the control group. This means that the intervention group was able to acquire more knowledge of medical English than the control group, which supports the efficacy of the intervention program. These findings indicate that blended learning provided a more effective learning experience for the participants than in face-to-face only learning.

The results of the present study are consistent with the findings of Garrison (2004), who found that blended learning has the potential to promote both effectiveness and efficiency in the learning experience. The present study found that the learning experience became more effective because the students were able to review and practice what they had learned in class using online resources. In addition, the blended learning in this study promoted efficient learning since various tools allowed the students to apply their knowledge in many different situations; the students were repeatedly exposed to the same topics in different media, which helped reinforce the content. These factors appeared to have a positive effect for the students and led to greater self-study time outside class.

From these results, it is apparent that blended learning positively changed the students' learning behavior. The result of the present study are supported by other studies, such as Yoshikawa et al. (2012) and Silva et al. (2011), which found that blended learning was more effective than face-to-face learning. To implement blended learning more effectively, it is necessary to make ongoing program improvements through structure review, implementation, and evaluation (Ono, 2015).

Second, the questionnaire results revealed a positive response among the students toward e-learning: they had no difficulty in inputting Japanese on the computer or with other aspects of handling the computer. These are in accordance with those of other studies, which have examined the use of computer quizzes or games as appropriate education tools for teenagers (Klopfer and Yoon, 2005). With this positive attitude toward the tools used in this study, employing ICT in classes for teenagers would help promote variety in class activities and also deepen understanding of class content. The present study also found blended learning using e-learning to be an appropriate learning style for younger people. Over 3 months of the term, the students were positive about using the provided e-learning materials. This could be attributed to the variety in the e-learning materials themselves. The use of various materials helps maintain student interest. In the present study, we provided all the materials to the students at the same time, but giving them one by one may be more effective. Future studies could address issues related to the timing and quantity of provided materials.

Third, the questionnaire results also revealed a positive response among the students, especially for Quizlet. There are several possible reason for this positive response to Quizlet. Quizlet is different from other e-learning tools in that it has application for smartphones and the iPad. Smartphones are the most popular medium for communication among Japanese teenagers. Quizlet could therefore be easily used by the participants: it could be accessed anywhere and anytime, such as when traveling on public transport. As noted earlier, Quizlet is not just a terminology database; it also has interactive aspects, such as word games and tailor-made tests. Participants can create their own tests for the vocabulary they have difficulty remembering,

allowing repeated practice. Participants are able to control how they do their learning with Quizlet. Earlier studies have shown that self-regulation can provide motivation for certain kinds of behavior (Bandura, 1997). The results of the present investigation suggest that Quizlet was a positive factor in motivating the participants' learning: they felt they could control their learning style themselves.

Some limitations with this study deserve mention. First, the number of the students was small. It is necessary to confirm the present results with more students using the same procedure. Second, the training time was short. Many university courses for medical English in Japan last a number of years. We need to confirm the efficacy of the present program over a longer time frame, which could result in more significant results. Despite these limitations, we believe that the developed training course was significantly effective in improving both knowledge and skills related to medical English.

Future studies should examine the relative proportions of e-learning and face-to-face study as well as the duration of related programs. The contents of such program also need to be investigated as well as the validity of associated tests. However, the present study represents a first step in evaluating blended learning in Japan. We expect that blended learning programs will be implemented among greater numbers of people and that their efficacy will be further demonstrated in future studies. The present study is novel in that we developed and pilot-tested a blended learning program in Japan by using both written tests and a questionnaire.

Conclusion

This study suggests that the developed blended learning system could be useful in improving knowledge and ability in medical English. Furthermore, our results demonstrate the effectiveness of the present program and indicate that it may be a useful starting point for future studies toward developing a revised program; however, additional research would be necessary to determine the most effective type of training in this regard. The developed intervention could be a powerful tool for future research in devising effective programs. This training program could help bridge the language gap in Japan between medical professionals and English-speaking patients with limited Japanese proficiency by promoting the medical English knowledge and skills of those professionals.

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Lost in Digital Translation? Testing Web-Based Digital Literacy Assessment Tools with Arabic Speaking Internet Users

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Abstract

Many governments have embarked on ambitious programs to make information technology available to their citizens in attempts to decrease the global digital divide. For this strategy to succeed, it is not sufficient to simply make Internet connectivity available, as searchers must have some level of digital literacy to use Web resources. Measuring Web-based digital literacy is thus necessary to plan educational interventions. No such tools exist in Arabic, although Arabic speakers are the 4th largest group of Web users (Internet World Stats, 2014). Accordingly the main goal of this study was to test existing tools in English and Arabic with native Arabic speakers. We observed native Arabic speaker's Web searches, measured their Internet knowledge and their self-reported digital skill level. Regression analysis revealed that Internet knowledge is the best predictor of successful searches, although self-reported skill also predicts search success. The scale of Internet knowledge provides reliable tool for e-government planners to assess the Web-based digital literacy skills of their users and thus plan their ICT development accordingly.

Keywords: Arabic, digital divide, digital literacy, Internet use, Web use

Lost in Digital Translation? Adaptation and Testing of Web-Based Digital Literacy Measurement Tools for Arabic Speaking Internet Users

Doubtless, using communication technologies to make information easily available to an entire society is a wise goal, as it can make access to governmental and other content egalitarian, helping to address existing societal inequalities. However, digital divides occur, where those with the means are able to access the wealth of resources available via the Web leaving those without access further behind (de Haan, 2003; Mancinelli, 2007). Such unequal access widens gaps in knowledge (Bonfadelli, 2002) and thus may exacerbate rather than alleviate existing inequalities. Accordingly many governments have embarked on ambitious plans to improve access to the wealth of resources available on the Web. For this strategy to succeed, it is not sufficient simply to put information on the Web and make Internet connectivity available to all. Access alone does not necessarily eliminate the digital divide; rather, users must have a reasonably high level of digital literacy to find and make good use of those resources available to them, as research in the US (Hargittai, 2002, 2005), Italy (Gui & Argentin, 2011) and the Netherlands (Van Deursen & Van Dijk, 2009) has demonstrated. That is, there is a second level digital divide (Hargittai, 2002).

Diagnosing deficits in Internet searching skills is necessary for a number of areas. E-government developers, in particular, should consider the Web-based digital literacy abilities of their citizenry as research in the Netherlands has shown that many people do not have the digital skills required to find and utilize e-government services (van Deursen & van Dijk, 2009). Educators obviously need accurate information about their students' digital literacy abilities. Website designers across the gamut can benefit from such information as well.

Digital literacy measurement tools exist for English-language users of the Web and have allowed for the creation of interventions designed to overcome the differences in digital skill levels. For Arabic-speaking Web users, no such assessment mechanism has been tested, and it is therefore difficult to impossible for a researcher or policy specialist to know to what extent such users can effectively access and use Web-based information. While some years ago this may not have been a pressing issue, Arabic speakers are now the 4th largest group of Internet users (Internet World Stats, 2014) and the growth has been dramatic, with a 25 fold increase since 1996 (Zuckerman, 2013). Our assessment abilities for this language group have not kept pace with the explosion of Arabic Web-users. Accordingly the goal of this study is to test existing English language Web-based digital literacy measures with Arabic speaking Internet users.

Undoubtedly, having reliable scales to measure Internet literacy for Arabic speaking Web users would be enormously helpful not only for educators but also for media researchers and governments who work with Arabic speakers. However, as has been demonstrated in many areas of social science research, surveys and other measurement tools often unwittingly incorporate the particularities of the society in which they were developed thus may be less intelligible to members of other societies. Simple word choices can be problematic even among speakers of different varieties or dialects of the same language. For example the words "boot" versus "trunk" are used in British and American English respectively for the storage area in the rear of an automobile. A survey measuring consumer attitudes towards this area in cars in one of these societies would likely be confusing to members of the other society. Such issues may be exacerbated when translating surveys and the like into other languages. It is therefore necessary to test whether the tools used in the US context can be used in an Arabic speaking population rather than to import them without such testing. Hargittai's (2012) Web-based digital literacy

assessment instrument for example, developed for use in the US, may also work in an Arabic population simply in a translated form, or it may require modification. The results of our study will establish if the existing tools accurately measure Arabic speaker's Web-based digital literacy, or if some adaptation is required.

In countries that are attempting modernization programs, the question of whether their citizens are able to keep pace with the transition to a digital world is quite relevant. As a case in point, the government of Qatar, an emirate in the Arabian Gulf, has embarked upon an almost unprecedented development plan to reinvent Qatari society on practically all levels in a single generation. The gleaming skyscrapers of Doha, I.M. Pei's Museum of Islamic Art, successful and not completely successful bids for major sporting events such as the FIFA World Cup and the Olympics, the Al Jazeera media conglomerate, and the significant role played in regional conflicts are all interlinked components of a grand strategy to make Qatar a model 21st century state. Inextricably linked to these goals is an ambitious strategy to make the resources of modern information technology available to all citizens and residents of the country. The Qatar National Development Strategy 2011-2016 explicitly tasks the Ministry of Information and Communications Technology, (formerly ictQatar--Internet and Communication Technology Qatar), the governmental entity charged with developing ICT in the country with responsibility for developing access to and use of digital technology in Qatar. And the Ministry includes among its goals to "universalize access to social services and to create a knowledge-based online society" (Al-Jaber & Dutta, 2008). Qatar is an appropriate test bed for our project because of its program to rapidly provide access to all as well as its extremely diverse multi-lingual community including a large expatriate population with many Arabic speaking individuals from across the Middle Eastern and North African (MENA) region and beyond.

Web-Based Digital Literacy Measures

In previous studies done on digital literacy the issue of language is not problematized (Hargittai, 2009; van Deursen & van Dijik, 2009). Most measures of digital literacy are self-reported and the question of the user's native language and/or the language they use to search is not asked. A particular focus on digital literacy skills for people whose first language is not English is a unique feature of our study. The two languages in which the majority of Web content is written are English and Chinese. A vast amount of information is available in these languages. Speakers of other languages are disadvantaged by the lack of information in their language. Tools such as Google Translate are an imperfect solution as the quality of the translations is often lacking. However, recent trends in Web use habits indicate that more Web content is increasingly available in other languages. One reason for this change is that rather than simply being passive consumers of information, Web users are increasingly becoming Web content creators (Zuckerman, 2013). These users often create content in their native languages rather than in English, especially when they wish to reach other speakers of their language (Zuckerman, 2013). This trend makes it more important to understand such speakers' Web-based digital literacy than it may have been in the past.

In researching Web-based digital literacy Hargittai (2005, 2009, 2012) has developed, tested, and retested survey-based measures of digital literacy. Hargittai suspected that respondents may overestimate their skill level in a commonly used measure of digital literacy that asks Internet users "In terms of your Internet skill, do you consider yourself to be: not at all skilled, not very skilled, fairly skilled, very skilled, expert" (2005, p. 377). She devised a test of Internet knowledge, asking respondents multiple-choice questions about Internet-related items

such as http or JPEG. She correlated their knowledge of the items with observational data of respondents' success at Web searches on assigned tasks. In line with her expectations, she found that self-reported skill level is a considerably less reliable predictor of actual skill in locating Web-based resources than is the knowledge-based assessment. The knowledge scale developed by Hargittai was tested in an English language environment, as was the self-rated digital skill item, with Web searching tasks directed at a US based population. The present study aimed to replicate this work with a native Arabic speaking population to ascertain if the knowledge-based assessment tool and/or the self-rated skill item are reliable predictors of their Web-based digital literacy. To answer this question, two versions of the scales should be tested: The existing English versions and transliterated/translated Arabic language versions. Versions in both languages should be tested to enable respondents to choose which they would prefer to use, recognizing that bilingual Arabic-English speakers may prefer English or Arabic.

A number of variables have been evaluated for their relationship with Internet digital literacy, but are not always consistently related to it. Education has been found to further digital literacy (Van Deursen & Van Dijk, 2008; Van Deursen & Van Dijk, 2011). Older people may struggle more with operational and formal tasks on the Internet, but not with other task types such as informational and strategic searches (Van Deursen & Van Dijk, 2011). Age is also associated with the ability to successfully complete tasks on quite varied topics, with younger users more able to find information on the Web (Hargittai & Shafer, 2006). Gender is related to early adoption of the Internet, with males more likely to be the early adopters. However, although this digital divide has decreased, it is not yet eliminated (Liff & Shepherd, 2004). Men actually overestimate their Internet skill levels and women tend to underestimate theirs (Hargittai & Shafer, 2006). Real skill differences between genders have been found in a study done in Italy (Gui & Argentin, 2011) but not in a study done in the US (Hargittai & Shafer, 2006).

The number of years spent on the Internet is related to digital literacy for at least some types of searching tasks (Van Deursen & Van Dijk, 2011 and to Internet knowledge (Hargittai & Hinnant, 2008). Similarly, amount of time spent online weekly is positively related to Internet knowledge (Hargittai & Hinnant, 2008) and is connected with actual skill level in observational work (Van Deursen and Van Dijk, 2008). The ability to speak more than one language is related to Web searching abilities for native Arabic speakers with bilingual Arabic-English speakers exhibiting higher levels of digital literacy than their monolingual counterparts (Dun & Eskandar, 2014).

In the following section we explain the method we used to test the existing English language digital literacy scales both in their original form and translated into Arabic in a native Arabic speaking sample of regular users of the Internet.

Method

Participants

Convenience and snowball sampling were used to identify potential participants. The research team utilized personal connections to distribute recruitment information via social media and word of mouth. Participants were asked to recommend other potential participants. A field research company was also utilized to assist in recruitment.

There were two inclusion criteria for the study: regular Internet usage and native Arabic language status. In line with existing research, we defined regular use of the Internet as an average of at least one hour a week spent on the Web (Hargittai, 2009). A screening process was used to filter out nonnative Arabic speakers and people who were not regular Internet users.

Native Arabic speaking researchers asked potential participants which languages they speak, read and type and asked about the number of hours they spend on the Internet weekly. Participants who met the criteria were invited to take part in the study. In total, seventy-seven participants completed the study. Seven of the participants were removed from the study due to technical issues with screen capture and audio files that prevented data analysis, resulting in a final sample of 70 native Arabic speaker of which 35 bilingual were Arabic-English speakers and 35 were monolingual Arabic speakers. Literacy was the key determinate of bilingual versus monolingual status. Monolinguals did not have basic literacy skills in English although they may have spoken some English. Bilinguals were able to read and type in English and Arabic

The participants, all of whom are residents of Qatar, include passport holders from many countries, reflecting the diversity of nationalities that is common for Arabs. There are 28 Qataris, 15 Jordanians, 7 Syrians, 5 Egyptians, 3 Palestinians, 3 Lebanese, 2 Britons, 2 Iraqis, and one participant from each of the following countries: Sudan, Kuwait, Iran, Australia and Djibouti. The gender of the participants was roughly evenly distributed between the two groups with 33 men and 37 women. The participants were diverse on age M = 23.4 (SD = 6.75). The majority were single, 83%, and the rest were either married, 16%, or 1% divorced. They were reasonably well educated, with 12% not completing high school, 26% finishing high school, 43% currently in college, and 20% having completed a bachelor's degree.

Predictors

Development of knowledge items in Arabic. Hargittai (2005, 2009, 2012) designed, tested, updated and retested, a scale of knowledge of Internet related terms. The scale uses a multiple-choice format to assess knowledge of the terms' definitions. The items include questions on blogs, tagging, malware, bookmarklets, phishing, torrents, podcasting as well as others. A key decision was how to make the materials available in Arabic. Items could be translated, that is, we could find their equivalent meaning in an Arabic word, or we could transliterate, that is spell them phonetically with Arabic characters. This was a critical decision, given that a lot of the terms do not have a corresponding meaning in Arabic. For instance, the term "phishing" is "**التصيد**" in Arabic, which means fishing for a fish. Terms like "search engine" have a literal translation of "**محرك البحث**" which is an uncommon usage and could confuse Arabic users. Concepts like "torrents" are also meaningless as Web-related terms once translated into Arabic. Some words like" bookmarklet" cannot be translated due to the lack of a meaning associated with the word in the Arabic language. The solution that we used was terms that had an equivalent meaning in Arabic were translated and terms that did not were transliterated.

Self-rated Internet skill. We used the single item self-rated skill item to assess participant's self-reported Web-based digital literacy that Hargittai tested (2005, 2009). This Likert type scale has 5 answer options and simply asks the respondent to rate their skill level from not at all skilled to expert.

Potential covariates. Covariates identified in previous research including language ability (bilingual vs. monolingual), gender, age, education, years on the Internet and amount of time spent weekly on the Internet chatting and amount of time spend weekly on the Internet searching were included as control variables.

Internet-Searching Tasks

Web-based digital literacy was operationalized as the ability to successfully locate information on the Internet in line with Hargittai's (2005, 2009) research on American English speakers. In this method participants are assigned tasks involving locating various types of information on the Web. The tasks vary in difficulty but all require a reasonable level of digital literacy. None of the tasks can be completed by clicking on the first page of search results rather they require drilling down through multiple pages and sometimes using more than one search and/or strategy to locate the information.

As a starting point and to be as similar as possible to the conditions in which the English language digital literacy assessment was done, we adopted Hargittai's (2005) tasks when we could, revising them to be culturally appropriate and relevant as necessary. For some tasks this was not possible so similar tasks were created. For example, one of Hargittai's tasks required locating income tax information, however there is no income tax in our research location so we substituted an e-government task. Another of the tasks required finding emergency contraception, a topic that is rather taboo in our setting thus we omitted it. In addition, it had to be possible to complete the tasks in both Arabic and English, requiring some new tasks. We pretested the items with native Arabic speakers to ensure their equivalency in both languages as well as to be sure they could be successfully completed.

The first task required a price comparison between the different cellular providers in Qatar, our research site (see Appendix A for a complete list of the tasks). To answer this task, the participant must be able to find and search for specific information on each company's website by visiting different sections or pages or using the search bar. The second task asks the respondent to locate imported American food products in Qatar. The content on this topic is very limited on the Internet and fairly challenging. However, it only requires a good use of keywords and the ability of the user to distinguish between facts on websites designed to guide consumers to these products and locals' opinions posted on Internet forums.

The third and sixth tasks were created to identify whether residents in Qatar are able to use e-government tools. The questions ask the participants to find a method to pay for their traffic violations and find the information required to obtain an exit permit, a requirement for almost all residents of Qatar to leave the country. The fourth task asked the participants to find a way to attend a Broadway show in New York City. This task tests ability to do online shopping, for tickets in this case, and finding information on specific information such show titles and timings. The fifth task asked participants to locate information on the 2012 summer Olympics to find the age of the youngest Qatari female athlete of the four who competed in the Games. This task required the participants to find accurate information on a topic that has a significant amount Web content. The participants must be able to tab between different search results to confirm the ages of the female athletes. The final two tasks asked about information that would be used when traveling, in this case to Oslo. First they were required to find a way from the main train station in Oslo to the university of Oslo. To do so they had to find the name of the station and then be able to use Google Maps to locate it. Second, they were asked to find a book on economics while in Oslo, which could not be completed in either English or Arabic, requiring the use of a translation tool such as Google Translate.

Dependent Measure: Task Completion

Web-based digital literacy is defined as the ability to successfully locate information on the Internet. To measure this variable we coded the each of the eight searches on a three-point scale with failure to complete the task scored 1, partial task completion scored 2 and successful task

completion scored 3. Failure was defined as a lack of finding the correct information, either because participants gave up on a search or thought they had found the correct information when in fact they had not. Partial completions occurred when respondents were able to get to, for example, the correct page for a task, but were unable to navigate within the page to arrive at the answer or failed to recognize that the answer was on the page. Successful completion occurred when participants arrived at the correct information and indicated they believed that had done so.

Language of Materials. All of the study materials, including the scales, tasks and instructions, were available both in English and in Arabic. Bilinguals had the option of which format they wanted and they were able to switch should they choose to.

Procedure

Participants were contacted prior to the interview session and screened for regular Internet usage and native Arabic language status. Participants who passed the screening were invited to take part in the study. Data collection took place in a campus research lab. The lab was designed to mimic an environment similar to a normal work or school type Web searching situation to be familiar to participants. The room was furnished as a workspace and refreshments were provided. A long table was placed adjacent to the wall with two laptops on it. Two chairs were placed in front of the laptops. An external keyboard and mouse were provided in case the participants typically used them instead of the laptop keyboard. The laptops were standard PCs, equipped with the four different most commonly used Internet browsers, Google Chrome, Internet Explorer, Safari and Mozilla Firefox. Hypercam, a screen-recording software program, was used to screen capture the participants' searches. Two external audio recorders were also placed in different positions to record the conversation.

Upon arrival at the lab, participants were greeted by the interviewer and guided to the lab. Only the researcher and the participant were allowed into the lab once the session began. The participants were informed that the session would take about 90 minutes and that mobile phones should be silenced or turned off. The participants were then consented prior to the start of the session.

The sessions involved three main parts, first an oral pre survey, second the searching session on assigned tasks, and finally a post survey and follow up questions. In the first part of the session, the oral pre survey, the researcher asked the participants about their typical Internet use to measure known covariates. The self-rated digital skill item was included here. An oral survey rather than a self-administered questionnaire was used to develop rapport between the researcher and participant before the searching session.

In the second part the participants conducted the Internet searches on the assigned tasks. The conversation between the researcher and participants in this section was audio recorded and a screen capture program was used to record the searches. The participants were asked to face the computer, position themselves comfortably and select the Internet browser they typically use or are most familiar with. They were then asked to do the tasks, one at a time. Each search was completed before the next task was introduced. The interviewer encouraged the participants to explain their thought processes and searching strategies orally. When a participant believed they had successfully completed a task and indicated so to the researcher, regardless of whether they were correct, the next task was introduced. As our dependent measure is the ability to successfully locate information on the Internet, we stopped the searching on a task once the respondent believed they had found the correct information, whether or not they were in fact

correct. The researcher did not indicate whether or not the search was actually successful, as doing so would have tainted the dependent measure. The searches were later coded for success/failure. If a respondent wished to give up on a task the interviewer encouraged them to continue but if they were too frustrated to do so they were moved onto the next task.

The final part of the session involved a paper and pen task evaluation and an online post survey. Participants were first asked to fill out a short survey evaluating the tasks. They were then instructed to fill out a post-survey online. The post-survey included questions on demographics, and the knowledge test on Internet-related terms. The participants were then asked some follow up questions by the researcher to further clarify what they did during the searching session. The participants were then paid, thanked and excused from the study.

Results

Dependent Measure

To determine if the knowledge test and/or the self-rated digital skill items were related to respondents' ability to locate information on the Web, a linear multiple regression was used. We coded the tasks as explain above, with 1 for failure to complete the task, 2 as partial task completion and 3 for successful task completion.

The tasks varied in difficulty as can be seen in Table 1, with mean completion rates ranging from 1.46 for the most difficult task, which asked respondents to locate American food in Qatar to the easiest tasks, which both had means of 2.71 and asked respondents to utilize e-government resources.

Table 1

Means and Standard Deviations of Completion Rates

	N	Mean	Std. Deviation
Task 1 Calling Rates	70	1.79	.83
Task 2 American Food	70	1.46	.83
Task 3 Traffic Fines	70	2.71	.68
Task 4 Broadway Tickets	70	2.23	.92
Task 5 Female Olympians	70	1.73	.76
Task 6 Exit Permit	70	2.71	.68
Task 7 Oslo Directions	70	1.66	.87
Task 8 Oslo Book	70	1.70	.86

We sought to evaluate if an index of Internet search skills consisting of the scores on the eight searching tasks could be used rather than each task individually. Cronbach's alpha (Cronbach, 1951) was used to assess inter-task reliability to determine if we could treat the eight tasks as a scale and use the mean task completion score in the subsequent analyses. The eight

items are reliable, with a satisfactory α = .72. Thus each participant's mean score on the eight tasks was calculated and used as the dependent measure.

Predictors

The two main predictors we compared were the score on the knowledge items and self-rated Internet skill. We used Cronbach's alpha (Cronbach, 1951) to assess the inter-knowledge item reliability to determine if we could treat the knowledge items as a single scale and use the mean score in the subsequent analyses. The 19 items are reliable, with a satisfactory α = .84, thus each participant's mean score on the knowledge items was calculated and used in the subsequent analysis. The single item self-rated Internet skill item was scored with 1 as no skill and 5 as expert.

We also included seven potential covariates as control variables, based on existing research including: gender (1 = male, 2 = female), age, which was measured in years, education, (1 = not completing high school, 2 = high school diploma, 3 = some college, 4 = bachelors degree, 5 = some master's work, 6 = master's degree and 7 = a doctoral or professional (MD, JD) degree), number of years on the Internet, hours spent on the Internet weekly chatting or emailing, and hours spent weekly on the Internet searching, measured in one hour intervals, from none, up to 6 or more hours per week. Finally, we included language status (1 = monolingual, 2 = bilingual) as it is related to Web searching abilities (Dun & Eskandar, 2014).

Our research question asks if the knowledge items, self-rated skill level or both predict Internet searching skills, when education, age, gender, years on the Internet, time weekly on the Internet chatting, time weekly on the Internet searching and language status are controlled. In Table 2 we present the results of the ordinary least squares regression we used to answer this question. The predictor variables accounted for over half of the variance in searching ability R^2 = .62, adj R^2 = .56 $F(9, 59) = 10.74$, p >.0001. Although our sample is not a representative one, we use significance levels as a rough indication of the importance of variables. VIF levels are all acceptable, with values ranging from 1.2 to 2.6, below standardly accepted levels of either 5 or 10 (O'Brien, 2007) indicating multicollinearity is not an issue.

Table 2

Determinants of the Completion Rate of Internet Searching Tasks: Results of an Ordinary Least Squares Regression

	Standardized Coefficients
Variable	Beta
Years on the Web	.13
Age	-.01
Gender (male = 1, female = 2)	-.10
Education	.01
Weekly Time Web Chatting/Email	-.10

Weekly Time Web Searching	.01
Language Status	.37**
Knowledge Scale	.24*
Self Rated Skill	.23**

**p < .05; *p <.07

The regression results indicate that three variables contribute to the observed differences in task success: the knowledge scale, the self-rated skill assessment and what language the respondents spoke, with bilingual speakers more able to successfully find information on the Internet.

As both self-rated Internet skill and the knowledge scale contributed to the successful task completion, we ran two follow up regressions to determine if one of them was more related to task completion than the other. We first omitted self-rated skill as a predictor variable. In this model, the predictor variables accounted for 60 percent of the variance in searching ability R^2 = .77, adj R^2 = .60 $F(8, 60) = 11.06$, p >.0001. VIF levels are all acceptable, with values ranging from 1.2 to 2.3, below standardly accepted levels of either 5 or 10 (O'Brien, 2007) indicating multicollinearity is not an issue. In Table 3 we present the results of the regression with self-rated skill omitted as a predictor variable.

Table 3

Determinants of the Completion Rate of Internet Searching Tasks: Results of an Ordinary Least Squares Regression with Self-Rated Skill Omitted

	Standardized Coefficients
Variable	Beta
Years on the Web	.14
Age	-.04
Gender (male = 1, female = 2)	-.13
Education	.04
Weekly Time Web Chatting/Email	-.04
Weekly Time Web Searching	.01
Language Status	.41**
Knowledge Scale	.34*

**p < .001; *p <.01

We then omitted the knowledge scale as a predictor variable. In this model, the predictor variables accounted for over half of the variance in searching ability R^2 = .77, adj R^2 = .55 $F(8, 60) = 11.20$, p >.0001. VIF levels are all acceptable, with values ranging from 1.2 to 1.8, below

standardly accepted levels of either 5 or 10 (O'Brien, 2007) indicating multicollinearity is not an issue. In Table 4 we present the results of the regression with self-rated skill omitted as a predictor variable.

Table 4

Determinants of the Completion Rate of Internet Searching Tasks: Results of an Ordinary Least Squares Regression with Knowledge Scale Omitted

Variable	Standardized Coefficients Beta
Years on the Web	.14
Age	-.02
Gender (male = 1, female = 2)	-.11
Education	.05
Weekly Time Web Chatting/Email	-.14
Weekly Time Web Searching	.03
Language Status	.47**
Self-Rated Skill	.31*

**p < .001; *p <.01

The three models are similar in the amount of variance explained, although the model with the highest adjusted R^2 is with the self–rated skill omitted from the predictor variables. That model has an adjusted R^2 = .60, .05 more variance explained than the model with the knowledge scale omitted and .04 more than the model with both predictors.

Discussion and Conclusion

We undertook this research to ascertain if the scales developed for measuring digital literacy with native English speakers (Hargittai, 2005, 2009) would also work with native Arabic speakers. The research conducted in the U.S. found that Web users overestimate their Internet skill levels when asked to evaluate themselves and that testing their knowledge of Internet related items better predicts their actual searching skills (Hargittai, 2005). Similarly, we found that the knowledge scale better predicts Arabic speaking Web users ability to find Web-based resources than the self-rated skill item, or the combination of both the knowledge scale and the self-rated skill item. Thus, with a native Arabic speaking population, as in the native English speaking one, testing their knowledge level provides the best prediction of their Internet searching skill.

However, the difference between the two predictor variables in explained variance, .05, is not large. It may be that the native Arabic speaking respondents did not overestimate their skill level to the degree the native English speaking respondents did. While our data cannot speak to

why this may be true, we can speculate that there may be cultural differences in the way the respondents evaluate themselves. Why this may be the case would be an interesting area to follow up in subsequent research.

To our knowledge, this is the first study to investigate whether the knowledge-based digital literacy scale developed by Hargittai is a reliable and valid tool for use with native Arabic speaking Internet users as well as first to investigate their Web searching strategies with observational methods. The results of the study should enable easy and reliable assessment of digital literacy in Arabic speaking populations, which could lead to educational interventions in schools in the MENA region as well as assist governments in their development of e-government services. Our study also provides an initial assessment of digital literacy levels in Arabic speaking Web users and contributes to the growing literature on digital literacy.

The study is limited by the use of a non-representative sample, which was necessitated by specific inclusion criteria but nonetheless limits the generalizability of the results. Although in line with similar research, the sample is relatively small. The observational nature of the method requires running participants individually, making large samples less feasible. However, larger, representative samples would strengthen the generalizability of the findings.

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Appendix A

Internet Searching Tasks

Task 1. You constantly call a friend in the USA. Where you can find Qatar/local cellular company with the lowest rates for the USA. You decide to only look at the main companies to simply your search.

Task 2. You're having a birthday party at your house and some of the guests are from America. You decide you'd like to feature some American food that you want to cook yourself. Where can you find food that has been exported from America in Qatar to use when you cook?

Task 3. Let's assume that it is time to pay your traffic violations. Where would you find the necessary forms and get information to help you with the process?

Task 4. You're taking a trip to New York City and want to see a live theatre show. Where can you attend a Broadway show NYC? – Once they find a show, ask them for specific timings for the shows

Task 5. Your friend is working on a project and needs to know some information about the Qatari Olympic team including the age of the youngest Qatari female athlete who participated in the 2012 Summer Olympics. Can you find the information?

Task 6. Your maid needs an exit permit for her upcoming yearly leave. Where can you get one for her?

Task 7. You're taking another trip, this time to Oslo and want to find how to get from the main train station in Oslo to the university of Oslo?

Task 8. While in Oslo you need to find a book about economics. Can you find one?

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Application of Information and Communication Technology Tools for English Language Teaching in an Omani Context

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Abstract
ICT (Information and Communication Technology) has become a significant domain of learning in the field of teaching and learning. Recently, educators have shown overwhelming interest in incorporating computers and Internet to improve the effectiveness of education at informal and formal levels of Education. ICT with its numerous tools has immense potential in the field of English Language Teaching (ELT) in terms of facilitating the teaching and learning of listening, speaking, reading and writing skills.The article summarizes some of the merits and the demerits of the use of ICT tools, and the concept of using ICT in ELT based on the researcher's review of recent studies. It also highlights the findings from the researcher's own study on the effectiveness of the application of ICT tools on the EFL (English as Foreign Language) writing performance of Omani EFL learners. The study focuses on effectiveness of Moodle Forum treatment on the quantity of EFL written output in terms of number of words, Language Units and Clauses. The study is considered to be significant in the context of Omani learners being exposed to increased ICT intervention in their social and academic life. A quazi-experimental study was conducted among diploma level students (N=28) at Al Musanna College of Technology under Ministry of Manpower, Oman. The findings and analysis of both quantitative and qualitative data revealed that Moodle Forum intervention can have significant impact on the participants' EFL written output. The study recommends that students and teachers should integrate ICT tools in ELT appropriately.
***Keywords**: ELT, ICT moodle, Oman, writing,*

Introduction

Information and Communication Technology has impacted every aspect of modern life such as learning, working, socializing, playing and so on. This has revolutionized the way the youth access information, communicate, give and take help, and learn. According to Yunus, et al. (2010) ICT integration is a trend in the modern educational system. Modern day tech-savvy youth use technology in their lives for many purposes such as researching or studying, shopping, socializing and gaming (Yilmas & Orhan, 2010). ICT promotes better economic productivity and exchange of information enabling effective people-participation. Considering the immense potential of ICT in economic, social and educational advancement, the Governments and World bodies initiated ICT implementation in almost all fields (UNESCO, 2013; Hu & Webb, 2009). As a result, the growth of ICT use worldwide has increased significantly over the years. For example, the personal use of Internet in 2001 was 8%, but it increased sharply in 2013 i.e. 39%. 15% of mobile subscription in 2000 rose to 96% in 2013; wired broadband and mobile subscriptions increased from 5% and 4% in 2007 to 10% and 26% in 2013 respectively (ITU, 2013-World Statistics). This increase in the use of ICT has positively influenced the different areas of modern Education. Robertson and Al-Zaharani (2012) in their study in the field of education found that the participants have exposure to computers, training and increasing access to resources; and ICT will continue to increase motivation, computing habits of students and teachers in the field. As a result of increased use of ICT in education, a number of educational software is being produced to facilitate the learners' language learning and practicing (Dettori & Lupi, 2010).

Definition

ICT (Information and Communication Technologies) can be generally defined as technologies that compute, transmit, communicate and store information (Hilbert, 2011). In the context of this paper, ICTs (Information and Communication Technologies) is referred as a "diverse set of technological tools and resources which are used to communicate, and to create, disseminate, store, and manage information." (Ghasemi & Hashemi, 2011). The internet, computers, telephony and broadcasting technologies (television and radio) and various other tools (including recent social media and mobile technology) are included in these technologies. Some of these technologies such as radio and television are older than the new internet based technologies.

Technologies that communicate through the use of computers, Internet and telephone have become the focus of most of educational studies in recent times. The modern world is provided with a vibrant Information and Communication Technology (ICT) including Broad-band, wireless and mobile computing consisting social media such as social networking sites, blogging and micro-blogging (Haythornthwaite & Kendall, 2010). ICT with education technology consists of different software and hardware (Kohnke, 2012). Education technology in ICT, therefore can be defined as educational practice based on pedagogical theory, development and administration of resources, process, evaluation and implementation. The four requirements of ICT in educational institutions are the shared vision of administration and staff, the access to ICT, the technical assistance and the staff development (Kohnke,2012) in terms of the importance of ICT, the easy ICT access for students and staff, and the maintenance of ICT labs and devices, and the ICT training and handling.

ICT therefore is an expression of different electronic services, internet (network), software (applications) and devices (hardware) for communication. It's an all embracing concept

consisting of all communication gadgets of modern social life and their using with an aim of promoting information exchange through the process of communication (Vodopivech & Samec, 2012). Thus, ICT (Information and Communication Technology) has become an integral part of modern education including English Language Teaching and Learning (ELTL).

Different Information and Communication Tools

Many EFL studies (So, Choi, Lim, & Xiong.,2012; Mama-Temotheou & Hennessy, 2013) revealed that use of ICT tools in language learning has positive outcomes such as better access to information, providing efficient resources, and increased learning and motivation. Researchers therefore have shown an overwhelming interest in using different ICT tools in facilitating ELL (English Language Learning). Kizil (2011) in her study on the use of ICT in ELL, for instance, found that commonly used ICT tools are the internet, presentation tools, software for processing texts and structure drilling, and communicative language tasks; the participants of the study had positive attitude towards using ICT in EFL teaching and learning, and they regarded ICT integration in education was more advantageous than traditional methods of instructions.

Many other studies (Table 1) examined the effectiveness of ICT tools that range from email (Evans, 2012; Liu, 2011), Wikis, blogs to Chats (Alshumeimeri, 2011; Miyazoea, & Anderson, 2012; Alwi, Adams, & Newton., 2012; Chen, 2012). Podcasting (Rahmi & Katal, 2012), tablets – ipads/ipods and mobile phones (Martin & Ertzberger, 2013; Hu, Hwang, & Chang.,2013) are other latest ICT tools for mobile learning. Moreover, social media such as Facebook and Youtube (Ghasemi, 2011; Lairea, Casteleyn, & Mottart., 2012; Alias, Manan, Yusof, & Pandian., 2012) are also used in ELT. The study (Gitsaki & Alabbad, 2012) on mediated learning revealed how the use of ICT tools positively impacted EFL students' attitude towards ELL (English Language Learning) through technology, and its impact on their language skills. All these studies demonstrate the significance of different ICT tools in facilitating learning and practice of language skills.

Table 1. ***ICT tools***

ICT Tools	Author
Internet, Software – text processing, Presentation tools	So, Choi &Xiong, 2012; Mama-Temotheou& Hennessy, 2013
E-mail	Liu, 2011; Evans, 2012
Chat, Forums, Blogs and Wikis	Alwi, et al., 2012; Miyazoea, & Anderson, 2012; Chen, 2012; Alshumeimeri, 2011
Mobile-phones and Tablets-ipads/ipods	Hu, et al. 2013; Martin &Ertzberger, 2013
Podcasting	Rahmi&Katal, 2012
Youtube and Facebook	Ghasemi, 2011; Alias, et al., 2012; Laire, et al., 2012

Advantages of ICT

Following points highlight some of the advantages of ICT with reference to EFL/ESL teaching and learning.

- ICT can be used for pleasure, study and work purposes. EFL/ESL learners can use it for

pleasure in terms of enhancing language skills such as listening, speaking, reading and writing to supplement their classroom language use.

- The use of ICT motivates the learners enabling them do better in their pursuit of knowledge and skill (Punie, 2007) in a new learning environment and experience. This helps learners engage in using authentic language and linguistic resources.
- The language learning through ICT not only enhances the linguistic skills, but also the learner's competence in using technology, which is essential for future employment, higher education, personal development and their role in the modern society (Markovac and Rogulja, 2009). English language proficiency with technical skills increases employability of the graduates.
- ICT eliminates geographical barriers to learning. Students can access information and resources from all parts of the world resulting in increased learning. ICT tools such as Chats, Online Forum Discussions (OFDs), etc. would open opportunities for cross-cultural and continental interaction in the target language.
- ICT facilitates student centered autonomous learning in the absence of face-to-face teaching and learning. Students can study anytime and anywhere according to their needs. This facilitates independent use of EFL/ESL.

Disadvantages of Using ICT

Following points summarize some of the disadvantages of ICT usage in general and ICT in ELT in particular.

- Some scholars (Kirkorian, Wartella and Anderson, 2009) believe that children study better from real-life experiences than from the learning through ICT. The use of ICT limits the learners only to a virtual learning platform away from classroom learning with their peers.
- Young learners are vulnerable and they might be negatively influenced by the numerous contents that they are exposed through ICT. The matured adults or parents have no control over the vast amount of information available to the learners through ICT (Roberts, et al., 1999). ELT practitioners should exercise discretion in involving learners in ICT mediated language learning.
- ICT often encourages passive learning without being actively involved with others in the learning process. The learners spend most of the time in a virtual learning environment resulting in limited personal socio-cultural interaction. This limits the learners' inter-personal relationships and interactions (Bushati, et al, 2012).
- ICT can cause 'digital gap' among the learners. The learners who have more accessibility to ICT would out-do other learners who have less exposure to ICT. Similarly, the learners' familiarity with the ICT tools also affects their learning that the learners who are more skilled in the use of ICT tools tend to take better advantage of learning target language than the learners who are not equally skilled.
- Learners may focus more on technical skills than the learning that is the primary goal of ICT usage especially in ELT. EFL/ESL learners therefore may not be able to utilize the language learning time and effort as they might be distracted by the technical elements in the ICT usage.
- Teachers may not be well equipped and updated with the use of ICT tools resulting in slow teaching and learning process. This will also cause communication gap between the

learners and teachers. EFL/ESL professionals especially the teachers should be trained and updated regularly in using ICT tools that could effectively be used in EFL/ESL teaching and learning.

Caution in using ICT

ELT professionals and EFL/ESL learners therefore should be cautious in using ICT considering its merits and demerits. Jones and Cuthrell (2011) while writing about the positive aspects of ICT tools in EFL teaching and learning, he warns the participants about the quality and content of the ICT materials, the vastness of the resources and the copyright law. They suggest that teachers should critically and carefully choose ICT tools and resources to make use of them in the classes in promoting language learning. However, the significance and relevance of ICT in modern ELT is unquestionable as different instructional methodologies for using ICT tools and online resources are made available to teachers and students (Snelson, 2011). ICT with all its perceived disadvantages therefore can be used to supplement traditional classroom teaching providing examples of authentic use of the foreign language in terms of an integrated framework of all skills – Listening, Speaking, Reading and Writing.

ICT Penetration in Oman

As this study is designed in an Omani context in Arabian Gulf using ICT in EFL, an understanding of ICT use in the region would give a better insight into its importance. The use of Internet and mobile subscriptions increased in Arab countries in general and Oman in particular. For example, In Arab Countries, the Internet usage rose from 8% in 2006 to 38% in 2013; and the mobile subscriptions also increased from 39% to 105% in the same period (ITU, 2013). According to the statistics (TRAO, 2013) Oman has 146% of mobile connection including 98% of its population; the fixed line connection per household is 82%; the active mobile broadband subscription is 53%; and 32% of fixed internet subscription. This accounts for a fast growing trend in using ICT in Oman.

ITA (2012) in its survey on ICT and higher Education in Oman found that 62% of tertiary educational institutions in Oman offer degrees in ICT specialization. The fixed broadband internet connectivity and LAN in tertiary level educational institution in Oman is 99%; and Wifi and email are provided to staff and students in 88% of Omani institutions of higher Education. The survey also found that 90% of Omani employees in those institutions have ICT skills. However, According to Marzban (2011) the use of ICT is a new undertaking in the region; and teachers and educationalists are prompted to give much attention to the importance of integrating ICT in EFL teaching and learning because of its fast growing popularity.

A Study on ICT Application in an Omani EFL Writing Context

Based on the literature review and the researcher's own exposure to ICT in EFL teaching and learning in Sultanate of Oman (as the researcher is a resident in Oman) an empirical study was undertaken using Moodle as an ICT platform with special focus on Writing. The need for the study is evident from the lack of literature in the field of ICT focusing on writing in EFL. Al-Aufi and Al-Azri (2013) found that less study has been done to find the effectiveness of ICT in language teaching and learning with a special emphasize on writing; and they also observed that the ICT integration into language learning could increase the information literacy of learners in Oman. Moreover the learners are found exposed to ICT in their daily social life and academic life in the region. The lack of relevant studies on using these ICT tools in developing writing

skills therefore may deprive language teachers in Oman to comprehend possible areas and causes of ICT that may impact their learners' EFL skills in general and writing performance in particular.

Research Objective and Questions

The study was undertaken with the objective of finding out the effectiveness of using ICT tools for writing on the quantity of EFL written output and the learners' attitude towards ICT intervention in EFL writing. This section therefore focuses on the effectiveness of ICT mediated writing treatment on the linguistic quantity of EFL written output and learner perception on the treatment. Based on the objective, the following research questions with their null-hypothesis are formed to investigate the effectiveness of the ICT mediated writing treatment on the EFL written output.

1) Is there a significant difference between the quantity of words in EFL written output before and after the ICT mediated writing treatment?
2) Is there a significant difference between the quantity of Language T-Units in EFL written output before and after the ICT mediated writing treatment?
3) Is there a significant difference between the quantity of clauses in EFL written output before and after the ICT mediated writing treatment?
4) What are the attitudes of the participants towards ICT mediated EFL writing treatment?

Hypothesis

The following null-hypotheses were formed to test the significance of the findings of the study.

1) There is no significant difference between the quantity of words in EFL written output before and after the ICT mediated writing treatment.
2) There is no significant difference between the quantity of Language T-Units in EFL written output before and after the ICT mediated writing treatment.
3) There is no significant difference between the quantity of clauses in EFL written output before and after the ICT mediated writing treatment?

Methodology and Study Design

A comparative experimental study design was set up. The students were enrolled in an e-learning course on Moodle. The researcher used the Forum tool on Moodle as the ICT tool for the study. 10 topics (Appendix A) were listed on the page for the students to write/discuss electronically following the teacher's instructions. The topics are selected to promote argumentative writing, and they were relevant to the learners' academic and social context. For example, the students were asked to write electronically about *students' using mobile phone in the class, working Omani women*, *sports in Omani colleges* and so on.

The participants are 28 Omani EFL learners at the college level, whose mother tongue is Arabic. The participants are selected randomly according their original section grouping by the administration. All the participants have completed their certificate level English writing course, and they are admitted to their Diploma level. The students are aged between 18 – 23, and they are a mixture of males and female participants who are 15 and 16 in number respectively. All the participants have belonged to a homogenous group of native Arabic speakers who are learning EFL writing as part of their Diploma level course in Engineering and IT (Information Technology). All the participants are equally exposed to different ICT uses at the college

commencing from their foundation level courses. All of the participants hail from a semi-urban background that has satisfactory ICT penetration. All of them have smart phones with internet connectivity at college and at home.

A pretest was administered for the students before their writing using Moodle forum tool as the ICT tool. The pretest was a writing task on selected topic for 40 minutes closely following the students' level exit writing exam (LEE) model (administered in the College). The test-format used in the pretest and posttest assesses the learners' argumentative writing ability in EFL. Argumentative essay writing is one of topics taught and practiced in the course. The students should learn to express their arguments and counter-arguments on the topics given in an essay format. Since the discussion tasks on the forum treatment are designed to facilitate the participants to express their opinion or arguments on selected topics, and the learners are prepared for argumentative essay writing in their LEE, the choice of the pretest format is quite suitable to the study.

After the pretest, the students were given training for two weeks on how to use the forum tool for interactive electronic writing using Moodle Forum. The training includes assigning the learners a computer lab equipped with one system for each one. The participants with the help of a technician are demonstrated how to switch on the system, log-in, and log out of their Moodle course. The teacher assigned with the help of the technician has explained various features of Moodle forum, and how the participants can post their views and respond to their friends' post. Appendices A includes screen shots of the list of topics uploaded on the Moodle course page; and some of the forum samples of students' writing. The training has helped the participants know and practice how to use Moodle forum tool for writing. From the third week onwards and the learners were asked to involve in a meaningful Moodle Forum mediated Forum writing for 40 minutes on every Thursday for a period of one semester (10 weeks) on given topics on their own. The learners discussed or wrote online about current topics such as women education, use of mobile phones in classrooms, sports in colleges, etc., which are relevant to their social and educational context, and thus finding it more meaningful and purposeful in contributing to the discussion. The students were regularly given feedback on their writing on Moodle forum. After the treatment period, a post-test was conducted following the same pretest criteria. The quantitative (written output through tests) therefore has been collected through pretest and posttest. The quantitative data was analyzed using descriptive and inferential statistics using SPSS (2.0). The paired sample t-test was used to analyze the quantitative data.

Test Instrument

As mentioned above, the researcher used writing tasks on selected topics based on the learners' Level Exit Exam (LEE) criteria for pretests and post-tests. The learners were given 40 minutes each for the pre-test and post test to write about the topic argumentatively or expressing their opinions. The sample topics were *road accidents in Oman, use of telephone in classrooms*, etc.

Writing Measure (Hirotani, 2009)

The following writing measure (Hirotani, 2009; Table 2) was used to measure the quantitative data - results of pre-test and post-test in terms of the Quantity of EFL written output (Appendix B).

Table 2. *Writing Measure* (Hirotani, 2009 (Adapted)

Category	Subcategory	Measure
Language Output	Word	Number of words
	Language Unit	Number of T-Units
	Clause	Number of Clauses

Many researchers have considered language output as the quantity of language produced in terms of number of words, language units (T-Units) and number of clauses (Hirotani, 2009). Egi (2010;p.8) defines that "tokens are number of words in a text or corpus; and types are number of different words". A T-unit refers to "minimum terminable unit" (Nagy & Beers, 2007:p.188), which includes both an independent clause and any number of dependent clauses; and while measuring the quantity, the number of clauses is separately counted.

Interview

A semi-structured interview was conducted to collect qualitative data to get a better insight into the participants' attitude towards Moodle Forum treatment. About 10 questions covering different aspects of the treatments such as the learners' feeling. Difficulty and challenges, language improvement, technical problems were initially prepared and used for qualitative data collection.. The qualitative method enabled the researcher to understand the learners' attitudes towards the Forum intervention in EFL writing. The qualitative method of data collection is found to be significant because the researcher could not have understood the attitudinal aspects of the treatment through the quantitative data collection alone. Three interviewees were selected based on their performance in the Moodle Forum treatment. S1 (Student1) can be considered as one of the best participants and other two (S2, S3) are of moderate as observed by the researcher. The interview was recorded, transcribed, coded into main categories and subcategories, and interpreted.

Findings

A paired Samples T-Test was conducted to compare the difference between various dependent variables in the Forum mediated writing pretest and the posttest in terms of quantity in accordance with the research questions. This section for the analysis of the finding of the study focuses only on the quantity of language output as a result of Moodle Forum intervention as an ICT tool in writing.

***Question 1*:** Is there a significant difference between the quantity of words in EFL written output before and after Moodle-forum writing treatment?

The paired Samples descriptive Statistics (Table 3) showed that there was a significant difference in the mean scores for the number of words in the pretest (M = 181.03, SD = 74.50) and the post-test (M = 274.57, SD = 55.39); and t (27) = -7.478, p = 0.000 (p < .05) (Table 4) These results suggest that electronic writing (synchronous) does have an effect on the quantity (number) of words in the written output. Particularly, the study result revealed that when Omani EFL learners involve in Moodle-forum mediated writing (online forum discussion synchronously), the number of words increases in their written output

Table 3. ***Descriptive statistics for the quantity of words***

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Number of Words (Pre-test)	181.0357	28	74.50	14.08
	Number of Words (Post-test)	274.5714	28	55.39383	10.47

Table 4. ***Statistical Test: Number of Words***

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Words (Pre&Posttests)	-93.54	66.19	12.51	-119.20	-67.87	-7.48	27	.000

Question 2**:** Is there a significant difference between the quantity of Language T-Units in EFL written output before and after Moodle Forum mediated writing treatment?

The paired Samples descriptive Statistics (Table 5) showed that there was a significant difference in the mean scores for the number of language T-Units in the pretest (M = 22.39, SD = 8.39) and the posttest (M = 31.79, SD = 7.94); t (27) = -5.510, p = 0.000 (p <. 05) (Table 6). These results suggest that electronic writing (synchronous) does have a statistically significant effect on the quantity (number) of language T-Units in the written output. Particularly, the study result revealed that when Omani EFL learners involve in Moodle Forum writing asynchronously), the number of language T-Units increases in their written output.

Table 5. ***Statistics: Quantity of Language T-units***

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Language T-Units (Pre-test)	22.39	28	8.39	1.59
	Language T-Units (Post-test)	31.79	28	7.94	1.50

Table 6. ***Statistical Test: Quantity of Language T-units***
Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	T-Units (Pre&Posttests)	-9.39	9.02	1.70	-12.89	-5.90	-5.510	27	.000

Question 3: There is no significant difference between the quantity of clauses in EFL written output before and after Moodle Forum mediated writing?

The paired Samples descriptive Statistics (Table 7) showed that there was a significant difference in the mean scores for the number of clauses in the pretest (M = 13.82, SD = 6.13) and the posttest (M = 23.18, SD = 8.48); and t(27) = -5.309, p = 0.000 (p <.05) (Table 8). These results suggest that Moodle-forum mediated EFL writing has a statistically significant effect on the quantity of clauses in the written output. Particularly, the study result revealed that when Omani EFL learners involve in Moodle forum writing, the number of clauses increases in their written output.

Table 7, ***Statistics: Number of Clauses***
Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Clauses Pre-test)	13.82	28	6.13	1.16
	Clauses Post-test)	23.18	28	8.48	1.60

Table 8. ***Statistical Test: Quantity of Clauses***
Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Clauses (Pre&Post tests)	-9.36	9.33	1.76	-12.97	-5.74	-5.31	27	.000

What are the attitudes of the learners towards electronic writing?

The interview found that the participants were generally very positive about ICT mediated writing (Moodle forum writing). For example one of the interviewees (Participant 1) said that *I am so happy because it's easy, and it helps to build the future so fast, and I think the other reason that makes me happy: I love electronic things."* Another interviewee (Participant 2) remarked *"I feel comfortable, and I feel pleasure that we used another type of writing; we changed the routine of the old type of writing which is by paper; for that I feel I used something that will ..I will get benefit.."* However, the participants felt some challenges too. One of the interviewees (Participant 3) said "*Bad feeling. Because I lose everything, every information*".

To summarize the attitudes, the interview analysis helped the researcher to find out themes such as motivation, newness of ICT and its Challenges. Students were motivated to use the new type of writing for their passion for ICT devices such as computers, laptops, ipads, smartphones, etc. The learners also felt that ICT mediated writing, is new to them compared to the traditional paper-and-pen writing, and they felt some practical value in pursuing Moodle forum writing. Nevertheless, the words of the interviewees conveyed that ICT mediated writing posed some difficulties or challenges to them; for example, the abrupt deleting of what the *learners write, their lack of computer or keyboard skills and the malfunctioning of the system while writing*..

Discussion

The study found that ICT mediated writing treatment has statistically significant effect on the EFL learners' writing performance in terms of quantity – number of words, number of Language T-units and number of clauses. One of the reasons could be their motivation to write using ICT tools.

The qualitative data collected through interview was analyzed and found that students were more motivated in the interactive ICT mediated writing tasks such as Moodle forum written exchange in EFL teaching and learning for its newness and students' liking for electronic gadgets such as smart phones, tablets, laptops, etc. The learners had a very positive feeling for the use of the Forum as the ICT tool. The interactive element in the ICT mediated Forum writing distinguished it from individual ICT mediated asynchronous writing. The learners expressed their interest to participate more in ICT mediated writing sessions in their EFL courses.

Limitation of the study

The study included only 28 participants from Al Musana College of Technology, and it lasted only for a period of one semester i.e. about 10 weeks. The study did not consider the demographic distribution of the participants that no separate analysis has been done to see whether the forum treatment has a different effect among males versus females. The cultural and social implication of the use of ICT in ELT could not be studied. The study was mainly focused on the effect of using Moodle Forum on the quantitative EFL written output of the selected participants and their attitudes towards the treatment. A different study including more participants from different parts of the country may yield a different result.

Conclusion and Recommendations

Based on the review of different works on ICT in ELT and the findings of the study, one could conclude that ICT integration can enhance the effectiveness of English Language Teaching and Learning. Though it cannot replace the traditional face-to-face curriculum, it can effectively

supplement it. The use of ICT and its different tools are more appealing to modern day technology oriented learners who are very much used to advanced smart devices such as tablets and smart phones with their numerous applications unlike any other learners of the past. Studies (Vodopivech & Samec, 2012) have revealed that ICT usage can only benefit the learners more than it can disadvantage them. The stake holders and policy makers therefore should give enough emphasis on the integration of ICT in language learning by creating appropriate policies and ensuring ICT infrastructure across the curriculum. Educational institutions should be well equipped with ICT devices and LMS (Learning Management Systems) to meet the learning needs of students. The learners should get free and easy access to ICT tools in their language learning process minimizing the digital gap i.e the social economic inequality in accessing and using ICT tools (Harvey, 2014). The educational institutions world wide, in Oman and Middle East in particular should incorporate ICT in EFL teaching and learning more effectively. The teachers and students should be given due training in the use of keyboard typing, LMS (Learning Management System) such as Moodle, Blackboard, etc. This will not only encourage the learners' ELL (English Language Learning), but also equip the learners to meet ICT demands at job markets.

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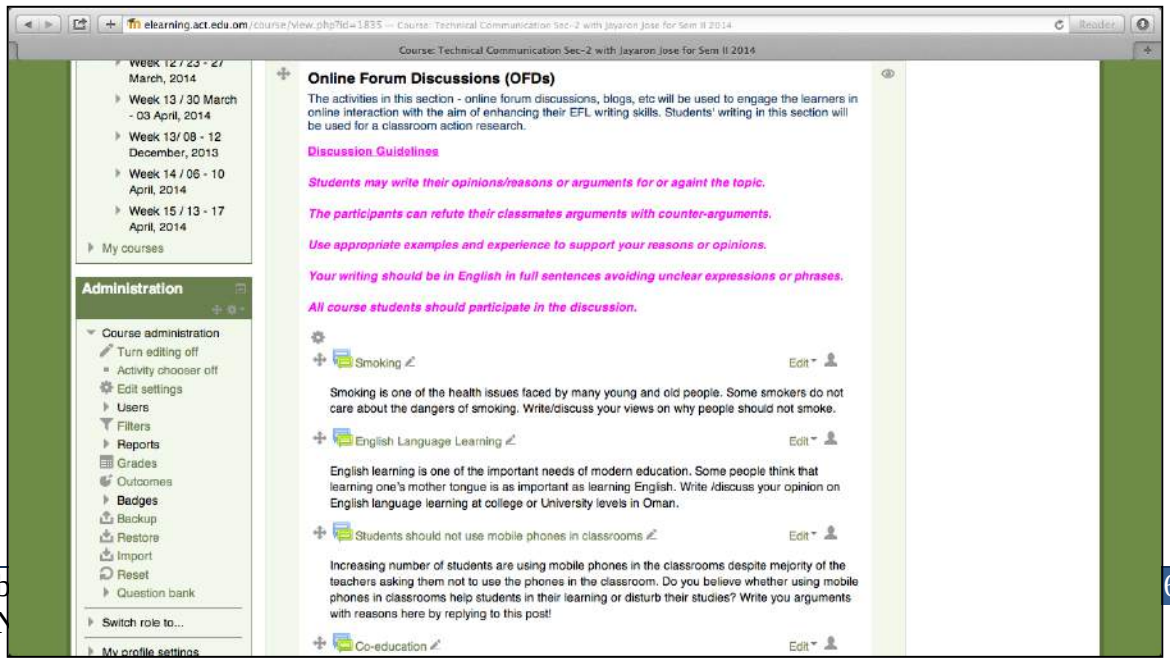
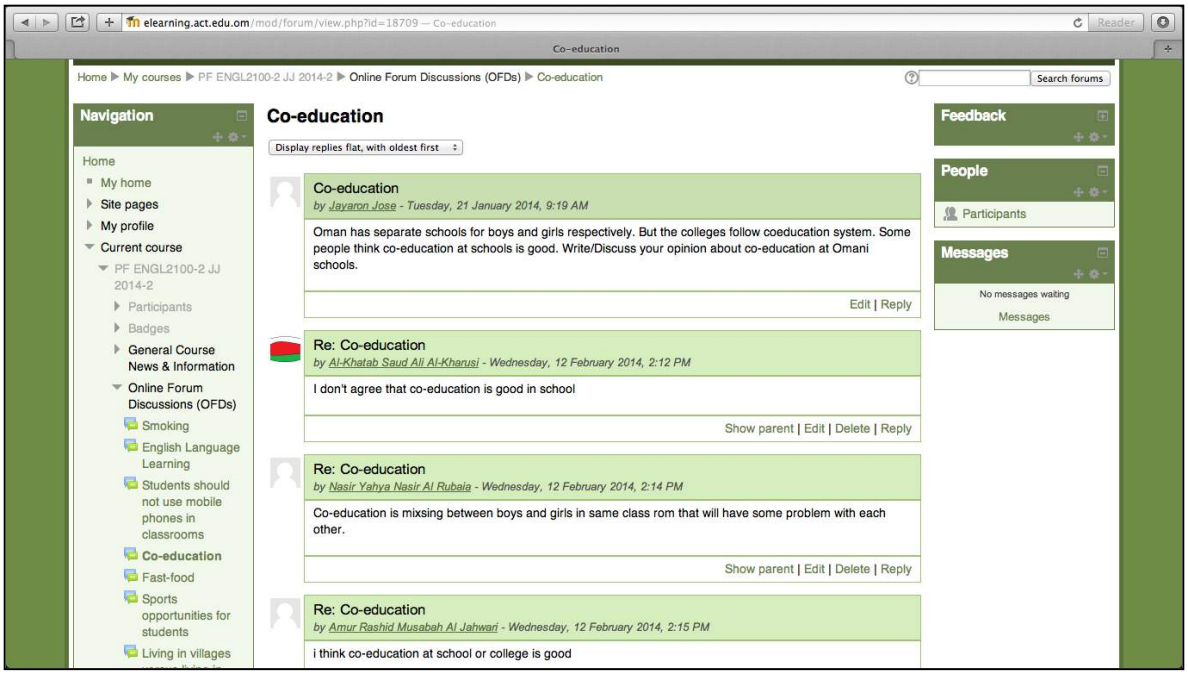
APPENDIX A

Screenshot of Moodle Forum Writing topics & Sample Forum Writing





APPENDIX B

Quantitative Data Collection Sheet (Sample)

Qualitative Data Collection Sheet (Sample)				
Participant's Name			Participants' Code	
Category	Sub-Category	Measure/Variable	Codes	Number
Language Output	Word	Number of Words	WD	301
	Language Unit	Number of T-Units	LU	40
	Clause	Number of clauses	CL	29

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Online Tutorials on Advanced Writing Skills Course: A Case Study of Distance Learning[1]

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Abstract

Writing in English at the advanced level often refers to the *process of writing*. As a process, it normally goes through a series of stages such as *prewriting*, *outlining*, *writing*, and *revising*. However, teaching writing within the context of distance higher education is mostly delivered through the Internet. This paper explores an online tutorial package that is specially designed for advanced level students to improve their proficiency in writing essays. For this purpose, a research question was developed: To what extent can the technology-based online tutorial help both the tutors and the students in the teaching and learning process? A critical analysis of this practice in association with the notion of *admission test* to an undergraduate degree programme in translation, in particular, was then followed by a detailed discussion. Conclusions drawn from this case study are in two folds; on one hand, online advanced writing course tutorials can be considered as an alternative strategy for students to their competency in writing essays which have been achieved by learning through printed self-instructional modular packages (i.e., Writing 4 course module), and on the other, the findings are closely linked to some students' poor writing performance prior to pursuing translation core courses could have a possible impact on retention rates in the long run.

Keywords: Aadmission test advanced writing skills course, retention rate, students' performance, online tutorial.

Introduction

The main objective of this paper is to share my own experiences, not only as a course writer but also as a tutor of *Writing 4*, an advanced writing skills course (Karnedi, 2003). The English language skill is provided for the students of the translation programme at the English Language and Literature Department of Indonesia Open University (*Universitas Terbuka* / UT). Since 2010, I have been dealing with the advanced writing skills course tutorial, in which I have tried to integrate my years of experience and expertise in designing and writing the language skills course books for self-study purposes into the Internet-based learning format, as opposed to the traditional classroom context.

Even though there are a few resources available for teaching writing skills that are mainly in the form of printed materials, specially-designed learning materials for teaching writing skills online remain scarce (Warnock, 2009, p. x). However, like any other open universities worldwide, UT has been pioneering and developing technology-based learning materials for years, including writing skills course materials delivered online known as UT-Online tutorials, that appear on the university's website as part of its academic support services (Zuhairi, Adnan, & Thaib, 2007).

This practice of course is in line with the current trend of online courses that now becomes more popular at the tertiary level throughout Indonesia. The students who have registered for a couple of courses are encouraged to involve and participate in related online tutorials without obstructed by any geographical constraints and also temporal borders. This is not only a good opportunity for them to enhance their learning process but it also serves as both a social and an academic forum for them to discuss and share ideas with other fellow students at the university. In that way, learning through the virtual world is not be necessarily solitary and isolated. Above all, their participation in the online tutorial package can significantly contribute to the final marks of certain courses they take in each semester, or during a particular registered semester. In other words, online method of learning materials delivery will increasingly be in use in the future.

UT has actually been on the right track in terms of instructional design without neglecting its multimedia-based printed learning materials. The question for both the tutors and the students, including other stakeholders of open and distance learning, is how to make full use of these teaching and learning technologies for the sake of promoting lifelong learning for all.

As part of UT-Online courses, the online advanced writing skills course tutorial is a supplementary material that the students can access and use to improve their writing skills to the advanced level. At this level, they are required to produce simple essays on a given topic or a context for writing such as writing a letter to the editor of a newspaper or a magazine in response to a current issue or a topic raised in the daily (White, 1987; Karnedi, 2003).

Teaching Writing Online

One of the latest references widely quoted by many scholars in relation to teaching writing online is *Teaching Writing Online: How and Why* by Warnock (2009). He proposed a number of core guidelines for teachers of online courses to consider. Some book reviewers consider some of those guidelines as more or less similar to the methods that are widely practiced in face-to-

face classrooms, whereas some other critics regard them them as something quite useful since they contain a theory and a pedagogy for teaching writing online. Below are some of the guidelines proposed by the writer.

Guideline 1: Teaching writing online offers you new ways to apply theoretical and pedagogical concepts about writing. It can provide you with different ways of disseminating, sharing, reviewing, and responding to students' texts.
Guideline 2: Initially, you want to think *migration*, not *transformation*, when teaching online. Think about what you do well, and then think about how you can use various resources to *translate* those skills into the OWcourse.
Guideline 3: Most prepackaged course management systems (CMS) have everything you need to help you translate your pedagogy into the OWcourse.

From the tutor's perspective, instructions given online can be both a different and a progressive approach since online writing tutorials provide opportunities for the students, including tutors, to exchange their writing that face-to-face classrooms cannot do. In addition to this, online writing tutorials also give opportunities for the students to produce more informal and developmental pieces of writing that can be developed into essay formats. This kind of activity is actually in line with *writing a draft* as part of the process of writing. More importantly, online writing tutorials make it possible for the students to communicate everything in the form of written work. This in turn indirectly *forces* them to write with the audience, purpose and context in mind, as pointed out by Warnock (2009, p. ix) "how teaching online opens an array of intriguing teaching and learning opportunities for writing instructors and their students."

Warnock then argued that several aspects of online writing tutorial need to be taken into consideration: (1) peer-review that can help the students assist each other; (2) give adequate feedback without discouraging; (3) grade student's work online, as well as pacing and also predictability that helps them get comfortable with the online writing course; (4) create collaboration among the students to work virtually in groups; (5) intellectual property in association with plagiarism, copyright and trust, the amount of time and efforts that tutors make; (6) marking as part of course assessment can tell us how well they are doing in the given tasks.

Unlike Warnock, Hockly (2010) proposed a list of top ten skills in the form of cluster mapping that makes a good tutor in handling online classes. Furthermore, he also suggested several main areas of soft skills that a tutor should have; these include qualifications, subject-matter-related knowledge, technical skills, online task/materials design skills and soft skills (see Figure 1).

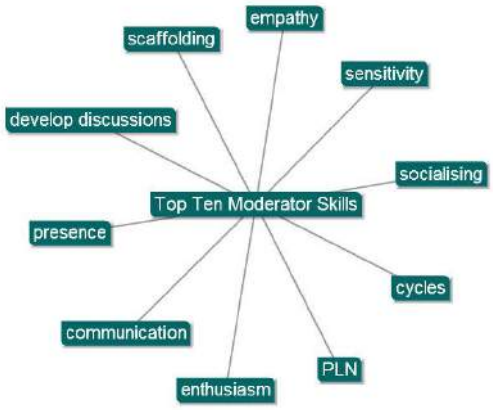

Figure 1. **Soft Skills**

Methodology

In order to achieve the objectives of the study, the methodology used contains three parts: participants, procedures and data collection. As a qualitative research, this work employs a case study as the instrument for investigating utilisation of online technologies for an advanced writing skills course – *Writing* 4 – offered in the curriculum of the undergraduate degree programme in translation at the UT, both from the pedagogical perspective (i.e., the tutor's part) and from the students' point of view in improving their writing skills at the advanced level. Apart from this method, the qualitative method of textual analysis is also adopted (Travers, 2001, pp. 4–5).

Participants

In this study, a total of 119 students registered for the Writing 4 during the semester 2 registration period of 2012; some of whom might have taken the course more than once because they failed in the previous examination. They took part in the online tutorial package after they had passed three other writing courses (i.e., Writing 1–3) as prerequisites. They are all translation students of the undergraduate degree programme in translation at UT. Having passed the four-level Writing skills courses, they are then eligible to take translation core courses as the major component of the curriculum.

Procedures

Moodle Learning Management Systems (LMS) is a learning platform used at UT for running the online tutorial package for all courses. It provides a tool for engaging the students in forums or discussion where they can share their own writing experiences with their fellow coursemates and also with the tutor in-charge. All the teaching and learning activities are done through the virtual world.

The data used for analysis were obtained from the texts students produced during the advanced writing tutorials, which consist of eight initiations (Initiation 1–8) posted weekly, along with three other tasks given in Week 3 (for Task 1), Week 5 (for Task 2) and Week 7 (for Task 3). Task 1 has to do with the concepts of *coherence* and *cohesion* (Halliday & Hasan, 1976)

in which the students are asked, based on a good model of letter to the editor given earlier, to rearrange a set of jumble paragraphs in the letters to the editor to make a good paragraph structure.

In Task 2, however, they are put into a situation in which they need to give a reply to a business letter. In other words, the *audience*, *purpose* and *context* for writing are introduced at this stage. Basically, they play a role in this respect so that communication through the letter becomes more semi-authentic.

Finally in Task 3, they are instructed to produce a letter to the editor in response to an article on current issues published in a local newspaper. Once again, audience, purpose and context of writing, and the role to play in the written communication become clearer. In addition, there is lesser control from the tutor (i.e., student-centred) as opposed to the two previous tasks which are tutor-centred.

Data Collection

As the data were retrieved from three different sources, namely the students' work in completing Task 1–3, each of them was processed separately. Meanwhile, each of the students' essays in soft copy form, which was written for each of the three tasks given and sent to the tutor via Moodle LMS, was marked holistically (Weir, 1990, pp. 66-68) using the marking scheme adapted from University of Cambridge's Local Examination Syndicates (UCLES).

The written tasks (i.e., students' essays for the three tasks) were marked according to the following criteria adapted from IELTS: *task achievement* (i.e., how far the students address the tasks given in their essay), *coherence* (i.e., the connection between ideas in each and/or across paragraphs in the essays) and *cohesion* (i.e., the relationship between sentences in a single paragraph), *lexical resource* (i.e., selection of vocabulary suitable for the advanced level of writing skills), *grammatical range* (i.e., correct use of more complex sentences) and *accuracy* (i.e., acceptable grammatical structure).

The students' participation in the eight initiations given and their active involvement in the weekly forums of discussion were also added up quantitatively. All the ongoing assessments contribute 30 percent to the students' final grade, in addition to the marks that they obtained from final examination with the total weightage of 70 percent.

Results and Discussion

This part discusses results related to the online Writing 4 course tutorials. It includes several aspects of online writing tutorial highlighted by Warnock (2009) such as the students' collaboration in the forums of discussion, the tutor's responses in the form of feedback (Byrne, 1988), time spent and efforts made by the tutor in providing feedback, the phenomenon of plagiarism, and also how the students' essays are marked to see how well they did in the given tasks.

To begin with, the findings revealed that the online writing course tutorial does create opportunities for the participants to collaborate and share share their ideas and knowledge about writing skills in the forums of discussion, as shown in the following extract (Table 1).

Table 1. ***A Sample of Online Collaboration among Students***

Wow...great! Dear Ayu, you've got the major understanding of the materials! I think we can conclude that the better the thesis is, the easier the

development we could do. We could try a narrower thesis such as the following: "Smoking, in relation to health and religion rules, creates contradiction among the leaders of some Islamic Sects in Indonesia". Don't you think it is easier to develop in our essay than the previous ones?

I guess "Smoking creates a contradiction between the leaders of several Islamic sects in Indonesia". It is easier to develop, because if you choose the topic: 'Smoking creates the contradiction in Indonesia ", to be much to discuss.
Contradiction about what? About who should not smoke, or is about smoking among students of high school, or is about governments should ban all cigarette factories? It's difficult and too broad to develop. The important thing is choosing a topic, adjust your interest and abilities, and supporting arguments. I agree with your opinion, Pak Sudaryono. I hope we can understand well about this initiation. Please give me feedback. Thanks.

Mbak Mahmudah,

Well, I think so. "Smoking, in relation to health and religion rules, creates contradiction among the leaders of some Islamic Sects in Indonesia" is easier to develop as it is narrower than the previous ones. When the thesis is too broad, the arguments will also too broad, and it will make many difficulties to explain, or to provide it with arguments, evidences, or facts. The focus of the essay will be unclear.

How about your topic, "A Heavy Smoker Guy"? It's only appropriate for a short story of your real life...

"Smoking, in relation to health and religion rules, creates contradiction among the leaders of some Islamic Sects in Indonesia"

That is the thesis you wrote, Pooh... For me, It's esier to develop than other theses which you have suggested earlier. It's really general with a lot of way to grow the thesis and of course you have to find more resources to complete it and might give some bad impact on it. I mean the thesis will be viewed as too general and complicated.

I don't know why I like to choose "Smoking creates contradiction among the leaders of some Islamic Sects in Indonesia" If the other choice you gave is '"Smoking creates contradiction in Indonesia"....hehehe you still do not understad what I meant? I think you should learn the body language, Pooh ...hahahaha

Warm Regard

As a tutor, I should also be available to help them give feedback on their work, either collectively or individually (Hyland, 1990; Johnson, 1990). I observed in the forums of discussion that the students had been discussing a language point for a couple of days. At the end of the week or before the materials for next initiation were posted, I joined the discussion by summarising the language point being discussed. The idea of this mediation is actually to enforce the students' knowledge of the topic given. In other words, enforcement by the tutor plays a crucial role in this respect so that the students can learn something from this forum.

As for the tutor's workload, giving feedback can be time consuming if a virtual class is too big such as in hundreds. In the Writing 4 course tutorials, there were a total of one hundred and nineteen students registered with the online course; however, only around one hundred students actively participated in the tutorial package and the others just accessed it once at the begining of the tutorial sessions without learning or doing any exercises for each of the initiations.

Apart from the collective feedback given in the forums of discussion, individual feedback is also necessary to make the students less remote. They have someone, a tutor, to turn to whenever they have something to ask or are unclear about something pertaining to specific learning materials (Keh, 1990). Below are some examples of how individual feedback on the advanced writing course is delivered online (refer to Tasks 1, 2 and 3).

Table 2. ***Sample Feedback on Task 1***

Dear Wulan, *Below is the correct order of the six paragraphs.* *Dear Editor,* *It has come to our attention that you have published one of our business marketing 800 numbers in your quarterly and also in a hacker's bulletin board. The number you published is 1-800-775-55XX.* *Our service is a commercial caller identification that operates throughout North America and provides needed information to law enforcement agencies and major businesses.* *By publishing one of our lines as a novelty number to call for " fun," your disclosure is causing wasted time by our staff and costing not only their time, but also the long distance fees we pay while our lines are in use during your subscribers' games.* *You are hereby given notice to cease and desist the publication of our business number, immediately remove it from bulletin board postings, and, in the bulletin board, publish the posting that an 800 number had been published by your service which demonstrates commercial caller identification service and is not to be called for entertainment or curiosity purposes and that such calls may create civil and/or criminal prosecution for interference with interstate telecommunications.*

You are also hereby notified that all calls to this number are being identified and callers will be contacted regarding their abuse of this number, and your company will be invoiced for the call activity at a rate of $1.00 per call. We hope in the future you will take more precautions when encouraging your readers to entertain themselves by disrupting business services.

Regards,
Your tutor

Table 3. ***Sample Feedback on Task 2***

Dear Ida,

Please find attached feedback on your writing (Tugas 2). Pay special attention to those parts in red. Please check the mistakes (i.e., wrongly chosen words, inappropriate word choices for a formal situation, past tense) and revise them again.

Regards,
Your tutor

Table 4. ***Sample Feedback on Task 3***

Dear Arifiyandi,

Please find attached feedback on your writing (Tugas 3). Comments on Tugas 1 & 2 are coming very soon. Pay special attention to the following language points (see those parts in red):

1) incomplete sentences
2) incorrect tenses

Regards,
Your tutor

Plagiarism was occasionally committed by the students during the tutorial sessions, especially when it came to doing the written Tasks 1, 2 and 3. It is emphasised and highlighted in the course rubrics or instructions that the students are not allowed to copy-and-paste from the model writing or from other fellow students' work. They have to use their own words. Still, a few students attempted to copy their friends' work before submitting their essay online for marking. All they did was changing certain parts of the written work with own choice of words, while the rest are completely the same. In other words, plagiarism was noticeable. As their tutor, I listed all the letters (apart from essays) that are very similar to each other. When it was time to give feedback online, I mentioned this issue to the respective students to make them realise that their actions are ethically unacceptable. Therefore, their marks were penalised accordingly. Below are samples of the plagiarised works committed by two students in Task 2.

Table 5. ***Samples of a Plagiarised Work***

Dear Mr. Bichman: *I apologize for the mix-up of order #: 26429782. We have just implemented a new packaging system that still has a few bugs to be worked out, but we did fix your order and sent it out this morning. For your trouble, we have enclosed a $25 gift certificate which can be used at any of our stores. Once again I would like to apologize for the mix-up in your order and any inconveniences this may have caused you.* *Faithfully,* *Signature* --- *Dear Mr. Bicman* *I apologize for the mix – up of order # 26429782. For your trouble, we have enclosed a $25 gift certificate which can be used at any of our stores. Once again I would like apologize for the mix – up in your order and inconveniences this may have caused you. We have just implemented a new packaging system that still has few bugs to be worked out, but we did fix your order and sent it out this morning.* *Faithfully* *Signature*

Marking the students' work, especially the three tasks given, was done based on the two marking criteria mentioned earlier – *task* and *language* (namely, range of sentences and selection of vocabulary). Figure 2 shows the trend of tasks completion. The number of students who managed to complete all the three tasks was lower as soon as the tutorial sessions came to an end (in particular, Task 1 = 54 participants; Task 2 = 42 participants; Task 3 = 37 participants). This showed that they might lack the motivation to take part even though participation in the online tutorial contributed thirty percent to their overall marks.

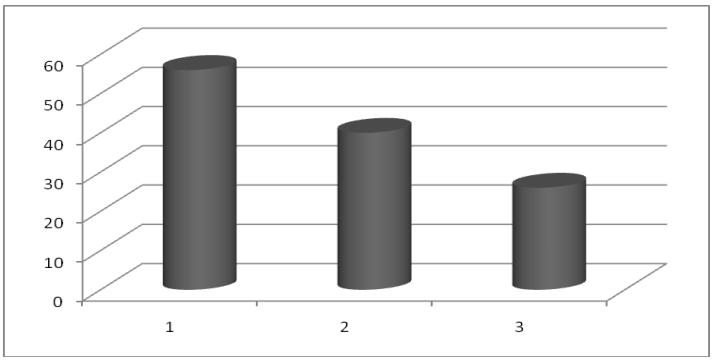

Figure 2. **Trend of Task Completion (Tasks 1-3)**

The same trend could also be seen in Figure 3 below. Only a few students were able to participate in the eight initiations, or in at least seven initiations. This finding shows that motivation is an important issue to the students. One alternative solution to this problem is to create a context for writing; this a context is important for them as it will motivate them to write (Vincent, 1990, pp. 272 ─ 278).

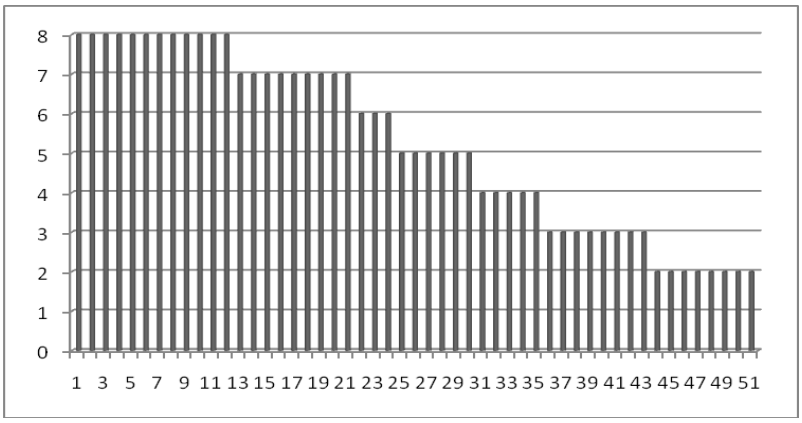

Figure 3. **Number of the Initiations Participated**

In general, Figure 4 represents the total scores achieved by the students at the end of tutorial sessions. The scores included the marks allocated to three tasks completed and participation in both initiations and in forums of discussion.

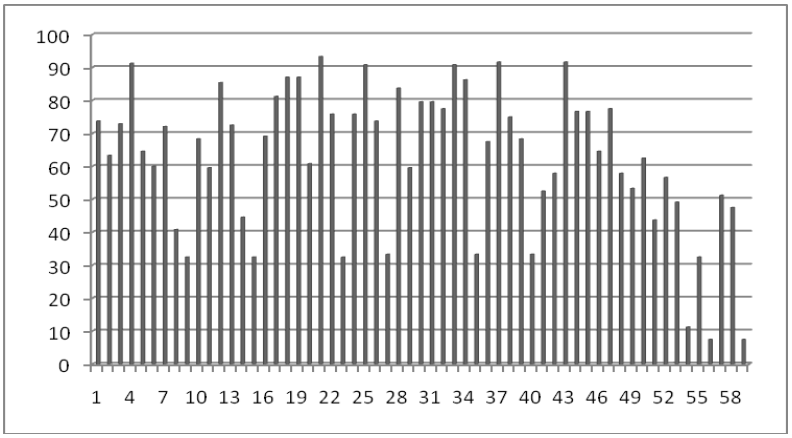

Figure 4. **Trend in the Total Raw Scores**

In general, the students' performance in the Writing 4 course tutorial for the semester 2 registration period proves that they are still heterogeneous in terms of their level of language proficiency, which ranges from low intermediate to upper-intermediate/advanced level. This finding also partly indicates that they actually did not go through a stricter language skilled-based selection process starting from Writing 1 course up to Writing 4 course. If they have to take any kind of placement test before starting the programme, the students should have an average level of language proficiency.

Figure 5 shows an average raw score of 63, sorted from the highest (i.e., 93) to the lowest (i.e., 8). This trend indicates that nearly half of the marks awarded to the students are below the average. This means that the students do not actually have good writing skills, particularly those in the advanced level. If they have taken a kind of language-based admission test prior to their course, they should have been able to cope with more difficult writing tasks as the ones in Writing 4 course because they have obviously gone through a series of writing courses such as Writing 1 up to 3.

One of the negative "backwash effects" (Weir, 1990) of assessment on online learning at UT is that in general, language testing or marking language-oriented tutorial tasks in particular is not based on any "entry point". As an open and distance learning institution, the University is in a dilemma in the sense that on the one hand, it has a motto which goes, "making higher education open to all" which gives more or wider educational access to the society; on the other hand, an undergraduate programme like the English-Indonesian-English translation programme needs to administer some sort of placement test so that all new students will start from a certain point (i.e., homogeneous virtual classes) rather heterogeneous ones.

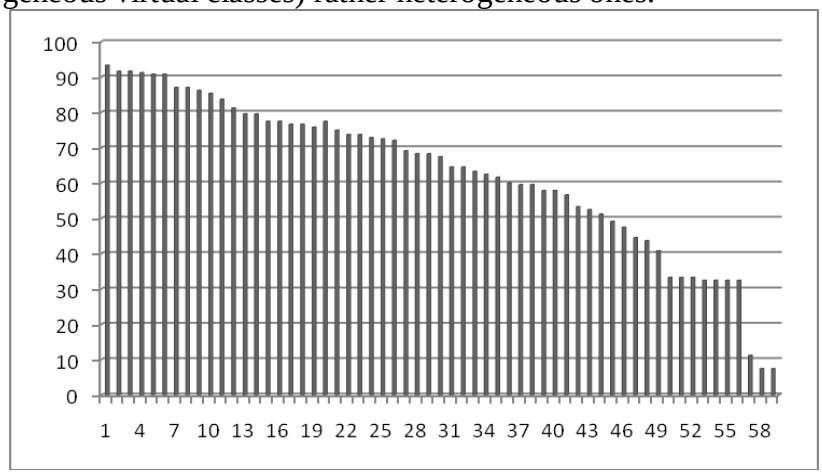

Figure 5. **Trend of Sorted Total Raw Scores**

Whatever the admission test looks like or is constructed, this practice will not stop the university from recruiting new students. Therefore, an alternative "win-win" solution in this respect is to categorise new students based on their test scores into two different undergraduate programmes of studies ─ the General English programme with standard language proficiency requirements and an undergraduate programme in translation which requires stronger language background as practised in most universities nationwide and worldwide.

If this measure is not taken consideration, UT might experience the so-called lower *retention rate* in the future for that particular undergraduate translation programme even though there is an increasing trend in the students intake each year. This is because of the fact that most students do not acquire English language proficiency that is good enough to take up the study programmes at the University.

Conclusion

This paper highlights relevant aspects of online tutorial package for an advanced writing course offered by distance higher educational institutions. Discussions cover some relevant issues such as the students' collaboration in the Forums of Discussion, tutor's feedback on students' writing and tutor's workload, as well as plagiarism and grading of students' work. To some extent, forums of discussion available on UT-Online tutorials have given both academic and social opportunities for the students to share their ideas and experiences through writing. Under the auspices of the tutor, their discussions should be more constructive.

Feedback on writing can in fact be given individually or collectively done online. Individual feedback could give more motivation to the students so that their writing confidence would increase. In addition, collective feedback given to a group of students who are discussing a given topic in the Forums of Discussion will enforce their understanding of the topic or particular language points.

However, a large virtual classroom comprising of hundred of registered students could be a heavy workload to the tutors when it comes to providing individual feedback on the writing exercises using the eight initiations for all the students. The workload would even get heavier when it is time to mark or grade the students' works on the basis of task-and-language criteria in dealing with the three main written tasks (i.e., Tasks 1─3) as part of the whole tutorial package. In other words, each of the two feedback types mentioned above has advantages and disadvantages.

To conclude, online advanced writing skills course tutorial in particular, and the online tutorials in general, need more serious efforts in upgrading the tutors' qualifications and their subject-matter knowledge, computer/technical skills, skills for designing online learning materials and tasks, as well as soft skills, as not all of these are practised in face-to-face classrooms.

Based on the findings of this research, it is recommended that further research involving data on the students' achievement in Writing 4 course – a comparison between their performance during the tutorial sessions and the performance in the end-semester assessments be carried out in the future.

A research that focuses on designing a model of language entry test for recruiting new students is also highly recommended. It is expected that the research findings will be useful for policy makers at UT and other institutions of distance higher education. As part of the stakeholders, it is crucial for the University to start administering a specially designed language entry test for two different study programmes – a programme of study in translation (a specialisation), which requires a high English language proficiency level, and a programme of study in General English, which is English language skills oriented.

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Endnotes

[1]An abbreviated version of this paper was presented at the International Symposium on Open, Distance, and E-learning (ISODEL) held in Bali, 4 − 6 December 2012.

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The Availability and Use of Technology and Learning Resources in Translation Programmes

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Abstract

The purpose of the current descriptive analytic study was to explore the availability and use of technology and learning resources in translation programmes at Saudi universities. The sample of the current study was comprised of 200 translation students selected randomly from Saudi universities. The two research instruments for data collection both consisted of a 3-point Likert scale. Data were analyzed quantitatively and the results revealed that most participating students perceived a lack of translation labs, machine translation, translation software, printed media, audio and visual materials in universities. In addition, the findings showed a deficit in the utilization and adaption of technology and learning resources in translation programmes. This study suggests that Saudi universities not only need to acquire technologies and learning resources, but should also recruit motivating instructors who can use these tools in translation instruction.

Keywords: CALL, learning resources, technology, translation, translation programmes

Introduction

This paper seeks to consider how technology can benefit translational courses in the Arab world. In doing so, a number of pedagogical approaches and teaching styles are discussed, and a number of failings highlighted. These include that observation that translation courses remain fixed in a traditional teaching methodology and, as a result, more students fail. This paper also discusses the increased usage of technology and highlights how altering teaching models can aid in increased student attainment levels.

According to Bowker (2002:12) the demand for translation skills across the world is still growing; this is increasingly needs-driven rather than research driven, leaving many current translation firms and their professional staff ill-equipped to maintain the speed and quality of work that modern industry requires. There is therefore a strong economic reason for ensuring that current students of translation should be up to date with the many technological aids that have been designed to support the translation process, particularly in terms of reducing its cost to the consumer.

Alongside a general trend towards internationalization there is also a great deal more complexity in the work those translators do, since the process known as "localization" (Esselink, 2003) involves teams of people providing all kinds of language services across multiple media. Translation in this context is just one part of a much bigger operation; consequently, it is vital that translators have an understanding of how their work fits with larger projects, and that they are able to modify their output in order to complement the work of others (Pym, 2004). In order to participate in this kind of work, translators need a firm grounding in a wide range of computer and Internet skills.

Over the last thirty years a revolution in the presentation of written texts has taken place in which authors and translators have moved from handwriting and typewriters to computer-based systems connected to each other over the Internet. Commercial customers often turn to localization vendors who "will receive batches of HTML files to translate and return, or database tables of information that will be used to generate web pages" (Esselink, 2003:74). This means that trainee translators should be at the very least familiar with word-processing, email, hypertext and macros, basic programming, database use and certain elements of web design before seeking employment in the professional translation market. Beyond these general skills it is also advisable for students to have excellent research skills using search engines, online dictionaries, and library resources so they can locate the specialized and technical concepts and terminology that will likely be needed in their work. In practical terms this means that some undergraduate translation teaching sessions will need to take place in computer laboratories and learning resource centers with staff qualified in those technologies.

At the bachelor level of education, it is unlikely students know whether or not they will become translators as a career choice, or, if they do continue in the field after graduation, which type of translation they will work in. For the vast majority of translation students, the likelihood is that they will find work in the areas of commercial, legal or technical translation, rather than in literary or academic fields. Many will work as freelancers for at least part of their career, and so it is necessary to impart a range of skills that are transferable to different areas.

Quah (2006:6-21) distinguishes between four different types of translation skills and activity, namely human translation, machine translation, human-aided machine translation and machine-aided human translation. Human translation without the aid of machines is at the traditional end of the spectrum, while machine translation is the opposite end of the spectrum, involving the use of computers to automatically translate pieces of text. Even in systems that are

heavily reliant on computers, there is still a need for significant human involvement, both in the system's design and in its operation before, during and after the machine does its work. Globally, most translation work now involves some machine and some human input in various combinations. Texts are pre-edited to make sure the system can process them, and the output is then post-edited to correct any errors, remove unhelpful ambiguities and improve the style (Quah 2006:11). Translators are advised to learn how to accomplish all these different tasks.

Freely available translation software, such as *Babelfish*, *Bing Translator*, or *Google Translate*, and many other websites, can provide a number of choices for trainee translators. It is immediately apparent, even to beginners, that these systems cannot offer much more than single word and short phrase equivalents, which at most can provide building blocks for a proper translation. There are, however, several products designed for professional translators that offer a much more reliable and high-level output, and which require correspondingly more training and practice. Many professional translation companies, particularly in the west, stipulate that applicants for employment should have experience with specialized translation software, such as *Trados*, which is the most frequently used system, or *Wordfast*, or *Déjàvu*, which are also popular with companies and freelancers (Lagoudaki, 2006). These systems provide banks of translated text that suggest solutions for translators in ways that preserve in-house consistency despite the input of many different translators over months or even years. They provide a kind of collective memory translators can access. A trainee who has learned how to use these systems will be at a distinct advantage when seeking employment.

Students of translation have to deal with two major problems in their work: the need to access linguistic knowledge from both of the two languages involved in the translation process, and the need for a much broader kind of extra-linguistic knowledge. Ping (2011:165) notes "the treatment of extra-linguistic problems is more difficult than that of linguistic problems because extra-linguistic knowledge is much harder to codify." The implication for translation is that students must be able to combine the advantages offered by technology with the high-level skills that only human beings are able to provide. In other words, traditional linguistic skills are still absolutely key, but new technology skills must also be acquired, because both types of knowledge complement the other.

Learning how to determine which tools are appropriate for each task is a critical skill that must be taught and practiced at the undergraduate level so students can advance into the translation profession ready to evaluate, use, and adopt the myriad new technologies that are appearing at a rapid rate. Evidence for the necessity of this flexibility is found in the European Commission's ideal "Translator profile" document (European Commission, 2013:1), for example, which stipulates alongside the usual competencies in the various languages, there must also be "a capacity to master computer-assisted translation and terminology tools, as well as standard office-automation software." The role of the teacher at the bachelor level must therefore be qualified to introduce a variety of technological tools, and to foster both enthusiasm and confidence so students are encouraged to find out for themselves what the benefits of new technology are. Somers (2003) notes that translation software can be expensive, but it should be feasible for any university department to have some systems available for students to try out.

Research Methodology

Mertens (2005:2) described research as a "systematic investigation or inquiry whereby data are collected, analyzed, and interpreted in some way in an effort to understand, describe, predict, or control an educational or psychological phenomenon or to empower individuals in such

contexts." Research is "best conceived as the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data. It is a most important tool for advancing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment, to accomplish his purposes, and to resolve his conflicts" (Mouly, 1978, as cited in Cohen & Manion, 2003:45).

Walter (2006:35) defined methodology as the "frame of reference for the research which is influenced by the paradigm in which our theoretical perspective is placed or developed." Somekh & Lewin (2005: 346) argued that methodology is the "collection of methods or rules by which a particular piece of research is undertaken and the principles, theories and values that underpin a particular approach to research."

In this study, the questionnaire was employed as the primary means of collecting the research data. The research study consisted of a single questionnaire for students. Questionnaires are "any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers" (Brown, 2001:6).

The questionnaire consisted of six statements about the availability and use of technology and learning resources in translation programmes. The scale for the availability of technology offered three choices: normally available, rarely available, and never available. The scale for technology offered three choices: always, sometimes, and rarely.

Study Findings

Background of the Students in the Sample

Over half the completed questionnaires in the sample (55%) were received from female students, and the remaining 45% from male students. Most of the participants were aged between 20 and 22. A total of 28% of the students were studying in Taibah University, 27% in King Abdulaziz University, 20% in King Saud University, and 25% in Dammam University. All of the students were pursuing bachelor degrees in English and most were also taking more than three modules in translation. The following table and figures illustrate these results

Table 1
Distribution of the Sample According to Gender

Gender	**N**	**%**
Male	90	45
Female	110	55
Total	**200**	**100**

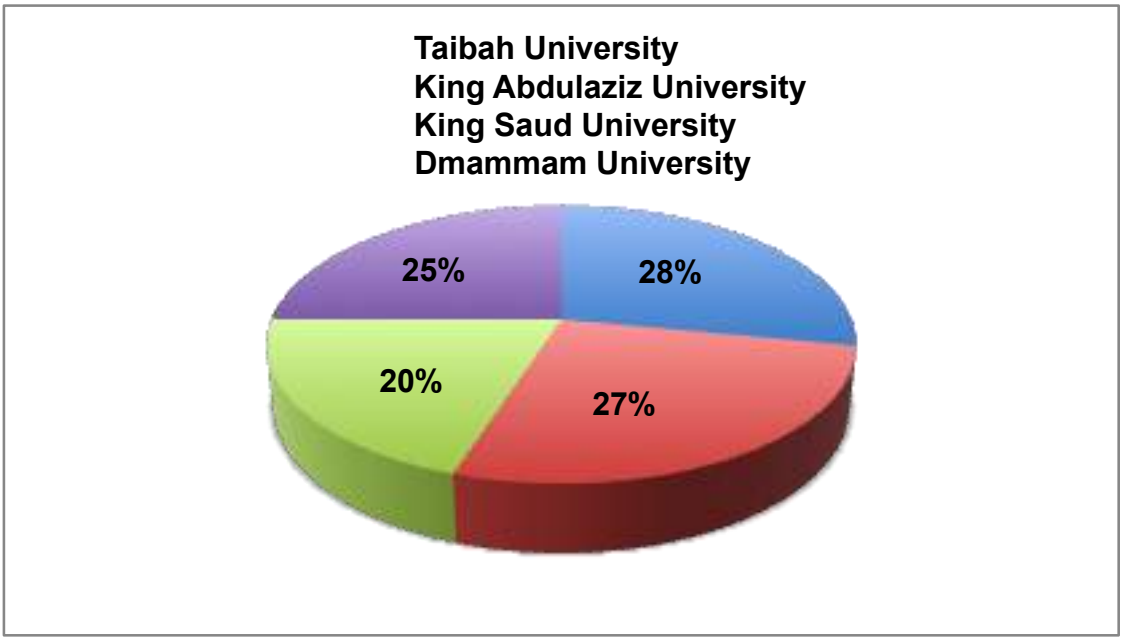

Figure1. **Distribution of the Sample according to their University**

Result of the Questionnaire

Table 2
The Availability of technology and learning resources in translation programmes

NO	Statements	Never available		Rarely available		Normally available	
		n.	%	n.	%	n.	%
1	Availability of translation labs.	168	84	5	2.5	27	13.5
		161	80.5	1	.5	38	19

2	Availability of machine translation.						
3	Availability of translation software.	23	11.5	114	57	63	31.5
4	Availability of printed media.	162	81	17	8.5	21	10.5
5	Availability of audio materials.	168	84	9	4.5	23	11.5
6	Availability of visual materials.	121	60.5	74	37	5	2.5

Based on the Table. 2 the results of item 1, 'Availability of translation labs,"labs', illustrate that 27 (13.5%) of the respondents confirmed the presence of a translation labs at their university, whereas a majority of 168 respondents (84%) stated the opposite. The remaining 5 respondents (2.5%) said that a translation labs areis rarely available. This item has been ranked as #4 of the 6 items in the first section of the questionnaire (Availability of technology and learning resources in translation programmes).

Based on the Table. 2 the results of item 2, "Availability'Availability of machine translation systems', illustrate that 38 (19%) of the respondents confirmed the presence of machine translation systems at their university, whereas 161 (80.5%) of the respondents stated the opposite. The one remaining respondent (.5%) said that machine translation systems were rarely available. This item has been ranked as #3 of the 6 items in the first section of the questionnaire (Availability of technology and learning resources in translation programmes).

Based on the Table. 2 the results of item 3, "Availability of translation software," illustrate that 36 (31%) of the respondents confirmed the presence of translation software at their university, whereas 23 (11.5%) of the respondents stated the opposite. The remaining 114 respondents (57%) said that translation software was rarely available. This item has been ranked as #6 of the 6 items in the first section of the questionnaire (Availability of technology and learning resources in translation programmes).

Based on the Table. 2 the results of item 4, 'Availability of printed media', demonstrate that 21 (10.5%) of the respondents confirmed the availability of printed media at their university,

whereas 162 (81%) of the respondents stated the opposite. The remaining 17 respondents (8.5%) said that printed media was rarely available. This item has been ranked as #1 of the 6 items in the first section of the questionnaire (Availability of technology and learning resources in translation programmes).

Based on the Table. 2 the results of item 5, "Availability of Audio materials," demonstrate that 23 (11.5%) of the respondents confirmed the availability of audio materials at their university, whereas a majority of 168 respondents (84%) stated the opposite. The remaining 9 respondents (4.5%) said that audio materials were rarely available. This item has been ranked as #5 of the 6 items in the first section of the questionnaire (Availability of technology and learning resources in translation programmes).

Based on the Table. 2 the results of item 6, "Availability of Visual materials," demonstrate that only 5 (2.5%) of the respondents indicated the availability of visual materials at their university, whereas 121 (60.5%) of the respondents stated the opposite. The remaining 74 respondents (34%) said that visual materials were rarely available. This item has been ranked as #2 of the 6 items in the first section of the questionnaire (Availability of technology and learning resources in translation programmes).

Table 3

Use of technology and learning resources in translation programmes

No	Statements	Rarely		Sometimes		Always	
		n.	%	n.	%	n.	%
1	Use of translation lab.	164	82	36	18	0	0
2	Use of machine translation systems.	160	80	40	20	0	0
3	Use of translation software.	160	80	40	20	0	0
		41	20.5	105	52.5	54	27

4	Use of printed media.						
5	Use of audio materials.	161	80.5	38	19	54	27
6	Use of visual materials.	140	70	60	30	0	0

Based on the Table. 3 the results of item 1, "Use of translation lab," show that none (0%) of the respondents claimed to use a translation lab at their university, while 164 (82%) of the respondents said they rarely used a translation lab. The remaining 36 respondents (18%) said that they sometimes used a translation lab. This item has been ranked as #4 of the 6 items in the second section of the questionnaire (Use of technology and learning resources in translation programmes).

Based on the Table. 3 the results of item 2, "Use of machine translation systems," illustrate that none (0%) of the respondents claimed to use a machine translation system at their university, while 160 (80%) of the respondents indicated that they rarely used a machine translation system. The remaining 40 respondents (20%) said that they sometimes used a machine translation system. This item has been ranked as #3 of the 6 items in the second section of the questionnaire (Use of technology and learning resources in translation programmes

Based on the Table. 3 the results of item 3, "Use of translation software," illustrate that none (0%) of the respondents claimed to use translation software at their university, and 160 (80%) of the respondents indicated that they rarely used translation software. The remaining 40 respondents (20%) said that they sometimes used translation software. This item has been ranked as #3 of the 6 items in the second section of the questionnaire (Use of technology and learning resources in translation programmes).

Based on the Table. 3 the results of item 4, "Use of printed media," demonstrate that 54 (27%) of the respondents claimed to always use printed media at their university, whereas 41 (20.5%) of the respondents claimed to use it rarely. The remaining 105 respondents 105 (52%) said they sometimes used printed media. This item has been ranked as #1 of the 6 items in the second section of the questionnaire (Use of technology and learning resources in translation programmes).

Based on the Table. 3 the results of item 5, "Use of audio materials," demonstrate that 54 (27.5%) of the respondents claimed to always use audio materials at their university, whereas a majority of 161 respondents (80.5%) indicated that they rarely used them. The remaining 38 respondents (19%) said that they sometimes used audio materials. This item has been ranked as #3 of the 6 items in the second section of the questionnaire (Use of technology and learning resources in translation programmes).

Based on the Table. 3 the results of item (6), "Use of visual materials," show that none (0%) of the respondents claimed to always use visual materials at their university, and 140 (70%) indicated that they rarely used them. The remaining 60 respondents (30%) said that they sometimes used visual materials. This item has been ranked as #2 of the 6 items in the second section of the questionnaire (Use of technology and learning resources in translation programmes).

Tables 2 and 3 reveal that this study corroborates the views of Al-Khatib (2005) and Gaber (2002), who claimed there are shortcomings in the availability and use of technology and learning resources in translation programmes. Gaber (2002: 6) stated that there is a "severe shortage in resources and classroom facilities […] [which] limits the choice of appropriate teaching methods and keeps teachers from distributing handouts and correcting assignments. It further undermines the roles played by the teachers." Also in line with this current work, Al-Khatib (2005) found that the use of technology in Arabic translation is poor, as there are unclear and uncertain strategies to promote translation in this domain.

Conclusion

This paper has assessed the availability and use of technology and learning resources in undergraduate translation programmes in Saudi Arabia. There is a clear benefit to the increased usage of technology within translational studies classes. This literature review and subsequent findings have highlighted that translation courses are suffering from a lack of technological tools and learning resources, such as translation labs, machine translation, translation software, printed media, and audio and visual materials in Saudi universities.

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Basmah Ali Abu-ghararah is currently PhD candidate at Leeds University researching in the field of English Language. She obtained a master degree with merit in TESOL studies from University of Leeds (2011). She has published a research article in a refereed journal. She has extensive teaching experience in language teaching in Taibah University.

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Integrated EFL Skills and Technology: Focus on Learners' Perceptions

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Abstract
This study reports on the results of an experiment conducted on 612 advanced learners of English as a foreign language. The paper attempts to explore the students' attitudes towards the value of using technology in language teaching. The study is based on the premise that one of the guiding principles that shapes the planning of an innovative computer curriculum is involving all those as the most important factor as it is upon them that any innovation can be accepted or rejected. After having presented the theoretical framework, the problem we are encountering and the rationale for the study, we reviewed the literature on pertinent issues such as foreign language learners and technology; learning theories and technological instructional design; technology and language learning, and technology, teaching and research. The focus of the paper is on the integration between EFL skills and technology, and on how L_2 learners may have significant insights into the way they learn.

Keywords: EFL teaching, Learners' attitudes, Technology in L_2 classroom.

Introduction

The emergence of the information society, resulting from advances in information and telecommunications technologies, has led to an information revolution. Orem and Holliday (1993) remind us that "over the past quarter century... major developments in educational technology have given us computers, networks, andelectronic mail" (p.95). We are reminded every that the information age has arrived. Politicians and policy makers constantly remind educators of their duty to introduce students to the tools of this new era. Unfortunately, however, educators are seldom given the time to become comfortable, to experiment and to practice integrating these technologies into their lives and classrooms (Baron, 2004; 2008; 2010; 2011; Schrum 1992).

The changing demands of the information age have been well documented. Naisbitt and Aburdeen's (1990) assertion that "we are drowning in information and starved for knowledge" (p.10) has characterized our era and will continue to do so in the future. As the power of computing and the amount of information increases, it follows that "people who can creatively analyze, edit, or act on information in ways that cannot be automated" will be highly valued in our society. (Malone and Rockart, 1991; p.18)

Egyptian universities respond to changes in society, and it is natural they should follow the trend to use technology. In fact, information and communications technology (ICT) is changing the face of the classroom. Schools value computers as a resource and as a teaching medium. Computers and other interactive technologies that provide students with visual and audio support offer tremendous potential for helping students develop their language abilities. Unfortunately, new technologies and new ways of doing things often meet with resistance (Beauvois & Eledge, 1996; Crystal, 2004; 2006; 2008; 2010a,b; 2011).

1. Theoretical Framework

Language teachers are always interested in how they can help students learn a second language to become proficient in that language. This question may look simple, however it is actually quite complex and entails many issues. In the last thirty years , volumes of material have been written advancing new theories of language acquisition, proclaiming revolutions in language teaching, and proposing a succession of innovative approaches and methodologies. This proliferation of ideas has yielded some extremely valuable insights into the learning-teaching process, yet it has also left many of us feeling somewhat bewildered. In this regard, Richards &Rodgers (1986) maintained that:

> The proliferation of approaches and methods is a prominent characteristic of contemporary second and foreign language teaching... while to some this reflects the strength of our profession; to others, the wide variety of method options currently available confuses rather than comforts... methods appear to be based on very different views of what language is and how a language is learned. (p. 14)

More specifically, linguistic structuralism and behavioristic learning theories totally dominated language teaching in the fifties and sixties. As a response to these linguistic and psychological changes, audiolingualism was at its zenith and very popular at that time. Recently however, teaching methods have been moving away from the doctrinaire, restrictive, audiolingual approach toward more flexible procedures. Researchers, methodologists, and

classroom teachers are focusing on teaching language for communication. Studies in sociolinguistics and communicative competence have stressed the importance of exchanging ideas and information as both the means and goal of language learning. As Pienemann (1989) explains, language teaching has always been a discipline dependent on the theoretical capacities of 'parent' disciplines, such as psychology, linguistics, or pedagogical 'methodology'. This kind of `theoretical dependence' has appeared in all the major upheavals experienced by modern language teachers.

In the 1960s the scene of foreign-language teaching was invaded by the spread of language laboratories as the most effective answer to most of the problems facing learners of foreign languages; a move which was initiated by the behavioristic theory in learning and reinforced by the audiolingual approach in language teaching. Since the 1970s and with the rapid development in educational technology, it seems that the computer has taken up a similar role in foreign-language teaching, especially in western countries and some of the more affluent countries in the third world. In this regard, Mail (1989) maintains that "supported by the behavioristic theory in language learning and learner-centered pedagogy, the computer has surfaced as a possible substitute for classroom conditions with its structured procedures".

Technology is now allowing us to integrate information of different kinds and from different media. The whole multi-media explosion can, if controlled and thought through in educational and methodological terms, add unimagined richness to learning. Jordan (cited in Scott, Johns and Murison-Bowie, 1993) has identified five learning environments where technology has a place: a computer room, a classroom, a self-access room, the public areas in a school, and the learner's own home. Murison-Bowie (1993) argues that we need to build applications that are realistic within one or more of these environments.

The most important potential of the technology is for integration. We are concerned about the tendency in language education to see the teaching of language and culture as separate, even if complementary, but for example with video we can present language in its cultural context. Language and literature are often separated in our curricula, and learners often experience a difficult transition from reading pedagogical prose to reading authentic texts or from hearing pedagogical audio to understanding natural spoken language: the use of computers and interactive technologies can allow teachers to select materials of all kinds to support them as learners' needs dictate (Garrett, 1991). Videos in a foreign language are intuitively appealing to language teachers and students alike. Videotape players are widely owned, not only in schools but also by the general public (See Davis & Brewer, 1997). The use of videotape is by now widely familiar to language teachers, and rapidly increasing numbers of schools own videotape players for various purposes: 1) playing videos in class; 2) playing in-house productions; 3) teachers and students' interaction on video; and 4) students' performances. In this regard, Garrett (1991) points out that:

Videotaping of actual classes can serve pedagogical purposes... [but] the extent to which authentic video can be genuinely integrated into a language course depends on teachers' ability to gauge the comprehensibility of the language content and the intrinsic interest of the material for their classes... Without these efforts, the most authentic linguistic and cultural material in the world is likely to be regarded passively by the students, not integrated into learning, and to be of little long-term value. (p. 76)

2. Statement of the Problem

First, many technologies have been heralded as solutions to the poor state of our

educational system (Palumbo, 1990). Proponents of motion pictures, television, media centers, and video recorders have claimed that these devices can make a substantial and lasting improvement in the way we teach our children. Yet, most supporters of these technologies have promised more than they have delivered. The computer has likewise been heralded as the technology whose use in learning will help move education ahead in this century and for centuries to come (Salomon, 1985). As Salomon points out, however, there is often a gap between the opportunity afforded by technological advancements in education and their actual contribution. In this regard, Maddux (1986) states that:

> There is no problem in finding computer advocates who will emphatically praise the computer for what it can and will do for our educational system. However, the effect that the microcomputer will have on education can sometimes be seem as wishful thinking, because little research has provided evidence that these desired effects are easily attainable. (p. 29)

Second, to prepare our students for tomorrow's world, we must teach them how to reason and communicate effectively through available technologies. Very few ESL students, however, have access to advanced technologies, and those who do are too often relegated exclusively to drill and practice exercises. Hunt (1993) maintains that "the nature of drill and practice software runs counter to the natural acquisition approach for L2 instruction because it tends to present isolated, non-contextualized exercises that focus on accuracy rather than fluency". Instead, activities should offer opportunities for students to develop their language and critical thinking skills (US Congress, 1988). One obstacle to getting involved with technology is the prevalent fear that the path into the technological jungle is steep and slippery and that it is difficult to explore it without running risks:

> Conservative teachers fear that the technology will weaken or interfere with their control of the class and are willing to consider only those technology-based materials which perform electronically the most traditional teaching tasks. (Garrett, 1991, p. 92)

Murison-Bowie (1993) maintains that "teachers are adept at inventing reasons for not seeking out and employing worthy, newer technologies (p.6). It is possible, even in the 1990s, to offer one's own technophobia and/or maladroitness as reasonable excuses for avoiding available technologies. Why? Is it teachers' innate conservatism or is it that materials developers are failing to deliver?

For a long time, the greatest part of present Foreign Language (FL) software material is devoted to grammar and vocabulary lessons. The underlying assumption is the notion that language is a set of facts, information, or habits in which learners must receive instruction, over which they must demonstrate mastery. Language is now more often seen as a dynamic interactive system for conveying meaning, and language learning is the acquisition of the ability to construct communicative meaning in a new system. Since so complex an ability can hardly be 'taught', our job is "to create an environment - in class or in our materials - in which students can work on acquiring that ability, and we are increasingly aware how differently students undertake the process of acquisition" (Gareett, 1991). In fact, language teaching specialists have long foreseen changes in language instruction as a result of emerging microcomputer technology and have anticipated significant differences in the duties classroom teachers would have to perform (Goodwin, Hamrick, & Stewart, 1993).

Some of our most important priorities -focus on the individual learner, a true integration of the teaching of language and the teaching of cultural understanding and literature, bridging the gap between theory and classroom practice - can be strongly supported by intelligent uses of technology. But these will not be accomplished unless and until teachers themselves take the initiative to think through what the technology should be able to do for them and for their students and make their needs known (Garrett, 1991). Murison - Bowie (1993) argues that "teachers need to be inquisitive about the world in which they and their students live - a world that includes technology - and make connections between this world and their teaching. Being open to new ideas means being ready to spend time becoming familiar with them in order to make them one's own" (p.6). Unfortunately, many educators have a narrow view of how technology can be used; that is, they see computers being used for independent skill practice and, perhaps, word processing (U.S. Congress, 1988). Some are not aware of the newer technologies and how they can be used to shift the role of the learner from that of a passive receiver of information to that of an active learner experimenting with language.

Computers cannot yet be taken for granted in every school or every household; they are much more expensive and have an elitist aura, and to most teachers the idea of programming is daunting. As the classic joke format has it," there's good news and bad news" (Garrett, 1991; p.16). The good news is that the technology does offer the potential for enormous enhancement of foreign language learning. The bad news is that potential cannot be easily realized... There simply is no such thing as an ideal configuration of hardware or an ideal set of software for language learners in general, and there probably never will be. Therefore, materials developers, that is, authors, program designers, and publishers must understand the potential of new technologies, interpret that potential in the light of what they know of the profession's needs, and produce programs that can use those technologies appropriately and effectively. Thus, they share the teachers' obligation to find connections between technologies and teaching English.

There is evidence that students need to be better prepared for the real world. The information age is here and some of our schools in Egypt are not currently equipped to prepare their students for using advanced technologies and sciences (Bievenue and Toth, 1992). As Stowe (1992) states:

> To the surprise of almost no one, the MI-predicted Information Age has arrived. Perhaps not as swift to arrive is education's response. How swift is the nation's educational system preparing its graduates to live in, work in, compete in, and thrive materially, vocationally, and personally in the new milieu? Moreover, how well are teachers prepared to aid their students toward such goals? How well equipped are the teachers themselves to participate in the Information Age professionally and personally? (p. 357)

The integration of technology in the classroom is generally viewed as an effective instructional strategy, but some have found that the implementation of technology has resulted in increasing education inequities and discriminatory practices among different groups of students (Apple, 1988). These inequities include gender inequities, socioeconomic inequities, and racial inequities (Compbell, 1984). Educators are especially concerned about this issue because they fear that computers in schools will widen gaps between lower - achieving and higher - achieving students (Gains, 1998; Hodziahmetovi-Jurida, 2007; Johnson & Maddux, 1991).

The increasing number of computers in the classroom does not insure their use promote their infusion into the curriculum. Similarly, their presence in classrooms has been accompanied by major discrepancies in the relative degree of access, participation, and benefit enjoyed by particular groups

of students' (Cummins & Sayers, 1990). In additon, integration of technology into methods classes can be difficult and slow to accomplish. Equipment and facilities are lacking in many institutions. Many educators have not taught with computers and other advanced technologies and so are not sure how to teach others to use them. Consequently, they need strong support from a specialist or an experienced user in order to feel comfortable. This support does not exist in most institutions. Finally, changes that take time and energy may not be encouraged or rewarded in institutions of higher education (Brent, 1992,; Mahfouz, 2010; Meyer, 2009).

3. Rationale

As technological advances offer new learning opportunities, there must be recourse to the theories that guide the new models of technological instructional design. As Wild and Quinn (1998) point out, a number of themes emerge in any discussion about educational theory, learning and instruction, any one of which may be of use in informing our application of these technologies for pedagogical ends. Biggs (1987a, b) suggests that the process of learning is determined by students' approaches to learning; that is, a composite of students' motives and strategies (to learn) as well as their perceptions of tasks. And learning should be seen in terms of cognitive change. The goal of learning, then, is to develop frameworks or schemas (Rumelhart & Norman, 1988) that provide explanatory and predictive power across situations. In this sense, we can consider the process of learning to be through cycles of action and reflection (Wild & Quinn, 1998). Moreover, there are probably three distinctive influences at play that impact on cognitive change: the learner's existing knowledge and experience, the learner's 'style' or predisposition to learning, as well as their acquired and individual approach to learning (Wild & Quinn, 1998).

As Diaz et al. (1998) point out, positive students' and teachers' attitude towards the system is required to guarantee a successful introduction of new technologies in traditional classrooms. That is, teachers' attitudes toward using computers should be taken into consideration when trying to integrate the use of technology into the curriculum. If the attitudes regarding the use of computers in the classroom are negative, the value of this tool may not be fully realized. But if computers are viewed positively, their value can be achieved (Proysen, 2009; Seifeddin, 1993: Thurlow, 2006).

4. Literature Review

4.1. Foreign Language Learners

Learners possess pre-determined learning preferences with respect to environmental, emotional, physical, sociological and psychological conditions (Price, Dunn, & Dunn, 1991). For example, there is some indication that learners have a preference for the representational format they tend to think in. Learners have been differentiated according to whether they are visual, auditory, or kinaesthetic learners. In addition, since preferences are largely determined biologically, a learner's learning style will necessarily be resistant to change, implying that instruction needs to take account of learning styles rather than trying to change them (Murray – Harvey, 1994). Relatedly, Ritzen (1995) recommends that there be specific support for learners to identify their own learning style, to experiment with other styles and to be aware of what pitfalls exist for each learning style.

Recent research on specific differences in the way learners approach learning tasks strongly suggests that true individualization of CALL (Computer-Assisted Language Learning) materials should provide alternative approaches or presentations for students who tend to have, for example, a field-dependent or a field-independent cognitive style, or provide different scoring strategies for those who tend to be impulsive or cautious.For example, hint or feedback messages might be useful or congenial / suitable to some learners but altogether unhelpful to others. Therefore, sophisticated

programs should eventually allow students to choose from a variety of approaches, though to choose appropriately they themselves will have to learn to understand their own learning styles and strategies (See Garrett, 1991; Al-Momani et al., 2014; Al-Ayyouby & Farrah, 2014; Ezza & Bakry, 2014; Li dawn, 2014; Patronis, 2014).

As Els et al. (1984) point out, "it was not until fairly recently that L2 learning researchers began to look to the already extensive body of literature on cognitive styles, also termed learning styles" (p.80). Cognitive style has been defined by Ausubel (1968) as "self-consistent and enduring individual differences in cognitive organization and functioning" (p.170). In addition, Freeman and Long (1991) maintain that "cognitive styles are typically discussed as if they were polarities; in reality, humans, more likely, show a tendency towards one pole or the other, with their scores on cognitive style tests arranged in a continuum between the poles" (p.192). Witkin and Goodenough (1981) use the term 'mobility of functions' to refer to the fact that those usually favoring one particular cognitive style may switch to another in some circumstances.

A field independent person tends to perceive analytically, that is, he or she tends to perceive particular relevant items in a 'field' as discrete from the surrounding field as a whole, rather than embedded in the field. A field dependent person tends to perceive globally; his or her perception tends to be dominated by the total field such that the parts embedded in the field are not easily perceived (Witkin et al. 1977). It is worth-mentioning that it has been found that field dependent persons tend to show a strong 'social orientation', as Witkin et al. (1977) point out. They are usually more empathic and more perceptive of feelings than others. Field independent persons, on the other hand, tend to show an 'impersonal orientation'; they are generally individualistic and less aware of the things by which others are moved.Taking these findings further Brown (1989) observes that two conflicting hypotheses could be advanced with reference to L2 learner, on the basis of these findings. First, it could be hypothesized that the field independent person is a better L2 learner, as he or she would be better able to focus on the relevant variables in a language lesson or a conversation than a field dependent person would. This hypothesis is supported by the results of the Toronto study of the 'good language learner' (Naiman et al. 1978), in which field independence was found to correlate positively and significantly with L2 learning success in the classroom. Other studies have also shown a positive correlation between field independence and successful L2 learning (Jucker et al. 1976, Hansen and Stansfield, 1981).

Moreover, some researchers have suggested that the tendency to field independence or dependence may be culture bound. Ramirez, Herold and Castaneda (1974) link field dependence- or 'field sensitivity' as they call it -with Mexican-American culture. However, Fradd & Scarpaci (1981) found that students from Latin American countries were not significantly more field-dependent than their non-Latin counterparts. By way of contrast, Hansen (1984) did find cultural differences for this cognitive style. Hansen studied 286 subjects between the ages of 15 and 19 in six Pacific island cultures. She found that Hawaiian subjects were more field-independent than Samoan, Tongan, Fijian and Tahitian subjects. Hansen's finding provides some evidence for Cohen's (1969) hypothesis that the more analytic style develops in highly industrial and technological societies, whereas field dependence is more typical of agrarian societies.

Reflectivity / Impulsivity is another learner style usually measured by the Matching Familiar Figures Test (MFFT). In each of the test's items, the subject is asked to select from the alternatives the one that exactly matches the standard. So, when confronted with a problem solving task an impulsive person tends to make a quick, or gambling guess, whereas a reflective person tends to make a slower, more calculated decision (Brown, 1980). Els et al. (1984) point out that subjects whose response time is above average and whose number of errors is below average are called reflective, and the subjects

who are below average on response time and above average on Errors are called impulsive. Reflectives tend to be more anxious about the quality of their performance than impulsives. They are also more capable of sustained attention. Doron (1973) found that ESL learners who had been designated as reflective on the basis of their scores on the MFFT were slower but more accurate readers than their fellow students who had been designated as impulsive.

Aural or visual cognitive styles refer to a person's preferred mode of presentation. Levin et al. (1994) observed that many learners could be considered bimodal; that is, learning via one mode or the other does not contribute appreciably to a difference in outcome. But for approximately 25 per cent of all learners, the mode of instruction clearly does influence their success as learners. Lepke (1977; cited in Freeman and Long, 1991), reporting on a study of university students in the US learning German, claimed that when students were taught through their preferred modality, they performed better. In another study reported by Lepke (1977), French students at a junior college in Texas not only performed better when they had a choice of modality presentation, but there was also a substantial increase in enrolment in language courses when students' preferences did not determine the modality of instruction.

The last type of cognitive styles is the tendency that people have to categorize items either broadly or narrowly. Broad categorizers tend to accept a wide range of items or instances as belonging to a category, thus risking the inclusion of items that do not really fit the category and narrow categorizers tend to accept a much more restricted range, thus, risking the exclusion of items that do in fact fit the category. According to Brown (1980) and Schumann (1978), L2 learners who are broad categorizers tend to produce lots of overgeneralization errors, in that they tend to subsume too many items under one linguistic rule, whereas narrow categorizers have difficulty in making the generalizations necessary for efficient L2 learning, in that they tend to create rules for every item. Accordingly, Naiman et al. (1978) hypothesized that the best learners would be those who neither generalize too much nor too little.

To sum up, it should be kept in mind that to ignore what students typically expect, and what they consider to be important or necessary regardless of our point of view, is to invite resistance, either overt or covert to our teaching. Therefore, it seems more reasonable to try to expand and broaden their expectations than to try to change them. This does not mean that teachers should only follow students' wishes. Rather, they should keep their students' needs in mind when they design language lessons. An observant ESL teacher does not need to be told that students learn in different ways. Research in educational psychology (Gronbach and Snow, 1977; and Witkin et al. 1977) suggests that there are at least two distinct ways in which people can learn anything, including second or foreign languages. Some learners, consciously or unconsciously, have an analytic style and learn best by formulating and testing hypotheses or rules. Other learners have a holistic style and learn best by experiencing relevant data and doing little or no analysis. In addition to keeping L2 learners' various preferences and styles in mind, there must be recourse to the theories that guide the new models of technological instructional design. In fact, computer assisted learning is is characterized by a number of theoretical perspectives, which have influenced the role it plays in relation to patterns of teaching and learning.

4.2. Computer Assisted Learning and Learning Theories

Until the 1980s the success of computer assisted learning was due to its capacity to individualise instruction, as Saljo (1994) maintains. Computer software of the drill and practice variety is designed according to the behaviourist principle that learning is best achieved by an individual practising tasks in a repetitive manner until mastery is accomplished. The computer is

regarded as a teacher, giving immediate feedback on responses and enabling further practice. Such software can achieve high levels of task engagement, at least for short intervals, and free up the teacher's time which would otherwise be spent grading and preparing routine tasks for practice. In this regard, Mcloughlin & Oliver (1998) point out that

> While there is a place for this type of software in the classroom, it is limited in terms of engaging students in higher level cognitive processes such as comprehension, hypothesis formation and reflection. It is also driven by a behaviorist paradigm which sees skilled behavior resulting from repeated individual practice and feedback. Computer tasks of this nature also limit educational goals to the attainment of lower order skills such as remembering, reciting or producing isolated segments of information. (p. 126)

Other perspectives on the relationship of theory to computer use in schools emphasize a constructivist view (Knight and Knight, 1995) whereby children learn by discovery and experimental learning. One of the best known applications of constructivism is the work of Papert (1990) with LOGO environments. This perspective treats the computer as a tool; through programming the learner is able to control the technology and generate responses (Varnhagen et al., 2010; Weik, 2000).

Within the last few years, a distinctly different body of theory has begun to attract the attention of the field of instructional design and development: constructivism (Knuth & Cunningham, 1993). Constructivism starts with the view that knowledge must be constructed within the cognitive structure of every individual, so that it is fundamentally personal, while being dependent on experiences in the learning environment and on social interactions (Grabinger & Dunlap, 1995; Lebow, 1993). It can be contrasted with objectivism, the traditional view that knowledge is an external entity with an absolute value which can therefore be transferred from teacher to learner (Clayden et al. 1994; Duffy & Jonassen, 1992).

Constructivism is particularly relevant to higher education (Entwistle et al. 1993; Jonassen et al. 1993), but mass higher education often has limited resources, increasing student / staff ratios, increasing diversity of student types and 'legacy systems' of time-tabling and assessment. The role of the teacher in a constructivist learning environment, according to Barnes (1992), is to facilitate learning through provision of programming tasks and to support individual development by creating microworlds. By providing contexts for learning, the teacher merely activates the learner's latent understanding.

There is no specific place for language, dialogue and communication in developing cognition whereas these processes are now recognised as important to learning. In fact, McLoughlin and Oliver (1998) argued that "the constructivist view of learning does not fully take into account how social processes, such as peer interaction, collaboration and language use contribute to learning. The emphasis of constructivism is on individual development through the use of resources, and accommodation of new experiences to existing understanding". Grabinger and Dunlap (1995) summarize the constructivist approach as a "rich environment for active learning", characterized by five principles described below.

4.2.1. Authentic assessment

The major motivation for degree students is assessment (Gagne, 1985). Therefore, inappropriate assessment will undermine any course design. Assessment must test the learning objectives, in particular, the assessment of skills must involve using the skills not describing verbally

Assessment must be authentic: realistic in complexity, requiring student to contextualise their knowledge, requiring knowledge in depth rather than breadth, and diverse in form to allow for students' differing intelligence and strengths (Wiggins, 1989). Students must be told of the assessment criteria at the start of a course, revealing the standards of the domain to the student and as well as revealing student performance to the examiner.

4.2.2. Student responsibility and initiative

Students should have initiative, responsibility and control in their learning. This self-regulation promotes a reflection on their own learning processes which is typical of "adult" learners (Ferrence & Vockell, 1994). This reflection will improve learning.

4.2.3. Generative learning strategies

Active learning involves using knowledge and skills to 'generate' a product, such as text, diagrams, or a physical artifact which embodies knowledge. This may involve investigating to create a solution to a problem (Kafai & Rersnick, 1996).

4.2.4. Authentic learning contexts

Learning experiences should be realistic and faithful to the original phenomena. Instruction should be anchored in real-world problems, events or issues which may be appealing and meaningful to students. Realistic problems allow students to take ownership of their solutions, develop deeper, richer knowledge structures, require more systematic problem solving methods, and are more likely to benefit from collaborative efforts.

4.2.5. Co-operative support

Collaboration with fellow students can have several benefits to learning. Students can encounter different points of view which may contribute to effective solutions to problems, clarify misconceptions, and give rise to synergistic insights. Group members must understand their different roles and learn to accommodate conflicting ideas. This reinforces individual responsibility and has been shown to benefit learning (Slavin, 1991). The question, then, is can all students cope with the demands of constructivist learning? In the literature, there is a range from mild to strong constructivism (Lowyck & Ellen, 1993; Merrill, 1991). In this regard, Entwistle et al. (1993) claim that there are good reasons from empirical evidence that learning environments should not be strongly constructivist. Individuals have different styles of learning, for example varying along continua from holist to serialist. Some students will enjoy the challengers of constructivist learning while others will sometimes find them uncomfortable and need more objectivist instruction. A radically constructivist course would be more difficult to implement within the constraints of large numbers, resources and institutional culture, so it is encouraging to think that a partial implementation of constructivist principles may actually be optimal for the majority of students.

Moreover, learning is thought to be culturally influenced and a social rather than an individual process. In thisregard, Vygotsky (1978) believed that "human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them". Language plays a vital role in enabling the learner to participate, interact with others and also solve problems, and is therefore essential to learning. The increased interest in Vygotskyan ideas has led to a shill in thinking about the role of computers in education, in general, and in language teaching, in particular. Evidence from classroom observational studies (Hoyles, Healy & Pozzi, 1994) indicates that there are positive effects on motivation, learning and problem-solving behaviors as a result of

collaborative work around computers. The social dimension of learning has gained increased prominence and computers are recognized to be part of the social context of classrooms, where the products of students' work are a focus for discussion and exchange of views (Crook, 1994).

To sum up, learning with computers is a social activity where learners share resources, talk, discuss ideas and collaborate. In view of the social context in which computers are used and the acknowledgement that collaborative learning can lead to higher level cognition, a theory of computer supported learning to help teachers promote learning in their classrooms is needed. In this respect, Mcloughlin & Oliver (1998) argue that:

> The quality of learning around computers is not entirely dependent upon the interface between learners and the technology. Instead, it is related to the whole social climate of the classroom and the opportunities created for interaction and exploratory talk between participants in the learning process. (p. 134)

4.3. Technology and Language Learning

A computer is a 'fast idiot'; an electronic device for processing numbers, letters or symbols at extremely high speeds. It cannot think and does only what it is told to do (Clark, 1985). A computer will not replace teachers anymore than calculators replaced math teachers; calculators freed students from performing time-consuming numerical calculations. A computer can not only calculate numerical statistics but is exceedingly efficient at storing and retrieving information and compiling reports. Used properly, a computer is a marvelous teaching and learning aid. The question that follows, then, is can using computers actually help students learn another language? More to the point, can it help them learn to communicate in another language? Clark (1985) addresses three general areas of instructional computing research. The first, which he terms 'cultivation', focuses on the use of computers to develop new cognitive skills in students when they are appropriately exposed to computers in an instructional setting. The second area; 'uniqueness', relates to designing computer experiences in novel ways that will faster learning not possible in traditional learning environments. 'Generalizability', the third area, addresses the extent to which material learned in the computing environment will transfer to other environments, thus providing a framework for use in novel problem situations.

The view that computers may replace the language teacher is over ambitious. The humanistic domain is the most important input in the learning situation. The role of the teacher as a class manager, as a facilitator of the learning process, and as an initiator of natural and genuine communication in the classroom will never be replaced by electronics. It would be helpful to consider computers as an aid to the teacher just like any other teaching aid, except that, by being more sophisticated, they can offer the teacher much more to enhance his or her teaching. Computers can also offer the learner more freedom in his or her learning task by being more accessible and more versatile. Garrett (1991) points out that:

> The computer is rather a medium or an environment in which a wide variety of methods, approaches, or pedagogical philosophies may be implemented. Computer materials could be designed to carry out a grammar-translation syllabus, or audio-lingual drills or cognitive analysis of language, or a good deal of the kind of learning activities that make up a communicative syllabus (p. 75).

Although computers have been with us since the 1940s, they were not used for educational

purposes until the 1960s. The 1940s and 1970s witnessed the evolution of CALL (Computer-Assisted Language Learning) as a result of development in research related to the use of computers for linguistic purposes. As Dhaif (1989) points out, "from a theoretical point of view, the evolution of CALL was greatly influenced by developments in four areas of research: (a) individualization of instruction, (b) experiments in programmed instruction, (c) developments in computational linguistics, (d) work on machine translation in the 1950s" (See Al-Momani et al., 2014; Al-Ayyouby & Farrah, 2014; Ezza & Bakry, 2014; Li dawn, 2014; Patronis, 2014).

4.4. Computer-Assisted Instruction (CAI)

Computer-assisted instruction has evolved around three distinguishable, though interrelated, instructional ideals: individualization, record keeping, and answer judging. Individualization in CAI refers to the fact that the computer enables students to work alone and at their own pace. Through the use of individualized instruction, poor students can attain additional practice outside of the classroom so that the teacher does not have to slow down the rest of the class. Individualization also allows the teacher to maintain the interest of good students by providing them with advanced materials.CALL programs have the following advantages: 1) they present the learner with a novelty... that is they teach the language in different and more interesting learning conditions; 2) they offer a valuable source of self-access study adaptable to the learner's level, with immediate feedback for error identification and self-correction; 3) they offer unlimited types of activities, and 4) they provide the learner with some sort of computer literacy, which is becoming essential in our modern societies. However, CALL programs also have some limitations: 1) learners who do not have prior experience in using a keyboard may waste a lot of valuable time identifying letters on the keyboard in order to write their responses; 2) working with computers normally means that the learners work in isolation, which does not help in developing normal communication between the learners; 3) CALL programs deal mainly with reading and writing skills, whereas spoken language is almost completely neglected, and 4) the time and effort required to develop CALL programs could de considerable, and thus their cost effectiveness becomes questionable (See Al-Momani et al., 2014; Al-Ayyouby & Farrah, 2014; Barry, 2006; Ezza & Bakry, 2014; Li dawn, 2014; Patronis, 2014).

Reading comprehension is the skill for which the use of CALL is most obviously suited. It is also an area of pedagogical theory which has changed a great deal in the past decade, and teachers looking for computer-based reading comprehension materials should be aware of the different kinds of help that CALL can offer and the theoretical basis for the differences. Traditionally, reading comprehension has been seen as a kind of decoding, where the most important help is lexical, and programs designed from this perspective can be extremely sophisticated in the ways they allow students to call up literal, idiomatic, or contextually sensitive translation equivalents. However, recent theoretical work on reading has down-played the value of lexical decoding and has focused on the wide variety of strategies employed by readers such as skimming, scanning, inferring, predicting, etc. (Barry, 2006 & Yunker). In programs designed from this perspective the computer can highlight the appropriate textual clues to these strategies or use automatic timing to pace a learner through a text for various purposes (See Al-Momani et al., 2014; Al-Ayyouby & Farrah, 2014; Ezza & Bakry, 2014; Li dawn, 2014; Patronis, 2014). .

Gupta (1998) found that when students with inadequate language proficiency compose their essays on a computer, they use spell check for two purposes. Like more experienced writers, they use it to locate typographical errors but they do not always act on the feedback. One reason could be the difficulty involved in coordinating multiple skills but it could also be that their attention is diverted to a second function; that is, from word-correction to word-generation. This may explain why studies

(such as Owston, Murphy & Wideman, 1992) find that student writers do not always use the suggestions offered by the spell check.

One of the most revolutionary writing aids in recent years is word processing, which does not help people write better, but it certainly makes writing easier. It greatly reduces the clerical time it takes to type, revise, make corrections, locate references within a manuscript, and set up tabular material.However, a computer does not havethinking skillswhich means the writer must still proofread, but a computer can minimize the mechanical errors and secretarial drudgery of writing. In this regard, Dayton (1986 maintains that "if we truly believe... that excellence in writing across the curriculum is a primary goal of education, word processing will be a high priority item in our purchase of software" (p. 108).

Sullivan (1993 described her 2-year experience working in a computer-assisted writing laboratory at the University of Texas at Austin. Courses for both native and non-native speakers of English were conducted in the lab, and she used an approach to instruction in which computer conferencing was an integral component. Sullivan points out that "one of the most appealing characteristics of computer conferencing was that the students had an opportunity to negotiate meaning and improve their problem-solving skills" (p. 35). This finding was supported by Smoke's (1993) research on using computer-networking system to write a play:

> Using the computer network to write a play collaboratively enabled these students to create together, recognize differences, and make compromises. It also gave these ESL students the opportunity to go out into the college and gain recognition for their work. The students were from countries as diverse as the Dominican Republic, Puerto Rico, China, and Vietnam. By writing and acting, together, the students discovered what they had in common. (p. 40)

Speaking has had top priority in many language learning programs for some time now, but the computer is far from ready to substitute a human being in spontaneous authentic communication. However, some teachers may believe that structured work on grammar and vocabulary is necessary, so that communicative practice on the computer may contribute significantly if indirectly. According to Garret (1991):

> Any activity which "provokes thinking in the target language can be an important precursor to speaking. Moreover, the computer's ability to provide the stimulus for inter-student target language discussion should not be overlooked. (p. 83)

Listening practice requires audio either on its own, in the context of video, or interfaced with the computer. Video can provide a vivid communicative context. However, the computer can also provide textual support for listening (transcripts, glossary help, structural clues), which is particularly valuable at upper levels of language study where literacy and knowledge of formal language play a much greater role in comprehension.

4.5. Technology. Teaching. and Research

For many language teachers research and teaching are two separate activities; literary scholarship often has little connection with language teaching, methodological research may not be valued, and teaching loads may prevent the undertaking of either. Using technology-based materials to collect data on the learning process may well develop into one of the most interesting options for both pedagogically and theoretically motivated research (Garrett, 1991). In principle, of course, teachers

can always collect data on their students' learning, but the often heavy teaching loads carried by many foreign language teachers strongly militate against their doing so. The time and thought required to design significant research is the same regardless of research methodology, but once a task has been created on the computer it can cover larger number of students and far more complex data than any teacher could possibly handle otherwise.

Furthermore, the computer can enable research we cannot undertake any other way, because it can collect data on the learner's process of dealing with language, rather than only on the product. For example, a pilot research project at Cornell has attached a tracking program to system D so that every key pressed by individual students is recorded-what they write, what they look up at what point in composing, what use they make of what they look up in the next words or phrases written (James, 1993). In this regard, Garrett (1991) maintains that "in more complex computer-based projects the computer can not only track what the learner does in the learning environment but also interact with it; lessons should be designed to respond or provide feedback of some kind to learners' input and to collect data on how they make use of that feedback (p.8). In this sense, technology-based classroom research can be of direct use in shaping our pedagogy (both materials design and the classroom approaches into which material use is integrated) and at the same time can contribute significantly to a growing body of second language acquisition theory.

One of the strengths of computers is their capacity to measure and record. Applying this to language learning, one can easily see that diagnostic and adaptive testing can enable a learner to start a teaching/learning program at the best point and to continue with the program at a speed that relates to his or her ability to learn. If constant evaluation and record keeping are part of the learning culture, then both are most efficiently handled with technological assistance. The great strength of computers is that they can be programmed to provide interactive activities, such as those focused in simulations and models, which have the potential to promote reflection in the learner. In relation to this, Wild and Quinn (1998) point out that technologies can mediate and encourage reflection in several ways, such as providing a communication link between learners, providing tools for knowledge and outcome representation during activities (Hedberg et al. 1994), or simply displaying a record of the learner's activities (Schauble Raghavan & Glaser, 1993).

4.6. Learners' Incorporaiton into the Technology Environment

To embark on such a mission requires careful consideration ofthe many variables that affect the learning and teaching environment.To this end, Andrew Chirwa (1992) proposed a conceptual model for incorporating the learner into the technology environment (ILTE). Factors of the model are the student, the teacher, human wants and needs, and technology. These factors must be viewed as the structural components that maintain the stability of relations in the technology environment. The dynamics of the model are maintained by interaction, society, and exposure, as Figure (1) illustrates.

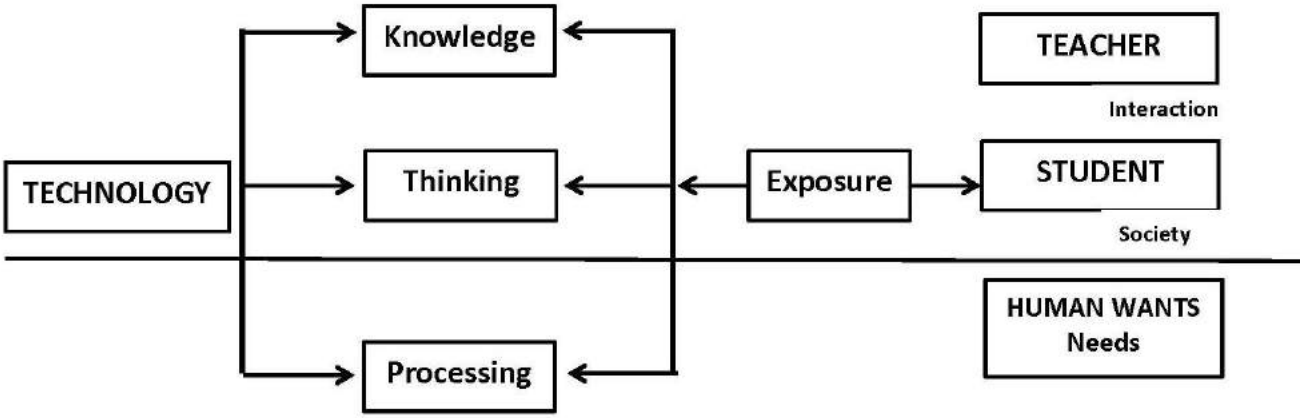

***Figure 1*, Conceptual framework for incorporating learner into the technology environemnt.**

1. Student

As Chirwa (1992) argues, technology acts on the student's intellect and intuition to stimulate thinking and processing capabilities (see Figure 2). That is, the student is teachable and can learn. Therefore, the technology environment must provide the learner with the resources and strategies to learn and acquire knowledge. Incorporating the learner into this environment with the student as the basis for learning can be achieved through the following: 1) defining the learning environment with respect to the availability of materials; 2) selecting materials that match the needs of the student, and 3) providing the learner with a competent and knowledgeable teacher

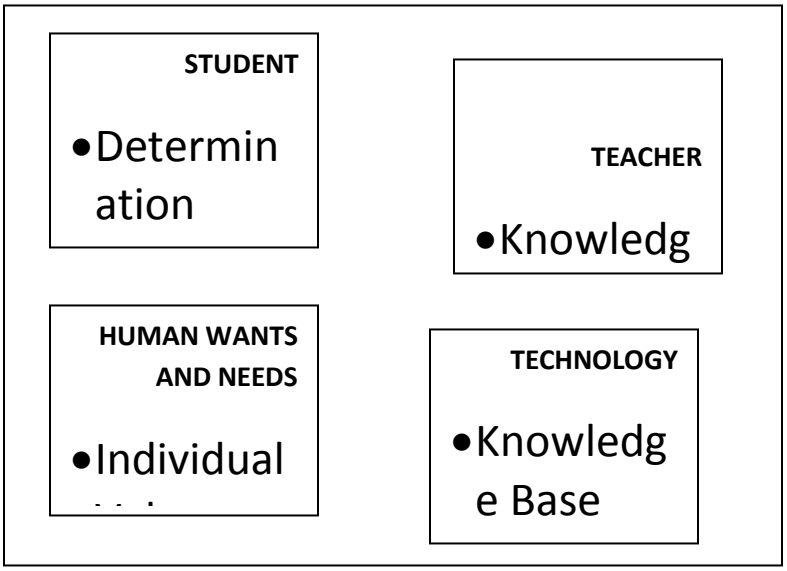

***Figure 2*, Factors of ILTE**

2. Teacher

The teacher should have the skills to impart knowledge to the learners competently and to guide them through difficult learning events. In this regard, Chirwa (1992) argues that incorporating the learner into the technology environment with a teacher capable of stimulating learning can be achieved in the following ways: 1) teachers have to determine the levels students are functioning at; 2) teachers have to explore and determine the nature and prior knowledge of

students; 3) teachers should adapt learning material to the special needs of their students; 4) teachers have to center teaching strategies on challenging students' motivational strategies into courseware.

Educational change depends on teachers. What teachers think and do with respect to an innovation governs the possibilities for success of the program. When the change involves the use of computers and advanced technology in the classroom, the task is compounded by the attitudes toward the technology that teachers have at the outset. As Lee (1992) maintains:

> When computers are used in teaching, the key to success depends on how well the teacher can function with them. With better computer skills, the likelihood of a negative attitude toward using computers for teaching is decreased. (p. 183)

The integration of technology and teacher education involves more than just a physical change, a supplemental add-on to instruction, or a curriculum that dictates the integration of technology (Dwyer, 1991). It is a blend of thinking, learning, and instruction using the tools of technology to form an entire system of learning and teaching. This kind of blend necessitates that teachers have full usage, easy accessibility and understanding of the potential of technology (Sheingold, 1991). In this regard, Ritchie & Dodge (1992) argue that:

> To insure the integration of technology across the curriculum, it (is) imperative that teachers gain both a conceptual understanding of how technology assists the learning process and the basic skills for using the required hardware and software. (p. 640)

Teachers cannot use technology unless they understand how, when, and where to use it (Young, 1992). The current educational reform movement has focused on changes that should occur if our schools are to meet the needs of students as we move into the 21st century. Many of the reform models suggest that changes in our schools should include incorporating more technology into the classroom. "If our teacher education programs are going to meet the expectations of the reform movement, we need to prepare teachers for a technologically advanced environment. Additionally, if we expect to see successful change in our educational system, teacher training must incorporate experiences that will provide future teachers with the confidence to utilize technology in their classrooms" (Downs, 1992, p. 83). Copley & Williams (1992) maintain that:

> The integration of technology into existing curriculum and instructional practices has recently been advocated as the impetus for necessary reforms in teacher education programs. Combined with current research on learning and teaching, the use of technology seems to have potential for the educational community. Despite encouraging results in some educational arenas, however, the promise of technology as it is integrated into the teacher education program has not realized its full potential. (p. 381)

3. Human Wants and Needs

In this regard, Chinva (1992) maintains that "the goals of technology education is to educate for value, identity, and cultural understanding. Man has endowed technology to serve as the instrument to bridge the communication gap between people of different beliefs". He also argues that incorporating the learner into the technology environment with human wants and

needs as a basis for structuring teaching and learning can be achieved in the following ways: 1) teachers have to examine human wants and needs; 2) teachers should select values that can be addressed with available resources; 3) teachers should engage students in experimenting with various societal values; 4) teachers should select learning materials that enhance self-esteem and create motivational factors; and 5) teachers should create learning environments that give students a sense of belonging.

4. Technology

The introduction of new technologies produces changes in the entire school system. Chirwa (1992) argues that "to the enlightened teacher technology can be used for advancing instruction and creating new horizons for discovering new ways of survival. Technology is a value system that has an impact on society". Dede (1990) believes that current information technologies - computers, video-players, television - can improve instruction because: 1) Intelligent devices can create learning environments tailored to individual student needs; 2) Educational technologies can present complex, motivating stimulations and multimedia experiences otherwise unavailable to learners; 3) Sophisticated technology can reduce teachers' involvement in training students about basic concepts and skills, freeing instructors to focus on the higher-order and human-centered aspects of education; 4) Educational technologies can unobtrusively collect detailed information essential for the diagnosis and evaluation of individual learner performance; 5) Distance learning technologies can bridge barriers of distance and time to deliver instruction to students who have no other means of access to this knowledge; 6) Computer-supported cooperative learning can enhance small group interaction as a pedagogical strategy; 7) Using information technology in schools prepares students to use similar devices in societal settings; and 8) Empowering environments for creating learning materials can speed curricular evolution.

Many authors suggest that we should make a choice between computer labs and integration of computers into regular classrooms. Howver, it could be argued that this is not an either /or issue. At the present time, it appears that there is a critical shortage of: (1) Excellent educational software; (2) School based computers and peripherals, and (3) Expertise among regular educators. Until such shortages are corrected, calls for integration may be premature. In addition, there will probably always be a need for computer labs and educational computing specialists, even when and if computing is integrated into the entire curriculum. In this time of promoting the use of the technology across the curriculum educators must continually be aware of the impact that this promotion is making upon their captive audience of students: 1) Are our students involved in learning? 2) Do we place computers in the back of the room to be utilized as a reward for the student who has completed the assignment early?; 3) Do we keep our computers conveniently placed in a lab, allowing our students access only during the one week each term the teacher is assigned lab use? and 4) Do the students benefit when we only have one computer for use in each classroom? According to Braswell (1992), "these questions raise several issues that must be addressed as the use of technology becomes more pervasive and more commonplace throughout the curriculum" and therefore more research is urgently required.

5. Methodology

The present study attempts to explore advanced foreign language learners' attitudes towards the value of using technology in language teaching. It is based on the premise that one of the guiding

principles that shapes the planning of an innovative computer curriculum is involving all those as the most important factor as it is upon them that any innovation can be accepted or rejected. In the first phase of the study, a questionnaire was distributed on 800 students enrolled in the third and fourth years of the Department of English, Faculty of Arts at Minufiya University. The analysis, however, was conducted on the 612 students who returned completed questionnaires. All subjects were asked to answer all questions as completely as they could. The analysis was mainly interpretative with a view to determining the attitudes of the students towards using technology in language teaching.

6. Findings and Discussion

The first question asks 'How do you regard the importance of using technology in EFL learning and teaching?'

Out of 612, 458 students chose (A. very important); 142 students chose (B. quite important); 4 studnets chose (C. not very important); and 2 studnets chose (D. not important at all). Six students didn't make any choice. The following table illustrates such a situation;

Table 1. ***The importance of using technology in EFL learning and technology***

Q (1)	**How do you regard the importance of using technology in EFL learning and technology?**	
A	Very important	458
B	Quite important	142
C	Not very important	4
D	Not important at all	2
No response		6
Total #		**612**

Question (2) says 'How do you regard the situation of technology use in EFL in learning and teaching in your faculty?' Out of 612, 72 students chose (a- very good); 280 students chose (b- quite good); 163 students chose (c- quite bad), and 97 students chose (d- very bad). The following table illustrates such a situation as follows:

Table 2. ***The situation of technology use in EFL in learning and teaching in your faculty***

Q (2)	**How do you regard the situation of technology use in EFL in learning and teaching in your faculty?**	
A	Very good	72
B	Quite good	280
C	Quite bad	163
D	Very bad	97
Total #		**612**

Question (3) says 'Among the different means of technology, which one is available for you to use?'. The subjects were allowed to make more than one choice. 392 subjects chose (A- audio-tapes); 83 subjects chose (13-video tapes); 143 subjects chose (C- computers; including Internet and Multi-media), and 54 subjects chose (D- electronic dictionaries), as the following table illustrates.

Table 3. ***The different means of technology***

Q (3)	**Among the different means of technology, which one is available for you to use?**	
A	Audio tapes	392
B	Visdeo tapes	83
C	Computers	143
D	Electronic dictionaries	54

Question (4) says 'Among the different means of technology, which one did you have the chance to use?'. The subjects were allowed to make more than one choice. 481 students chose (A-Audio-tapes); 200 chose (B-videotapes); and 137 subjects chose (C-computers, internet and multi-media).

Question (5) says 'How many times did you have the chance to use each of these means of technology?'. The following table summarizes the results as follows:

Table 4.1 ***Using means of technology***

A (Audio tapes)	B (Video tapes)	Computers	Electronic dictionaries
543	279	129	99

Question (6) says 'What do you know about the Internet and Multimedia?'. Out of 612 subjects, 138, appeared not to know anything about the Internet and Multi – media. They are about to graduate or have only one year to earn their degree in English literature.

Question (7) says 'How are they used in EFL learning and teaching?' Out of 612 subjects, 279 seemed not to know how the Interment and Multimedia can be used in learning and teaching English as a foreign language.

Question (8) 'How many times did you have the chance to use the Internet or the Multi-media in EFL learning?'. Based on the subjects' responses, 498 out of 612 reported not using the Internet or the multi-media even once.

Question (9) says 'How many times did you have the chance to use the language lab?'. Although the number is not so high compared to the total number of subjects, it is still surprising given that these students are about to graduate.

Question (10) says 'to what extent was the use of the lab effective? Why?' There was total agreement among the subjects that the use of the lab is very effective. However, a small number of students considered the language lab not effective.

Question (11) says 'Among the four EFL skills, which skill can be effectively developed by the use of technology?' The respondents were allowed to choose more than one answer. The following table summarizes the responses.

Table 4. 2. ***Using means of technology***

Listening	Reading	Writing	Speaking
529	108	56	447

The above table shows that both listening and speaking were chosen by the majority of the subjects, followed by reading and, finally, writing.

Questin (12) says "How often do you listen to or watch TV and radio programs deling with

EFL learning and teaching?" The following table summarizes the subjects' responses.

Table 4. 3. ***Using means of technology***

Very much	Quite a lot	Not much	Not at all
68	216	287	36
284		323	

Question (13) says 'How effective are these programs?' The subjects' responses are summarized below:

Table 5. ***The affectivity the programs***

Very effective	Quite effective	Quite ineffective	Very ineffective
254	354	20	9
608		29	

Question (14) says 'How often do you watch or listen to radio and TV channels broadcasting in English?' The subjects' responses are summarized, below.

Table 6. ***Watching or listining to radio and TV channels broadcasting in English***

Very much	Quite a lot	Not much	Not at all
135	222	234	22
357		256	

Conclusions

To sum up, analyzing the responses leads to the followingconclusions:

1. The subjects of this study considered technology very important in foreign language learning and teaching. However, the use of technology in their department does not satisfy their aspirations or meet their academic needs. Although 600 subjects (out of 620) greatly value the use of technology in EFL, nearly half (or give actual %) described the use of EFL technology in learning and teaching in their countries as being 'quite / very bad.' In this regard, a very important observation can be made. Sometimes students are often blamed for not being ambitious and, therefore, their academic standard is not as high as it should be. Instead, it could be argued that they should be provided with the tools, equipment, training, and an encouraging atmosphere for each student to display his or her real abilities and talents.
2. Although audio and video tapes are available for the respondents to use, only (143) subjects chose computers, including internet and multi-media, and only (54) subjects chose electronic dictionaries. This means that although the subjectsare advanced, they are still 'traditional' and not familiar with advanced technology.It could be argued, however, that the whole educational system is to blame. Based on the subjects' responses, only 99 students had the chance to use electronic dictionaries and only 129 had the chance to use computers, internet and multi-media. In addition, out of 612 students, 138 appeared not to know anything about the internet and multi-media, or electronic dictionaries. Finally, (279) subjects did not seem to know how the Internet and multi-media can be used in learning and teaching English as a foreign language.
3. Although the subjects of this study are in their third and fourth years of tertiary education, they seemed to

suffer from what can be called "technological deprivation"based on the the fact that x% have never used the Internet or Multi-media. Even the language lab was not totally known to (55) students.

Moreover, (323) subjects have never listened to or watched TV and radio programs dealing with EFL learning and teaching. And, although (608) subjects considered these programs as "very effective / quite effective" (256) mentioned that they had never listened to radio or watched TV channels broadcasting in English.

The findings lead us to conclude that the use of technology in foreign language learning and teaching in the context studied is far from effective. Much effort is needed as well as a great deal of changes in our educational system, curricula and teaching materials. To embark on such a mission requires careful consideration of many variables that affect the learning and teaching environment.

7. Concluding Remarks

Many authors suggest that we should make a choice between computer labs and integration of computers into regular classrooms. I believe that this is not an either /or issue. At the present time, it appears that there is a critical shortage of: (1) Excellent educational software; (2) School based computers and peripherals, and (3) Expertise among regular educators. Until such shortages are corrected, calls for integration may be premature. In addition, I believe that there will probably always be a need for computer labs and educational computing specialists, even when and if computing is integrated into the entire curriculum. In this time of promoting the use of the technology across the curriculum. We, as educators, must continually be aware of the impact that this promotion is making upon our captive audience of students: 1) Are our students involved in learning? 2) Do we place computers in the back of the room to be utilized as a reward for the student who has completed the assignment early?; 3) Do we keep our computers conveniently placed in a lab, allowing our students access only during the one week each term the teacher is assigned lab use? and 4) Do the students benefit when we only have one computer for use in each classroom? According to Braswell (1992:24), "these questions raise several issues that must be addressed as the use of technology becomes more pervasive and more commonplace throughout the curriculum" and therefore more research is urgently required.

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The Use of Technology in Second Language Literacy: Does it work?

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Abstract
In contemporary societies, there are many online technologies that are popular in schools and universities such as wikis, blogs, discussion boards, and educational YouTube videos. Therefore, the need for new approaches in language teaching has increased according to these revolutionary technologies. This paper intends to synthesize various studies that approached technology in different contexts. The studies dated from 2004 to 2011. The findings of those studies are inconclusive. While the use of technology meets educational expectations; it fails to achieve its goal. Some studies reported positive results that recommend integrating technology in literacy teaching. However, other studies revealed disappointing findings, which showed that using technology demanded adequate computer skills. Based on those findings, this paper gives possible solutions where some of online technologies such as wikis, blogs, and videos can enhance second language literacy in various contexts.

Key word: Blogs, computer competence, second language literacy, technology, wikis

Introduction

The use of technology has become overwhelming in the twenty first century. People around the world take advantages of various kinds of technologies in different fields. Language learning and teaching as one of those fields witness a speed progression for the use of technology in classrooms. Educators continuously look for educational methods that engage students in the learning process. Technology is one of these methods that integrated with course content to establish a student-centered environment (Lee & Kovach, 2001). Second language users face greater challenges in the task of reading and writing in the other language (Carrier 2005). Therefore, if appropriately used, technology improves their reading skills and writing ability in the foreign language (Herter & Montelongo, 2010, p. 89).

The studies that will be discussed in this paper investigate some of online technologies that are used in second language literacy classes such as wikis, videos, blogs and diglot readers. Although the findings had some skepticism about integrating technology in L2 literacy, they recommended further research in this field under different conditions and with different learners. Most of the negative results were due to the lack of computer skills background and in-depth knowledge about the appropriate use of online resources. Moreover, technology should be used to facilitate learning, not to complicate it. Yoon (2003) stated that technologies are only good when they are easy to use and facilitate students' interaction and understanding of the materials. Second language teachers should be familiar with computers before applying technology in their ESL classes. Teachers should be well trained to the use of computers in order to give clear instruction and provide a good feedback.

Statement of Research Question

Akhtar, Iqbal and Hussain (2010) stated that with the existence of technology, students obtain understanding of their world which enhances their learning and allows them to discover resources outside school walls. Therefore, I choose a technology-related research to find out answers to the following question: .Do online technologies improve second language literacy?

Seeking answers to this question, I examined different empirical studies about technology based teaching in second language literacy. The aim of this bibliographic research is to offer insights about using technologies in teaching reading and writing.

Method

To find an answer to the research question, I explored relevant studies dated from 2004 to 2011. All studies are published in peer-reviewed journals such as Foreign Language Annuals, Journal of Research on Technology in Education, Computer Assisted Language Learning, The Quarterly Review of Distance Education and Reading Today. To access all these Journals I used Indiana University of Pennsylvania online library search engine. To name just few, 360 Search that locates your search to multiple databases and Educational Resources Information Center ERIC. All participants in the studies were second language students learning English except one study by (Christensen, 2007) that utilize technology to teach Spanish for native speakers of English. I used this study to examine the beneficial of technology for other second languages not only English.

Synthesis and Discussion of Collected Academic Materials

In the twenty first century, technology has become part of most people's lives especially in the field of education. It is just a single click which takes students further than textbooks and the classroom environment. It is that click which might change the way literacy can be learned. People now use more text messages and emails than ever before. Pastor (2007) argued that "we are going from paper pages to digital screens" (p.599).

Aljarf (2004) aimed at finding out whether there was a difference between the traditional methods of teaching by using textbooks instruction and the combination of textbooks and web-based instructions. The participants were EFL female freshman students at King Saud University. She divided them into two groups: the first was taught by using traditional methods of teaching instruction, and the second group was taught by using a combination of textbooks and web-based instructions. After observing students for two semesters, she claimed that students in the second group scored higher than their peers in the first group. In other words, students who were taught by the combination of textbooks and web-based instructions had improved over the students from the traditional method group. Therefore, she concluded "the use of web-based instruction as a supplement to traditional in-class writing instruction was significantly more effective than writing instruction [relying] on the text-book alone" (p.54). Similarly, Pastro (2007) examined the integration of technology when teaching ESL. He provided some examples of activities based on websites and its impact on students' progress in second language literacy. Pastro's participants were engineering students and they were provided two English sessions. The first session was based on text-books "functional approach" and the second one was taught by technology-based materials "constructivist approach" (pp. 601-602). In the first session, the activity of teaching English was designed to let students consider grammar, phonetics and lexis as they read; however, in the second session, the activity was based on internalizing and analyzing the whole text as they have a chance to look up the words online. The results of this study showed that students improved better by using online technology-based teaching than the traditional way of teaching literacy. Students commented that they found the web-based activities more thought provoking and creative than the traditional methods. According to this study, technology might help engineering students to master competence in English literacy under the constructivist approach by integrating technology in ESL methodology.

Similar findings were reported by Akhtar *et al* (2010) who conducted an experimental study "to determine the effectiveness of technology-based learning environment on student achievement in English as a foreign language" (p. 129). Ninety students of 10^{th} grade studying at Federal Government Postgraduate College in Pakistan were divided into two groups: control and experimental. In the control group, students were in a traditional classroom setting. However, students in the experimental group were placed in a technology-based environment, where they had access to emails, chat rooms, discussion board and web-based learning. The study found that when they compared the results of the two groups, the students in the experimental group performed better than the students in the control group. This study provides further evidence for the beneficial use of technology in ESL classes. Akhtar et al argued that it was recommended that using technology in ESL classes can be fostered to enhance the language learning capability of the students (p.129).

In a different context, a similar study was applied in science class. Herter and Montelongo (2010) claimed that students face some struggle in transition from narrative reading texts to expository reading texts. Therefore, teachers looked for materials that engage students in the learning process. Technology as one of those materials was examined by this study. Herter and Montelongo provided students with different sets of readings, one through paper and pencil and the other one is through computerized material. In those readings, students were required to answer comprehension questions and write a response after they finished reading. The findings found that students liked using technology in reading as they could look up the words quickly

through online dictionaries. Also, it was easier for them to answer comprehension questions by quickly locating the key words for the answers.

All those experimental studies provided examples in different contexts, where technology was utilized as the medium of instruction in ESL classes when teaching literacy. The four studies reached similar positive findings regarding the use of technology in teaching reading and writing. More studies about literacy and technology were addressed in a more focused research project. Christensen, Merrill and Yanchar (2007) "investigated the impact of a computer-based diglot reader on second language vocabulary acquisition" (p. 67). The term diglot refers to the method of translating words into a person's native language. In this type of technology, students read their native language texts with second language vocabulary. Twenty-seven students from an undergraduate Spanish course were instructed to click on any Spanish word to translate into English. The findings of this study supported the results of the previous studies about using technology in teaching literacy. Although the study was different because the participants were English speakers learning Spanish, it asserts that technology might empower students by facilitating learning literacy in any second language setting. The diglot reader provided a motivating atmosphere for learning to read in second language; consequently, students would learn more vocabulary.

In a broader study that is intended to assist "remedial readers, reluctant readers and English language learners who needed additional support and stimuli to connect with the text," Malin (2010) provided students in high school with digital video reading aids to help them to engage and interact with the texts (p. 121). The students were instructed to watch a video, after submitting a questionnaire. The video's title was "The Story of an Hour" which lasts for seven minutes and fifty two seconds. After viewing the video, answering the questionnaires and analyzing the given data, the findings were highly positive. The study indicated five major findings:

Firstly, remedial and English language readers commented that they benefited greatly by watching the videos, because it helped them understand the text. Secondly, the majority of students reported that they felt "better prepared" to contribute in class discussion. Thirdly, more than half of the students claimed that watching the video aided their ability to think critically about the content of the text before getting into classroom discussion. Fourthly, 88 percent of the students argued that utilizing this method of reading was more enjoyable than reading the text without watching. Finally, students commented positively on the use of short clips about the readings. They reported comments such as "my favorite part was discussion . . . I liked seeing how other kids thought about the story . . . I like knowing different takes on a book;" these comments reflected positive feedback about using this technology in classroom while reading tasks (PP. 123 – 124).

Although all of the previous studies in this paper reported similar encouraging results about the use of technology in second language classroom, Allwardt's (2011) research on using Wikis recorded undesirable findings. Wikis are online pages that allow multiple users to modify, edit, correct and add content. The study attempted to evaluate students' progress in collaborative learning tasks. Students were given a literature review assignment, in which they were asked to read certain topics and write a bibliographic paper. They were also given all kinds of instructions they needed to handle this task. Allwardt did not mention whether those students were native or second language learners; however, as far as this study could be important for my research question, I assume that those students are English language learners at advanced level. Students were divided, like the other previous studies, into two groups; one group was instructed to work

by the traditional method of face-to-face interaction and written feedback, while the second group was asked to reflect and comment on their work online by using wiki. The wiki was well planned in an organized manner to facilitate this task for the students, who were given some workshop before starting this assignment. Nevertheless, the findings of this study were disappointing. Allwardt stated that "despite constant encouragement and reminders by the instructors, the majority of students did not use the wiki until a few days before the assignment deadline" (p. 600). The students did not participate collaboratively with their peers of the same group. Conversely, the students in the first group who used the traditional method of writing and responding turned in their papers on time. Those results indicated that even with the availability of technology-based method like 'wiki' students' literacy did not improve because they were confused by the too many options they had to address. This is one example when technology makes the learning task harder than it should be. The aim of the wiki was to facilitate collaborative learning in writing assignment. However, students were distracted by the complexity of this application; therefore, their writing for this task had not improved. This conclusion led me to ask whether or not having computer skills is a prerequisite for the application of technology in classroom.

Surprisingly, I came across a research study about this concern. Pena & Yeung (2010) conducted a study about computer competence for second language learners. This study examined the relationship between computer competence and online learning and whether the computer skills were significant in learning a second language. The findings of the study showed that the knowledge of computer skills has a direct impact on online learning. Students were given an online questionnaire about how well they used computer and how much they liked using computers. Items were answered by using 5-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). Pena and Yeung noticed that students 'computer competence and its influence on computer use were positively correlated (r=.64); in contrast, students' lack of computer competence and effect on computer use were uncorrelated (r-.03).This implied that students with computer competence scored better in online technology than their peers. Therefore, teachers should be firstly aware of their students' knowledge of computer programs before using technology-based methodology because this knowledge has a direct relevance to success in technology-based classroom.

Those contradicting findings prompted me to look for a study about the role of the teacher in the technology-based teaching. If we suppose that students come to class prepared to use technology materials besides their textbook, how do we expect teachers' reaction towards this assumption? Puerto & Gamboa (2008) investigated 166 second language teachers from different institutions and private language schools in Spain. Those teachers were provided a questionnaire about whether they used technology in their classes or not. The questions were arranged on the basis of five-point Likert scale. Unexpectedly, the findings indicated that the majority of teachers did not use technology in their classes, while they used computers intensively for their personal purposes. The study claimed that the teachers lacked some professional training on the use of technology for educational purposes, because "they were more learners than teachers." (p. 147). The results recommended that teachers should have a prior knowledge about using technology in classroom. The reason why I am reporting on this research is that there are many factors that contribute to the positive or negative impact of technology in classroom and the teacher is one of them.

The last study reviewed addresses another type of technology known as 'Blogging.' According to Henry & Zawilinski (2011), Blog is a combination of two words web and log. "It is

an easily editable web space that is often linked to a shared digital diary or journal." (p.13). Brown & Steve (2011), in a recent study, examined the use of blogging as a tool to reinforce the application of technology in a graduate course of literacy and technology. The participants were two future teachers enrolled in a literacy and technology course. They had both the computer competence and knowledge about the topic they would address, which in this study, was the Holocaust. This topic was chosen because students could have access to different articles, news, pictures to post on the blog. They can also contribute their own analysis and critical thinking about the Holocaust (Brown & Steve, 2010). Participants were interviewed to check whether the interpretive data were correct or not. Their surveys and blog posts were also analyzed. The study indicated two findings. Firstly, the participants claimed that to integrate blogging in teaching literacy, teachers should be well prepared and have adequate background knowledge about it. Posting on blogs involved responding, commenting and editing of the original text, so teachers should be knowledgeable enough to follow their students' interaction online. The second finding indicated that both participants pointed out that they would use this technology in their classes in the future because they had a good experience working in a collaborative learning environment. One of the participants stated that "she also recognized the rich potential of blogging to provide an interactive space for authentic exchanges among students to encourage students to read, write, and respond around a particular theme or focus. Blogs are a collaborative space in which students share a common language and experience." (p.39). Unlike Allwardt (2011), Henry and Zawilinski recommended using blogs, wikis and discussion board in teaching literacy because those online resources provided students with a rich environment for responding to each other's comments; however, those students and teachers should firstly have good online computer skills to be able to "promote critical multicultural literacy instruction" (p. 31).

Summary of the Findings

The purpose of this paper is to use a bibliographic inquiry research to provide some findings about research question. Based on the findings of ten studies about utilizing technology to improve second language literacy, the evidence was inconclusive. Seven of the ten studies reported that using technology could enhance second language literacy. However, three studies indicated opposite results.

Some of the encouraging results were reported by Aljarf, 2004; Pastro, 2007; Akhtar et al, 2010; Herter and Montelongo, 2010; Christensen et al, 2007; Malin, 2010, and Brown and Steve, 2011. The findings showed positive effects of technology on students' improvement in second language literacy. Although those studies investigated participants in different contexts like engineering, science and English, the results led to similar conclusions. In Aljarf (2004) research, her ESL students learned better by using the combination of technology and textbooks instructions. The same study was conducted later on engineering second language learners by Pastro (2007) who claimed that students benefit more from technology-based activities than using textbooks only. Akhtar's et al (2010) graduate students also stated that they understood their tasks better by technology-based instruction. Moreover, Herter and Montelongo (2010) reported that students found it easier to respond to online questions while reading than answering them from the text. In a more focused study on reading by Christenen et al (2007), English speakers learning Spanish showed improvement in their learning to read by using diglot technology more than any other traditional drills. In another study about engaging students in reading texts, Malin's (2010) students claimed that they learned better and faster by watching videos about the reading text. The video helped them to understand the materials and participate in classroom discussion. Additionally, Seteven and Brown's (2011) study about blogs in

teaching literacy found out that using such technology in language teaching required both computer skills and a vast knowledge about the topic being analyzed. Even though there were different factors that contributed in the studies such as gender, age and location (context), they reported optimistic findings.

In contrast, there are some studies that suggested different results (Allwardt, 2011; Pena and Yeung, 2010; and Puerto and Gambia, 2008). Take for instance, the findings of Allwardt (2011) study about using wiki in learning literacy indicated that students were not motivated enough to participate with this technology because they did not have a considerable knowledge about wikis and how it was worked out. Students stated that they were confused and wiki did not help them to master better literacy skills; instead, technology was an obstacle, not an aid. To investigate about computer competence and its influence on language learning, Pena and Yeung (2010) examined whether the computer competence was necessary for literacy learning or not. The findings reported that the computer skills are the most important part to predict success in using technology-based methodology. Finally, in a study concerned with ESL teachers' use of technology, Puerto and Gamboa (2008) examined second language teachers from different schools and institutions and they found out that the majority of those teachers do not use technology in their classes because they are unaware of the educational integration that technology might provide to their courses.

Conclusion

Based on the studies dated from 2004 to 2011, I suggest that using technology in second language literacy classes depends on various factors. First, teachers should be well trained to establish accurate use of technology in their classes. Second, teachers and students should have a computer competence to benefit from this technology. In other words, both teachers and students should have computer skills like typing, searching, and responding to online web-pages in order to collaborate educationally and technically. Finally, teachers should gain great knowledge about the topic the students are to address in order to be able to lead discussion, edit and deliver accurate feedback. To conclude, further research is needed to consider the previous factors and find out whether the teachers'/students' knowledge of computer influence technology use in Second language literacy class.

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Zotero Software: A Means of Bibliographic Research and Data Organisation; Teaching Bibliographic Research

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Abstract
The aim of the paper is to introduce the Zotero software as a technological tool and implement it in the syllabus of the subject "Bibliographic Research" to teach master students at Bejaia University. This free, easy-to-use tool can help master students specialized in didactics and applied linguistics in Bejaia manage the great amount of the available data online. This project is suggested after diagnosing a serious problem learners face when starting data collection to accomplish their projects and research works. Needs analysis through teaching this subject since 2007 demonstrated how learners meet difficulties to find out resources and organize them. Hence, the paper suggests the integration of the Zotero software in the syllabus to help students collect, organize, cite and share resources efficiently.
Keywords: bibliographic research, data collection, EFL students, research, research, methodology, Zotero software

Introduction

Technology is growing intensely in this era of modernization. The demanding rapid rhythm nowadays requires the developments of a variety of means to reach advances in various fields mainly to promote a promising and successful education. In this present work, focus is not put on learning but on master students' final product, that is successful research works' achievement. Students are required to develop their research skills all along their training and manage the huge amount of read-ing they are expected to do as well as the huge amount of written materials they are expected to produce. Once masters are engaged in research, they are supposed to find bibliographic resources, organize and classify them. In this, (Gauthier, 2009: 104) stated that given that a variety of resources exists, this complicates new researchers' existence to create and cite their resources. This problem is world-wide for beginner researchers and many scholars estimate that new researchers struggle with referencing (Gauthier, 2009; Duchamp and 2010, Assogbadjo et al., 2011). That is why; technology does in no sense stop its progress to cope with various types of difficulties. Hence, various efficient technological tools exist to *"help you create a personal proper database"* (Assogbadjo et al., 2011). To facilitate creating a bibliography efficiently and easily, software packages are developed for this sake. Most common of which are EndNote, ISIS, Refworks and mainly **Zotero**[i] (Gauthier, 2009; Katz, 2009; Assogbadjo et al., 2011)**.** This software is what makes the core of this workshop.

To begin with, Zotero is a free Open Source software and web management tool which organizes digital sources and bibliographies. It is used to collect, organize, cite, comment and share research sources. This workshop aims at introducing this software to master students in the Department of English and explain its use.

Background

University work requires from students to signal any source they use. That is why, taking note of any resource one uses when undertaking research is evident. We refer to this, bibliographic references. This is more likely helpful for the reader to verify or complete information. In this context, Assogbadjo et al. (2011: 33) refer to three types of bibliographic management software namely priority software (EndNote, Refernce Manager, RefWorks, etc.), Open Source (BibTeX, JabRef, Zotero, etc.) and applications web. Such tools help researchers organize references since they suggest management functionalities that can help import and present references one can save in the computer and share even online. These software tools are also tied to a bibliographic database fed by such users as Mendeley[ii], CiteULike (Assogbadjo et al., 2011).

In the bibliographic research subject at the master 1 level at Bejaia (c.f. Appendix 01), focus is put on how to make researches and use them as references since they are supposed to get information from a colleague, read a relevant article, find an interesting comment on the Internet, attend a useful seminar, or find a pertinent paragraph in a book, make a note in a reference record (Katz, 2009). For Katz, computerized reference records make these notes easy to organize, to search, and to reorganize and this can be achieved through a software that can put the references in the appropriate bibliographic format and sort them in the order that matches the citations in the research paper. As regards software packages, Gauthier (2009) stated that the construction of such tools permit users accumulate data, organize and classify them in order to make it easy to repair, compared to a traditional database. Data researchers should consider are related to bibliographic references, keywords, abstracts, reading notes and citations.

One of these software packages is Zotero, a Firefox add-on, that can help students and researchers collect, manage, and cite research material, edit the data saved by Zotero and attach additional data such as notes, tags, and related files so as to share them with other users (Hao Yang, 2010: 48).

However, there are such limitations of the Zotero software application as: Duplication problem, citation styles and back up. Here are the downsides to Zotero[iii]:

Duplicates. Zotero is unable to prevent and remove duplicates, but one should do it manually for updates.

Citation styles. Zotero covers most basic citation styles such as Chicago Manual of Style, APA, and MLA but it has a long way to go to match the output styles available through EndNote, which has over 2,900.

Backup. Zotero may live in the web browser, but your information is stored in the computer. The positive side of this is that one can access the library from anywhere and need not be online. The negative is that it is possible to lose the library if the computer break downs or gets stolen.

Description of Zotero

As mentioned earlier, Zotero is an efficient means to cope with the multiplicity of resources. Hence, to extract such references in a structured way from bibliographic databases and edit one's own bibliography, the following description of the Zotero software can help get started. Information we provide in the workshop are extracted from Zotero training (see Simonot, 2012).

In this section, an introduction of the software needs to be made clear. We need to introduce the reader to how to download the software, what are the constituent elements of the databse and how to construct a bibliography. To begin with, Zotero is an extension of Mozilla Firefox[iv]. First, download it at at www.zotero.org .

Activity 01: *Follow the following steps:*

- Click on the download option

Figure 01: ***Zotero download icon***

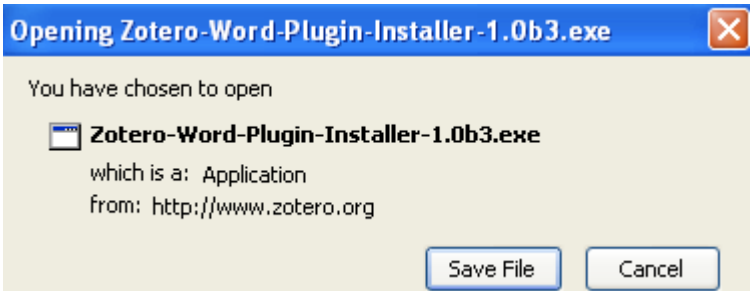
You will need to restart Firefox once installation is complete. You will know that Zotero has been installed successfully when you see either of these Zotero icons in the bottom right corner of Firefox. zotero or [v] (The following description is taken from the tutorial)

- Go to the word processor integration page and select the option for either (Microsoft) MS Word

or Open Office.

- Save the Word Plug-in Installer

Figure 02: ***Zotero Word plug-in installer***



- Run the Installer by double clicking on the Installer icon
- Follow the instructions.
- Once installation is complete, you should have a Zotero toolbar in Word.

While the Zotero toolbar itself is the same across word processors, its location in the actual program may differ from what you see below. This screenshot is from Word 2007.

Figure 03: ***Toolbar form in Word ("compléments" in the French version)***

Citations and References in Zotero

While using Zotero, you can find all the references cited in Francis (c.f. useful links). Yet, only references published after 1970 are available since this is the beginning of the existence of the International Standard Book Number (ISBN) system. Francis contains thousands of journals and you can select resources that:

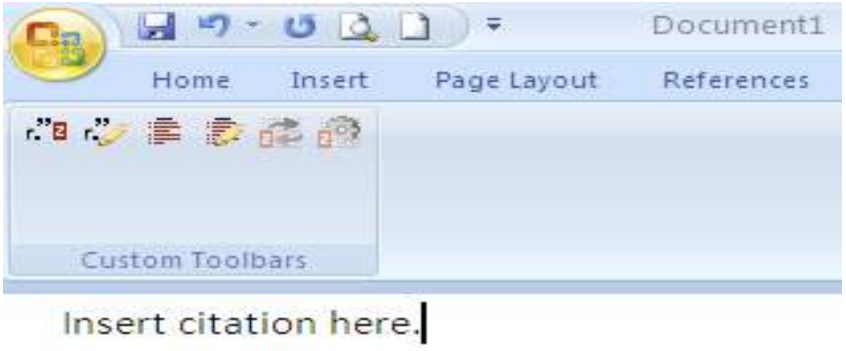
- cite journals
- cite authors
- cite titles
- cite numbers
- cite abstracts
- cite keywords
- cite translations in English

However, one of the shortcomings of this software is that it becomes slow when a big number of documents is being downloaded through Mozilla. A practical solution can be the full

text management and putting the documents in the computer folders where the "action" button is available.

In the Word processor, place the cursor in the place the citation should be added.

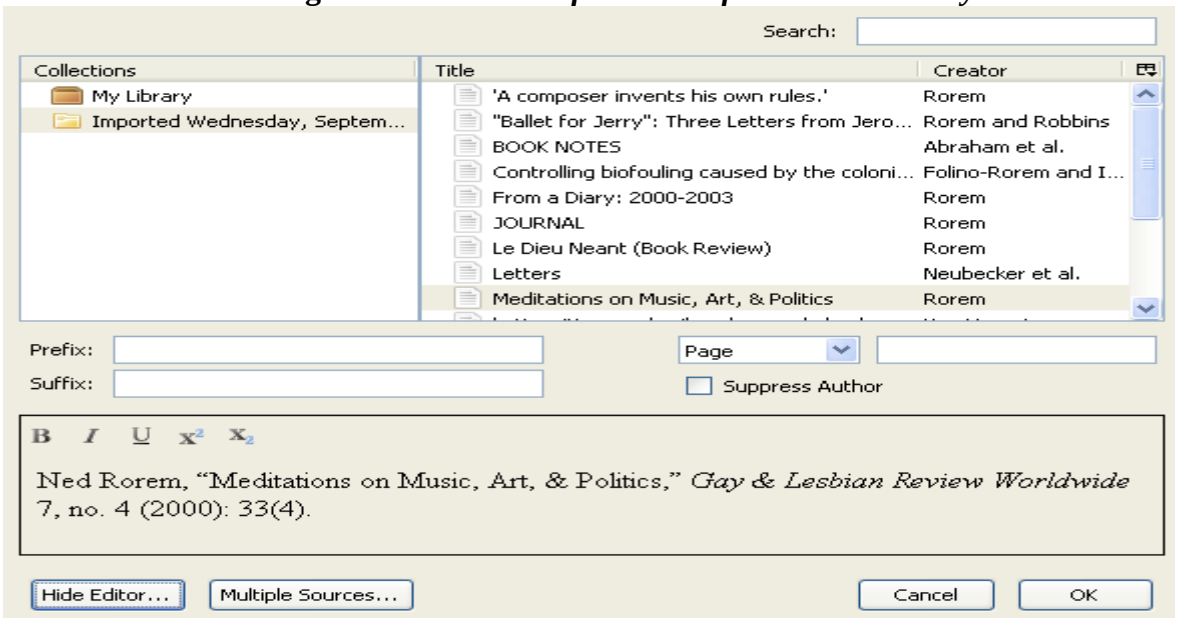
Figure 04: ***Citation insertion in the Word processer***



- Click on the *Zotero Insert Citation* icon.

A window displaying your Zotero library will appear. Choose the appropriate citation, add any details necessary such as page number(s), prefixes, and suffixes. Clicking on *Show Editor* will give you a preview. Click *OK* like shown on **Figure 05**.

Figure 05: ***Selection of a citation from Zotero library***

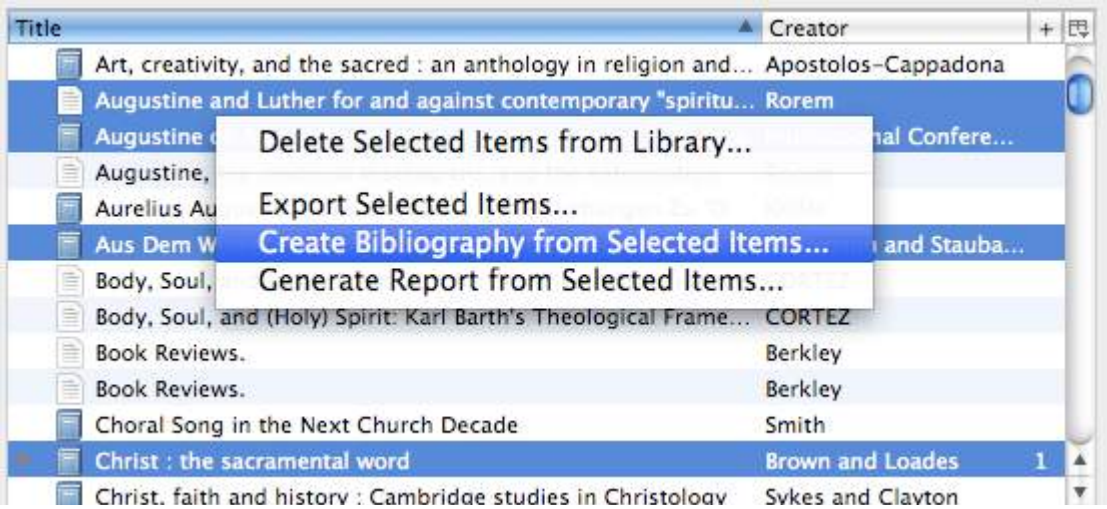


Bibliographies. For bibliographies within the word office, Zotero users can generate citations and bibliographies through word processor plugins, or directly in Zotero[vi]. That is, the Zotero button in word office (red color) can help organize the bibliography.

To insert a bibliography, the Zotero user can select the *Zotero Insert Bibliography* icon. It will then appear at the end of the paper.

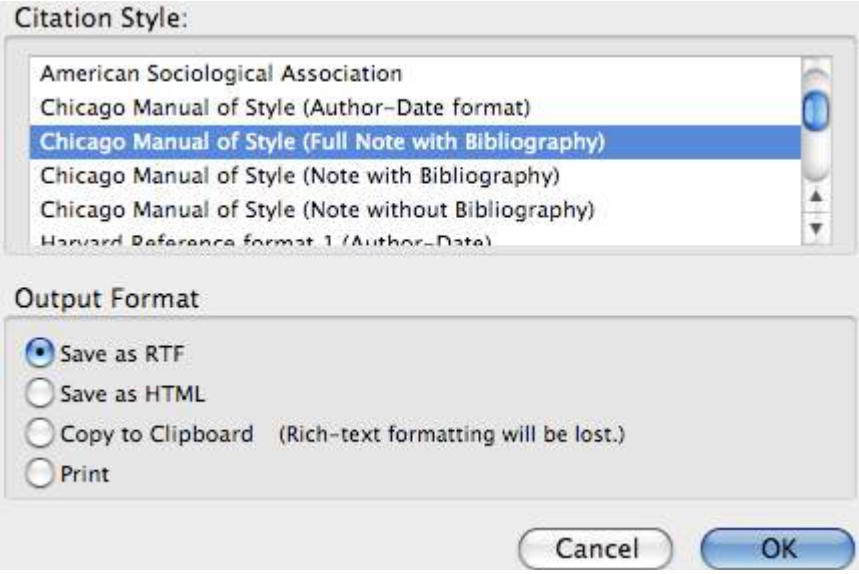
Creation of Independent Bibliographies. Choose the items in the Zotero library needed to structure the bibliography.
Right click and select *Create Bibliography from Selected Items* (See **Figure 6)**

Figure 6: ***Bibliography from selected items***



- Select the appropriate Citation Style and select the Output Format as *Save as RTF*. Click *OK*.

Figure 7: ***Choice of citation style***



- Name the file and choose a location for the file.

One can also create bibliographies of an entire collection by clicking the left column, right click on the collection to create a bibliography for.

Practical Tips to Use Zotero

Activity 02: For reminder reasons, and to get started follow the instructions below:

- Zotero is now installed in your word processor, you can notice once you open your word office the Zotero red icon.

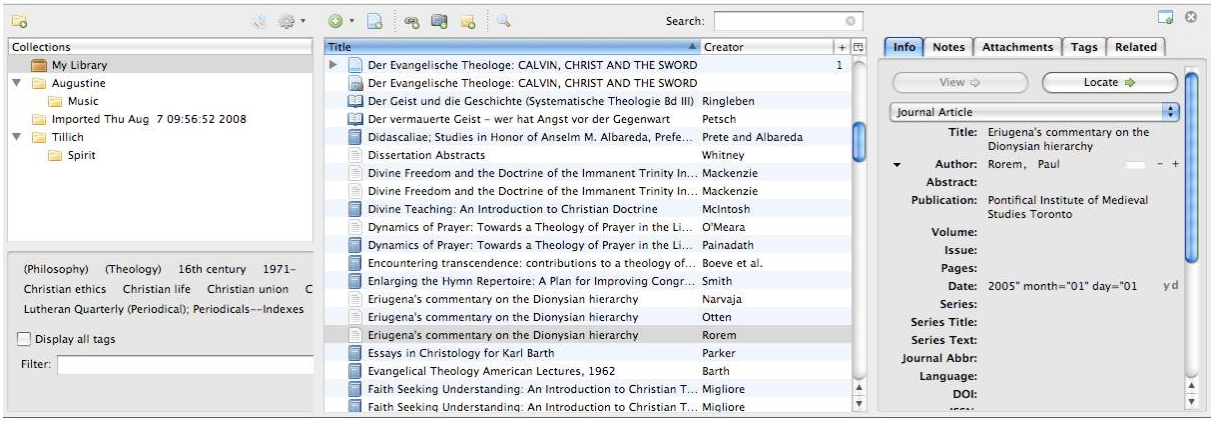
In this case, Zotero can landmark bibliographic references.

Second step has to do with creating your own bibliography, for this you need to:

- My bibliography can be created by using the right mouse side, you click and select "create a new selection).
- You click and create "a sub-selection".
- This option can help you create a hierarchy of selections according to your keywords.
- You can change your keywords according to your needs.
- This can help use the same reference in various folders. In order to do so, just copy/paste the document from one folder to another.
- If you need to change the place of a reference, use the right button of the mouse and select "remove the document from the selection" if you need to delete it but let it in the database, or "delete from the library" if you need to delete it completely.

The following figure is an illustration to understand better:

Figure 8: ***Zotero's interface***



The left column displays your library and various collections and sub-collections along with tags. The center column displays the references in the specific collection you have highlighted in the left column. The right column provides the specific details about the reference highlighted in the center column including bibliographic information, notes, and any attachments.[vii]

Further Suggestions to Implement Zotero in Bibliographic Research Teaching

At the master level in teaching English, there is a subject entitled "bibliographic research" and the suggested syllabus is presented in Appendix 01. We tend to provide a number of suggestions to better integrate technology in teaching this subject. It is urgent to consider using online databases and indexes. It is also useful to accompany such online tools with bibliographic research software programmes adjusted to fit this aim.

In the following lines, we suggest various tips and propositions to help better adjust bibliographic research teaching to modern, computerized and technological updates:

- There is an urgent need to plan for how to make use of technological tools in Algerian universities; students and teachers luck information literacy and readiness to use technology in classrooms.
- Bejaia has six multimedia labs. Accordingly, the Faculty of Arts and Languages can integrate appropriate software programmes in the computers' labs that fit research methodology teaching (Idri, 2012) (e.g. zotero, dropbox, SPSS, Nvivo, etc.).
- We suggest integrating in the bibliographic research subject: annotated online bibliography, using computerised notebooks, using bibliographic software packages, electronic citation styles to the syllabus.
- Learn how to download and upload documents; join together other social media relative to bibliographic research.

Conclusion

Trying to design syllabi that fit modern education is one of the teachers' main concern. Adopting the (Licence/Master/Doctorat) LMD system enquires from learners to be future professionals and futre researchers as well. This cannot be achieved without excellence in teaching and updating the syllabi to assure the needed quality. However, the main problem we would like to highlight by the end of this workshop is whether both teachers and learners are

prepared and able to apply technology in and outside the classroom or not. Using technology seems to be challenging for both teachers and learners (Idri, 2012). Hence, there is a need to diagnose the teachers' readiness to use technology and learn to use software programmes in their needed subjects. This is more likely helpful to teach learners using such packages and gain time and effort. For this, equipped computers should be available to serve this need. However, we cannot expect the realization of this project immediately since we need to prepare the appropriate ground to make it practicable and feasible.

About the Author:

Nadia Idri has been teaching at Bejaia University for twelve years. Specialized in educational psychology, ELT and Applied Linguistics, she is interested in conducting research on affective factors, applied linguistics, learner autonomy, basic and higher education, technology education and LMD Reform. Nadia masters four languages and translates in three of them (English-French-Arabic). She has published in many national and international journals; she has been a member of various scientific committees and chairing sessions in national and international conferences and chaired many of them in her university and now at international levels. She has a reviewing and editing experience with many journals. Actually, she is the chair of the scientific committee in her Department and a chair of the master she created: Applied Linguistics and ELT. Nadia is also a founding member in BEST student association to develop autonomy, creativity and sense of initiative in her students. She is the founder of the Creative Writing Days event in Bejaia University in partnership with BEST

[i] Zotero : http://www.zotero.org/

[ii] Mendeley: http://www.mendeley.com

[iii] http://technology.ptsem.edu/assets/18B0A48A-EB6E-480B-B3B7-C77E5859CE36.pdf

[iv] www.firefox.com

[v] http://technology.ptsem.edu/assets/18B0A48A-EB6E-480B-B3B7-C77E5859CE36.pdf , All the figures in this paper are extracted from the tutorials

[vi] *http://en.wikipedia.org/wiki/Zotero*

[vii] http://technology.ptsem.edu/assets/18B0A48A-EB6E-480B-B3B7-C77E5859CE36.pdf

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Appendix A

UNIVERSITY OF A_MIRA, BEJAIA **Master I, LMD STUDENTS**
DEPARTMENT OF ENGLISH **LECTURER: Dr. Nadia AHOUARI-IDRI**

Teaching Unit: **Research Methodology**
Subject: Bibliographic Research

1. Starting up your research
   a. Identify & Refine your Topic
   b. What information do you need?
   c. Search Strategies
   d. Evaluate your information
2. Bibliographic Research: Using the Library
   a. Effective Research: the library
   b. Bibliographic Research
   c. Efficient and Effective Online Searching
   d. Research Guides
   e. Citation
   f. Bibliographic Record
   g. Basic Search: Key Words, subject Browse,.
   h. Advanced search and Boolean logic
3. Databases and indexes
   a. Periodical Indexes
   b. Databases/Indexes
4. Identify Search Engine Features
5. Evaluate results
6. Introduction to bibliographic research software packages.

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The Effect of Twitter on Developing Writing Skill in English as a Foreign Language

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Abstract
This study aimed at investigating the effect of twitter on EFL writing and whether twitter has an effect on: ideas and content, organization, voice and style. This study followed a pretest-posttest experimental-control group design. Two intact classes were chosen to be the sample of the study from level four: one class to be an experimental group and the other class to be the control group. Instrument of the study was an EFL writing test. Students in both the experimental and control groups were pre-tested on their writing skills using the EFL writing test. Students in the experimental group were taught using Twitter and students in the control group were taught using the traditional method of teaching writing. Finally, students in both groups were post-tested using the EFL writing test. The study showed that the experimental group outperformed the control group on post-testing of writing. This difference can be attributed to using Twitter in teaching writing.

Keywords*:* EFL-Twitter- writing skill

Introduction

Writing is a complex skill. Grabe& Kaplan(1996:24-25) states that " Students in English as a foreign language context will need English writing skills ranging from a simple paragraph and summary skills to the ability to write essays and professional articles". As students enter the workforce, they will be asked to convey ideas and information in a clear manner. If students' writing skill is developed, it will allow the students to graduate with a skill that will benefit for life (Alber-Margan, Hessler&Konrad, 2007). In fact good English as a foreign language writing, as Lee (2003) states "is a key concern for teachers, researchers, textbook writers and program designers in the domain of foreign language teaching."

It has been found that writing is one of the most difficult language skills to master (Kurk&Atay, 2007; Latif, 2007). Alsamadani (2010,P.55) indicates that writing is a challenging and difficult process as it includes multiple skills such as identification of the thesis statement , writing supporting details, reviewing and editing. In the same way, Abu-Rass (2001) added that writing is a difficult skill for native and nonnative speakers alike as students should make balance between multiple issues such as content, organization, purpose, audience, vocabulary, punctuation, spelling and mechanics.

To overcome the difficulties of writing, Twitter will be used by the researcher as a supplementary tool in teaching writing. "Twitter is the most popular micro blogging application, with almost one million users, called twitterers , who can send and receive messages via the web, SMS, instant message clients, and by third party applications" (Grosseck&Holotescue, 2008, p.1). Twitter posts known as tweets, are limited to 140 characters including spaces and punctuation, which concentrates the language accuracy and communicative precision (Grossock&Holotescue, 2008).

Exciting new technologies mushroom every year and enter our classrooms. It is important to follow these trends- especially if they are popular with young people – and to reflect how they can potentially be applied to our teaching methods and contribute to computer-mediated communication for language learning and teaching. Twitter is a social network services (SNS), which is currently one of the most popular forms of microblogging. Microblogging is a form of blogging, but it differs from traditional blogging in that its content is typically much smaller, in both actual size and aggregate file size. Compared to regular blogging, microblogging makes communication even faster, lowers users' requirement of time and reduces the effort in investing thought for generating content (Java et al., 2007). The researcher used twitter as one of the most update technologies to develop EFL writing skill and overcome the difficulties of writing. Twitter and microblogging are used interchangeably in this study.

Twitter can be viewed as an appropriate writing, editing and revising tool for young students (Kurtz, 2009). After employing Twitter into his writing classes for first and second grade students of elementary school, he concludes that the character limit feature provides a powerful way to teach word choice, ideas and punctuation. Antenos- Conforti (2009) also reports that Twitter enhances university students' writing accuracy in terms of grammar and vocabulary. Setting up a Twitter is simple and requires just an email address, username, and a password.

Definition of Twitter (Microblogging):

Twitter (microblogging) refers to the act of posting a short text message to share one's thoughts or opinions or to update others on one's present circumstances (Java, Finn, Song& Tseng, 2007; Holotescue&Grosseck, 2009). Some tweet sites also allow users to share other media, such as

images, and to track the updates of a twitterer who interests them (Java, Finn, Song& Tseng, 2007).

Mac Arthur&Karchmer-Klein (2010) defines Twitter (microblogging) "also known as social messaging, is a way of communicating short immediate statements to others" (P.60). Twitter is the most popular micoblogging service with more than two hundred million users, who send around 100 million tweets perday (Hatem, 2012).

The benefits of Twitter:

Twitter has so many benefits for education and language learning:

Dunlap&Lowenthal (2009) stated that Twitter is helpful for students in pursuing immediate feedback for classmates and the instructor as they worked on completing assignments. List& Bryant (2009) found that Twitter was helpful as an aid for peer tutoring and social interaction that revolved around academic issues.

Twitter is used for asynchronous interaction among users and followers (Dunlap&Lowenthal, 2009: Grosseck&Holotescu, 2008). It also offers a platform for quick communication which could play as a motivation for language learning (Borau, Ullrich, Feng, Shen, 2009). Twitter provides one enhanced social presence, which is an important element of second language acquisition (SLA) theory through social interaction, discussion and collaborative learning (Borau et al., 2009; Dunlap&Lowenthal, 2009).

Twitter and EFL writing:

Twitter allows instructors to track each student's writing progress and ideas. Posting comments offers students a chance to practice using the language for situational communication while also giving teachers a chance to observe the actual performance of students' comprehension in their target language (Borau et al., 2009). When Twitter is being utilized for class discussion, it facilitates students' skills of summarization by consolidating their thoughts with concise and precise syntactic structure and vocabulary in their tweets (Bart, 2010).

Twitter can facilitate collaborative writing in class and stimulate ideas among multiple users. Students are able to construct sentences in the form of tweets. The concise and precise writing style in Twitter reinforces the focus of the communication, and the writing process is potentially a good exercise for language learners (G.M. Chen, 2011).

Dunlap&Lowehthal (2009) indicated that Twitter allows teachers to check their students' comment and response and students' comment and response and students can view their classmates' tweets and provide feedback. Students reflect on their ideas and the syntactic structure of their tweets so that their thoughts can be understood (Bart, 2010). Cho et al. (2010) indicated that twitter can be efficient in writing by making use of self-evaluation as students can identify their compatible parts to modify and peer- evaluation which helps students to provide suggestion for their fellow classmates.

Previous studies of Twitter and writing:

Most studies have tackled how Twitter is used in EFL learning but fewer studies have dealt with using Twitter in EFL writing. The following are some of these studies:

Lakarnchau (2012) investigated how six Thai EFL learners utilize microblogging while they worked in an assignment that requires them to read and write English texts. The learners' tweets were called and analyzed over a four-week period. The students use Twitter to

communicate with their instructor and to discuss their assignments. The results of the study showed that Twitter is useful in completing their assignments.

Cheng (2012) applied Twitter as a tool for English as a foreign language reading and writing in a college in Taiwan. The participants of the study consisted of 58 college in Taiwan. The study instruments are EFL writing test and a questionnaire to measure the students' attitude after using Twitter. The results of the study showed that Twitter had a positive influence on the experimental group's learning attitude.

Twitter and asynchronous learning

The asynchronous environment allows the instructor to provide feedback with guidelines, explicit explanations, and comments about learners' performance. One inspires learners to modify their comments in the online learning community and stimulates social interaction through meaningful inquires (Murphy, 2007).This teacher-student interaction helps learners gain information about their writing and allows them to remodel themselves by reflecting on feedback. In this study, all Twitter microblogging was conducted with the same framework as an asynchronous teaching approach ; the teacher and the student both made use of asynchronous communication , and the learning performance depended on how well the interaction and information were shared in the learning process (Murphy,2007).

Twitter contains the functions of an asynchronous communication platform and its quick and concise ways to respond also provide users an opportunity to engage in cooperative activities and to improve their communicative skills (Borau et al.,2009; Junca at al.,2011).Asynchronous learning environments provide learners with both a longer period of time to respond with their comments and thoughts in the learning community and use of simultaneous chat function to deliver their ideas throughout the community.

Twitter, as an asynchronous community, could facilitate learning via the web and allow users to interact with each other by asking questions, sharing information, and posting personal updates (Dunlap&Lowehthal, 2009; Grosseck&Holotescu, 2008; Stevens, 2008). It also serves a multifunctional purpose through users' online discussion and microblogging abilities, which capture both instructors' and learners' interests (Matsuo et al., 2008).The foundation of asynchronous learning environment is based on social interaction so that the peers encourage one another to generate more efficient language communication.

Problem of the study:

Educators have started to notice the new technologies and explore their effects on student behavior and performance. While there is a supporting evidence to suggest that these technologies have a large influence on the social development of adolescents, an even more pertinent issue for classroom teachers is what effects these technologies have on the academic development of young learners (Fogg, 2010).

Saudi students do not practice enough writing in and out of the classroom, and that the grammar rules their teachers focus on are not put into practice in actual writing. Therefore, Saudi students need much practice in writing (Alhaysony, 2012). As the researcher is an assistant professor at one of the Saudi universities, she noticed that more and more undergraduate students use mobile phones and Twitter applications in their writing in Saudi Arabia. The researcher felt that there is a need for a study of integrating Twitter in EFL writing to find out if it would improve the writing skill of undergraduate students in Saudi Arabia. In this study, the researcher

examined the integration of Twitter as a new technological tool in EFL writing to overcome the difficulties of writing which EFL undergraduate Saudi students face in writing.

Questions of the study:

This current study attempted to answer the following questions:

1-Is there a significant difference in students' writing between learners who use Twitter as a tool in their writing and those learners who do not use Twitter in their writing?

2-Is there a significant difference between the pretest and the posttest scores on the development of the four specific writing skills: ideas and content, organization, voice and style?

To answer these questions, the mean scores of the experimental and the control group in an EFL pre and post writing test were compared using SPSS version 18. In addition, the mean scores of the rubric were compared.

Purpose of the study:

The purpose of this study was to discover the difference in students' writing between learners who use Twitter in their writing and those who do not and whether twitter has an effect on: ideas and content, organization, voice and style.

Significance of the study:

This study brings to light the integration of smart mobile phones and applications on those phones such as Twitter for EFL writing and its effect on ideas and content, organization, voice and style. This study looks specifically at female Saudi undergraduate English students. It also looks at writing skills as evidenced by a modified rubric including: ideas and content, organization, voice and style. This is significant because it informs teachers about the use of smart mobile phones in education. If it is found that the integration of Twitter as a tool in students' writing is effective in improving their writing, then the integration of this tool will help students to improve their writing abilities and encourage EFL university instructors to integrate Twitter in teaching EFL writing.

Assumptions:

It is assumed that EFL writing teachers followed the curriculum laid out by the English department. It is also assumed that the students were able to write a five paragraph essay at the time of the study as it is one of the outcomes of the course.

Limitations:

The limitation was that the study was conducted with only one section of 60 female students who were divided into 30 as an experimental group and 30 as a control group. Another additional boundary was the running of the research in the first semester of 2014 in one university in Saudi Arabia with undergraduate female students.

Sample of the study:

This study was conducted in the college of Science and Arts in a female branch of Qassim University with a population of more than 1200 students in Saudi Arabia. English undergraduate students are studying writing skills in the eight levels of their study at university. They started at a basic writing level and move to writing a five paragraph essay. The college uses high quality

writing textbooks from Oxford University Press (A shima, Alice et al., Writing Academic English 4th ed. Longman, 2006).

At the time of the study, there were English PhD. and M.A. holders comprising the college who taught writing skills in the college. In this quantitative, quasi-experimental study, one English writing class (level four) was chosen randomly as an experimental group to write essays via Twitter for a period of eight –week period of time. Another English writing class (level four) was chosen to be a control group which study writing in traditional way.

Instrument and material of the study:

An EFL writing test was used in the study as a pre and a posttest. It was designed by the researcher. The rubric that was used was prepared by the researcher. The students use Twitter application which was downloaded for free to their smart phones.

Reliability and validity:

Since two teachers assessed the writing tests, A Pearson Correlation Coefficient testing for inter-rater reliability was used to assess the consistency of the scores of the two assessors.

Methodology of the study:

In the experimental group, the instructor makes her Twitter account and helped the participants of the study to register for their own Twitter accounts. The participants were then required to "follow" (a process whereby the user identifies whose tweets she will receive) the instructor and their classmates. For the first two weeks, the participants were required to tweet in order to be accustomed to the functions. The instructor posted pertinent questions regarding course content and supplemental articles from the students' textbook and the participants were required to post their answers to the questions in English on Twitter during class. The control group had the same amount of instructional time as the experimental group in this study investigation.

A new article was presented every week as a reading material, and students in the experimental group were asked to briefly summarize the reading materials on Twitter or answer questions posted by their instructor in order to organize various essay writing styles. Students' tweets were evaluated by the researcher based on pertinence to the topics, the grammatical or syntactical effectiveness of their comments, and the depth of the ideas formulated in the tweets to write the essays.

During the class meetings, the instructor projected all the tweets on a screen and briefly discussed them from the perspectives of ideas and content, organization, voice and style. Participants were encouraged to have twitter interactions with their peers regarding their responses to the questions posted from the instructor or from their peers. The Twitter-assisted teaching approach continued for eight weeks over eight course meetings. Each meeting continues for three hours. Students in the control group read the same new article as the experimental group every week, but they were taught with traditional instruction (mainly lecture and in-class discussion) and without any class assistance with Internet media. The instructor gave paper-based copies of materials to the students and they discussed the texts orally or with paper and pencil. Students in the control group are engaged in the same writing exercises as the experimental group such as writing a five-paragraph essay and discussing their essay writing orally in class.

An EFL writing test (See Appendix A) was assigned to the students of the experimental and the control group on the first day of the study as a prewriting test. This test was scored using

the rubric. At the end of the eight weeks, the students in the experimental and the control group wrote again using the same writing test as a posttest in which students have to choose a topic and write a five-paragraph essay and it was scored using a rubric which is prepared by the researcher. The test was corrected by two English teachers that do not teach these undergraduate students. The rubric contained the categories of ideas and content, organization, voice and style (See appendix B). The scores of the two evaluators were used as a benchmark for the final writing assessment. Additionally, each of the four sections of the rubric was scored separately (each has six different scale criteria) so that the researcher could determine if any of the writing skills had improved. The total mark of the test is 24.The scores and the data from the rubric allowed the researcher to determine whether or not the scores had improved since the student began using Twitter.

Data collection and analysis:

In the first day of the study, the students in the experimental group and the control group spent 45 minutes responding to a prewriting test. This group of papers was given to two teachers to score using the rubric. During each academic day for eight weeks, the students tweeted using Twitter to respond to the topic which the teacher gives based on the reading comprehension to write a five-paragraph- essay. The control group was taught in the traditional way of teaching writing (using mainly lectures and in-class discussion). At the end of the eight week, students in the experimental and control groups were tested again using the post writing test. The study questions were scored using a writing rubric which has six different scale criteria including: "does not meet" receives a score of "1", "partially meets" receives a score of "2", "does not fully meet" receives a score of "3", "meets" that receives a score of "4", "more than meets" that receives a score of "5" and "exceeds" that receives a score of "6".The scores were added so that there was a potential total score of 24 on the rubric. The scores were analyzed using descriptive statistics (SPSS) version 18. These four different categories: ideas and content, organization, voice and style scored on the rubric were compared using T-test. Each skill of these was given a score of "1" to "6" depending on how well the students performed in each one.

Results of the study:

The purpose of this study was to discover the difference in students' writing between learners who use Twitter in their writing and those who do not and whether twitter has an effect on: ideas and content, organization, voice and style. The mean scores of the experimental and the control group in the pre and post test of writing were compared using SPSS software to conduct tests. The tables showed these results.

Table 1

Results of the T-test of the experimental and the control group in the post-writing test

Group	N	Mean	S.D.	t-value	df	Sig
Experimental	30	20	1.84	24.8	29	sig
Control	30	11.3	1		29	

Table 1 shows that there is statistically significant difference at 0.05 between the mean scores of the experimental group(X1=20) and the control group(X2=11.3) in the post-test

of writing in favor of the experimental group as indicated by T-value(24.8). This difference may be attributed to the effect of the experimental treatment exemplified in Twitter.

Table 2. ***Results of the T-test of the experimental group in the pre and the post writing test***

Test	N	Mean	S.D.	t-value	df	Sig
Pre-	30	9.47	1.40	-84.7	29	sig
Post	30	20	1.34		29	

Table2 indicates that there is statistically significant difference between the mean scores of the pre-test(X1= 9.47) and post-test (X2= 20) of the experimental group students in favor of the post-test. Hence, such difference may be due to the effect of the experimental treatment exemplified in Twitter.

Table 3. ***Results of t-test of the posttest of the experimental and the control group in EFL writing sub-skills***

Writing sub-skills	Group	N	Mean	S.D.	t-value	df.	Sig.
1-Ideas and content	Experimental Control	30 30	3.60 3	0.498 5.86	15.92**	59 59	Sig
2-Organization	Experimental Control	30 30	3.47 3	0.517 6.16	17.77**	59 59	Sig
3-Style	Experimental Control	30 30	7.33 3	0.476 9.46	31.72**	59 59	Sig
4-Voice	Experimental Control	30 30	7.40 3	0.563 10.8	24.44**	59 59	Sig

Table 3 shows that there is statistically significant difference in the mean scores of the experimental and the control group students in post-test of all sub-skills of EFL writing in favor of the experimental group as t-value for independent sample is between (14.00, 36.33) and proved to be significant at 0.05 (one-tailed) for all sub-skills: ideas and content, organization, voice and style. This difference between the experimental and control group students can be attributed to using Twitter.

Table 4 ***Results of the t-test of the pre-test and the post-test of the experimental group in overall writing sub-skills***

Writing sub-skills	Test	N	Mean	S.D.	t-value	df.	Sig.
1-Ideas and content	Pre Post	30 30	2 5	6.19 1.87	16.98**	59 59	Sig

2-Organization	Pre Post	30 30	3 5	7.67 8.19	19.41**	59 59	Sig
3-Style	Pre Post	30 30	3 5	7.67 8.96	30.06**	59 59	Sig
4-Voice	Pre Post	30 30	2 5	14.38 16	23.48**	59 59	Sig

Table(4) shows that there is statistically significant difference between the mean scores of the pre-test and the post-test of the experimental group students in post-test of all skills of EFL writing in favor of the experimental group as t-value for paired sample is between (9.26,18.63) which proved to be significant at 0.05 (one-tailed) for all skills: ideas and content, organization, voice and style. These differences between the mean scores of pre-test and post-test of the experimental group students can be attributed to the effect of the experimental treatment exemplified in Twitter.

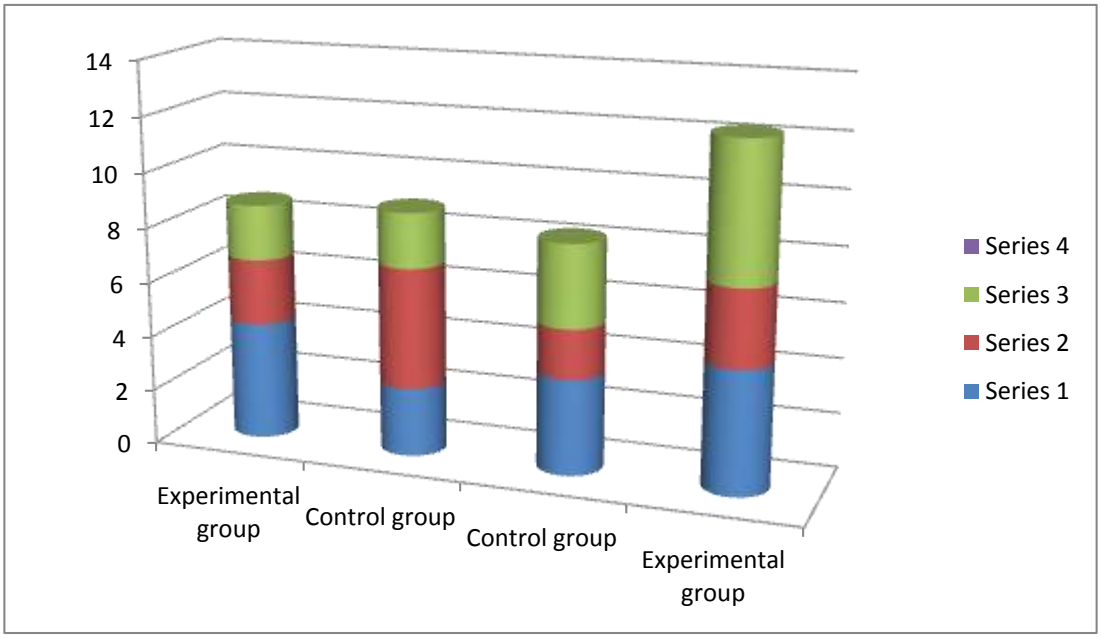

Figure 1. **shows results of the T-test of the experimental and the control group in the post-writing test**

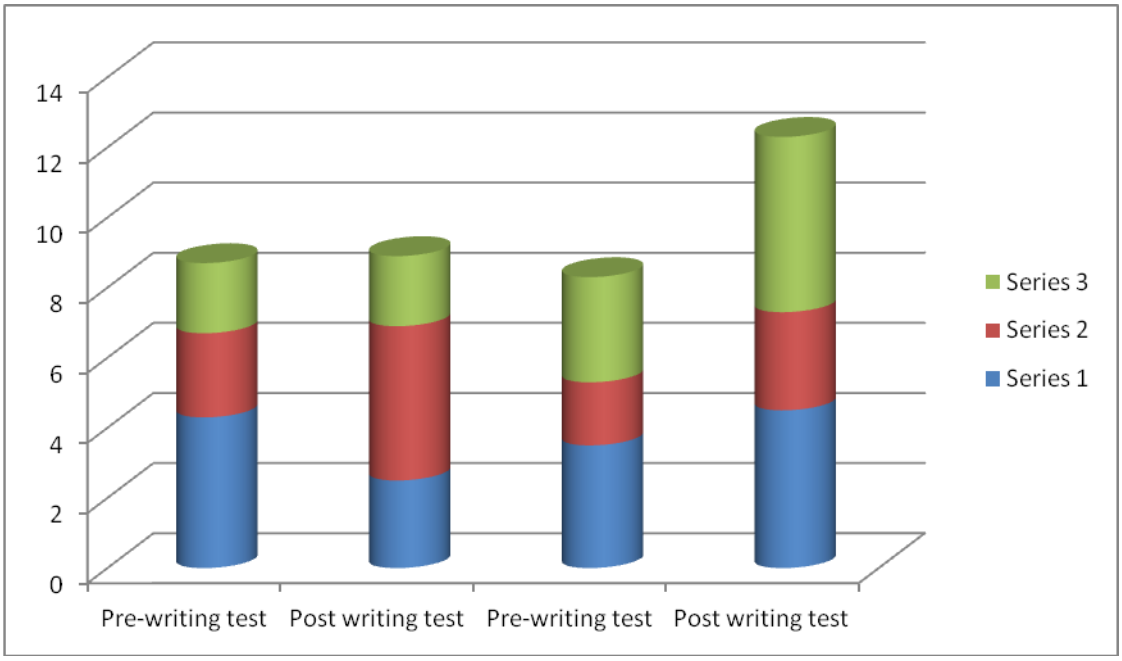

***Figure2*. shows the results of the T-test of the experimental group in the pre and the post writing test**

Discussion:

This is a study of the effect of applying Twitter as a supplementary tool on students' writing. The two major questions in this study were analyzed using pretest and posttest outcomes to examine students' writing skills: ideas and content, organization, voice and style. When looking at the treatment of Twitter, the experimental group outperformed the control group in the post writing test. This improvement in the experimental group writing may be attributed to using Twitter. Also, the experimental group showed improvement in their writing skills: ideas and content, organization, voice and style. This indicated that Twitter can have a positive effect on improving students' writing skills. Since only 22% of undergraduate university write at or above the proficient level (Magrath, 2003), the results of this study are important to help university English instructors find methods to assist students in improving writing skills that are needed later on in life. This would indicate that teachers need to use any means available to develop this skill. Since Twitter is an available tool, teachers should use this tool to improve writing skills that will help the students as they get a job.

Through Twitter platform of asynchronous interaction, Twitter offers participants learner-centered experiences with knowledge scaffolding through peer interaction (Lubiner et al., 2008) as it allows users to engage in discussion and give feedback on specific tweets either publicly or in private . Like previous studies (Ajayi, 2010; George&Dellasega, 2011& Johnson, 2011), Twitter online discussion occurred both in and after class meeting. From the instructor's observation, the students in the experimental group produced more tweets and wrote more than the control group. Twitter can stimulate students' ideas in the form of tweets. Through Twitter concise style, students can write summaries and essays and the instructor can track each student's writing progress (Borau et al., 2009; Bart, 2010& Chen, 2011).

As there are very few studies which investigate the effect of Twitter on students' writing, this study indicated that Twitter could be used to develop students' writing skill as well as

Lakernchnchau (2012) and Cheng (2012). From the instructor's observation, the participants in the experimental group often tweeted each other to ask for answers during their in-class session. Moreover, the students behaved more conscientiously in their task engagement. The instructor also pointed out that more students in the experimental group ask questions of her by sending their questions via tweets. On the other hand, only a few of the students in the control group showed concern about course-related activities. Most of the participants in the control group remained silent during most of the course meeting session, and they generally did not ask any questions regarding writing assignments or writing drills in class. Peer interaction was infrequent in the control group.

To sum up, this study allows the university EFL instructor of writing to understand the effect of Twitter as a tool to teach writing. In addition, the study revealed that ideas and content, organization, voice and style could be improved with the addition of Twitter.

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Writing test

Choose one of the following topics and write a five-paragraph- essay about it:

Topic one: Celebrating the National Day in Saudi Arabia.

Topic: Legal and illegal download from the Internet.

EFL writing rubric

6-Exceeds:

Ideas and content:

-The essay presents a unifying theme or main idea without going off on tangents.

- It stays completely focused on topic and task.

-It includes in-depth information and exceptional supporting facts and details that fully develop the topic.

•It fully explores many facets of the topic.
Organization:
- The essay presents a meaningful, cohesive whole with a beginning, a middle, and an end (i.e., include an inviting introduction and a strong conclusion).
-The writing progresses in an order that enhances meaning.
-It includes smooth transitions between ideas, sentences, and paragraphs to enhance meaning of text (i.e., have a clear connection of ideas and use topic sentences).
Style:
-The essay includes vocabulary to make explanations detailed and precise, descriptions rich, and actions clear and vivid (e.g., varied word choices, action words, appropriate modifiers, sensory details).
- It demonstrates control of a challenging vocabulary.
-Writing is exceptionally fluent.
- It includes varied sentence patterns, including complex sentences.
- It demonstrates use of writer's techniques (e.g., literary conventions such as imagery and dialogue and/or literary genres such as humor and suspense).
Voice:
-The essay establishes and maintains a style appropriate to purpose.
-It demonstrates a strong sense of audience.
-It exhibits an original perspective (e.g., authoritative, lively, and/or exciting).
5-More than meets:
Ideas and content:
-The essay presents a unifying theme or main idea without going off on tangents.
- It stays focused on topic and task.
-It provides in-depth information and more than adequate supporting facts and details that fully develop the topic.
-It explores many facets of the topic.
Organization:
-The essay presents a meaningful, cohesive whole with a beginning, a middle, and an end (i.e., include a solid introduction and conclusion).
-The writing progresses in an order that enhances meaning of text.
-It includes smooth transitions (e.g., use topic sentences) between sentences and paragraphs to enhance meaning of text. (Writing may have an occasional lapse.)
Style:
-Essay includes vocabulary to make explanations detailed and precise, descriptions rich, and actions clear and vivid.
-It demonstrates control of vocabulary.
- The writing is very fluent.
- It includes varied sentence patterns, including complex sentences.
- It demonstrates use of writer's techniques (e.g., literary conventions such as imagery and dialogue and/or literary genres such as humor and suspense).
Voice:
- The essay establishes and maintains a style appropriate to purpose.
-It demonstrates a sense of audience.
-It exhibits an original perspective (e.g., authoritative, lively, and/or exciting).
4-Meets:

Ideas and content:
-The essay presents a unifying theme or main idea. (Writing may include minor tangents.)
-It stays mostly focused on topic and task.
-It includes sufficient information with supporting facts and details that develop the topic. (Details may not be fully developed; ideas may be listed.)
-It explores some facets of the topic.
Organization:
-The essay presents a meaningful whole with a beginning, middle, and an end despite an occasional lapse (e.g., a weak introduction or conclusion).
-The writing generally progresses in an order that enhances meaning of text.
-It includes transitions between sentences and paragraphs to enhance meaning of text. (Transitions may be rough, although some topic sentences are included.
Style:
-Essay includes vocabulary that is appropriately chosen, with words that clearly convey the writer's meaning.
-It demonstrates control of basic vocabulary.
- The writing is fluent.
- It exhibits some varied sentence patterns, including some complex sentences.
- It demonstrates an attempt to use writer's techniques (e.g., literary conventions such as imagery and dialogue and/or literary genres such as humor and suspense).
Voice:
-The essay establishes and maintains a style appropriate to purpose.
-It demonstrates a sense of audience.
-It exhibits an original perspective (e.g., authoritative, lively, and/or exciting).
3-Does not fully meet:
Ideas and content:
-The essay attempts a unifying theme or main idea.
-It stays somewhat focused on topic and task.
-It includes some information with only a few details, or list ideas with minimal facts and supporting details to develop the topic.
-It explores some facets of the topic.

Organization:
-The essay has a beginning, middle, or an end that may be weak or absent.
- The writing demonstrates an attempt to progress in an order that enhances meaning.(Progression of text may sometimes be unclear or out of order.)
-It demonstrates an attempt to include transitions. (Some topic sentences are used. .Transitions between sentences and paragraphs are weak or absent.)
Style:
-The essay contains basic vocabulary, with words that are predictable and common.
-It demonstrates some control of vocabulary.
- The writing is generally fluent.
- It contains mostly simple sentences (although there may be an attempt at more varied sentence patterns).
- It is generally ordinary and predictable.
Voice:

-The essay demonstrates difficulty establishing and maintaining a style appropriate to purpose.
-It demonstrates little sense of audience.
-It generally lacks an original perspective.
2-Partially meets:
Ideas and content:
-The essay attempts a main idea.
-It sometimes loses focus or ineffectively displays focus.
-It includes little information and few or no facts and details to develop the topic.
-It explores only one or two facets of the topic.
Organization:
-Writing has only one or two of the three elements: beginning, middle, and end.
- The writing is sometimes difficult to follow. (Progression of text may be confusing or unclear.)
- Transitions are weak or absent (e.g., few or no topic sentences).
Style:
-The essay contains limited vocabulary. (Some words may be used incorrectly.)
-It demonstrates minimal control of vocabulary.
- The writing exhibits some fluency.
- It relies mostly on simple sentences.
- It is often repetitive, predictable, or dull.
Voice:
-Essay demonstrates difficulty establishing a style appropriate to purpose.
-It demonstrates little or no sense of audience.
-It lacks an original perspective.
1-Does not meet:
Ideas and content:
-The essay is difficult for the reader to discern the main idea.
- It is too brief or too repetitive to establish or maintain a focus.
- It includes little information with few or no facts and details or unrelated facts and details to develop the topic.
- It is unsuccessful in attempts to explore any facets of the prompt.
Organization:
The writing has only one or two of the three elements: beginning, middle, or end.
- It is difficult to follow, with the order possibly difficult to discern.
- Transitions are weak or absent (e.g., without topic sentences).
Style
-The essay contains limited vocabulary, with many words used incorrectly.
•It demonstrates minimal or less than minimal control of vocabulary.
•It lacks fluency.
•It demonstrates problems with sentence patterns.
•It consists of writing that is flat and lifeless.
Voice:
-The essay demonstrates inability to establish a style appropriate to purpose.
•It demonstrates a lack of a sense of audience.
•It lacks an original perspective.

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Virtual Task-Based Situated Language-Learning with *Second Life*: Developing EFL Pragmatic Writing and Technological Self-Efficacy

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Abstract

This paper reports on an experimental research study that aimed at investigating the effectiveness of employing a virtual task-based situated language learning (TBSLL) environment mediated by Second Life (SL) in developing EFL student teachers' pragmatic writing skills and their technological self-efficacy. To reach this goal, a control-only experimental research design was employed to compare between participants' performance in two groups: a control group (n=10) exposed to a traditional lecture-based writing course; and an experimental (SL) group selected purposively (n=10) and exposed to the virtual SL situated language learning environment (online sessions). Procedures were guided by *a five-stage instructional-technological design framework* suggested by the researchers, which involved those stages: (1) analysis, (2) design, (3) production, (4) experimentation, and (5) use & development. Measurement tools included: (a) Pragmatic Writing Skills Post-Test; (b) Academic Self-Efficacy Scale; and (c) E-portfolio for formative assessment. Results indicated the effectiveness of the virtual task-based situated language environment in developing participants' pragmatic writing skills in English, and that SL participants' technological self-efficacy was significantly higher than that of the control group participants. The paper presents recommendations and suggestions for improving English language learning (ELL) – especially writing – through using virtual situated environments in general, and SL in particular.

***Keywords**:* Pragmatic writing, second life, situated language learning, task-based learning, technological self-efficacy, virtual language learning

1. Introduction

1.1 Theoretical Background & Literature Review

1.1.1 Pragmatic writing

In addition to knowledge, language learning encompasses realistic use and contextual-pragmatic practices. Language has its true home in action, the world, and dialogue, not in dictionaries and texts alone (Gee, 2007). Thus, one of the most significant challenges facing learning English as a foreign language (EFL) or English language learning (ELL) in general, is how to enhance students' engagement in the target language for meaningful purposes in and out of the classroom (Toyoda & Harrison, 2002; Yang, 2011). This has made the mastery of English language both in the spoken and written forms 'imperative' (David, 2008: p73)

Therefore, there is a current pressing need to develop *pragmatic competence* in English to connect it with real-life practices. According to Canale (1988: p90), it is concerned with 'the relationships between utterances and the acts of functions that the speakers intend to perform through these utterances…and the characteristics of the context of language use that determine the appropriateness of utterances'. This involves learning functional and direct uses of English to support, extend and complement theoretical knowledge about it (Abdallah, 2014).

Foreign language (FL) learners might show mastery of the vocabulary and grammar of the target language, but without possessing a comparable control over its pragmatic uses (Juan & Campillo, 2002). Hence, the term *Functional Linguistics* emerged to refer to the pragmatic use of English to accomplish a variety of realistic purposes. Thus, it refers to the usage English required to perform a specific function or reach a certain social goal.

Functionally, writing is about 'quality' more than it is about 'quantity', and students have to work on a piece until they feel satisfied with it (The Functional Skills Support Programme, 2007: p92). Therefore, a focus on learners' pragmatic competence through a pragmatic-functional approach to ELL, especially writing, ensures a meaningful communicative use of English to achieve certain purposes (Hartnett, 1997). In this sense, writing is strongly enhanced if teaching is directly tailored to learners' specific needs (Nunan, 1999). Writing pragmatically is meant to accomplish realistic goals like apologising, directing others and giving advice. Thus, *pragmatic writing* in English is perceived as an interactive process that involves accomplishing in writing a particular social function within a specific cultural context (e.g. applying for a job or writing a letter) (Carrasquillo, 1994).

Few studies, especially as far as the Arab Egyptian context is concerned, tackled the pragmatic uses of EFL (e.g. Zhuge & Wu, 2005; Salem, 2013; Abdallah, 2014). A recent relevant study by first author (Abdallah, 2014) mainly sought proposing a working taxonomy and list of those functional writing skills currently needed by Egyptian EFL student teachers to develop their pragmatic competence in English.

1.1.2 Situated task-based language learning

Many educators and researchers in ELL (e.g. Warschauer, et al., 2000; Shih & Yang, 2008; Yang, 2011) strongly believe that successful learning is anchored in collaboration, cognitive apprenticeship, and situated cognition. It is assumed that situated, contextualised practice always leads to deep understanding and meaningful learning (Abdallah, 2011b). *Situated learning* in general approaches learners as 'active constructors of knowledge who bring their own needs, strategies and styles to learning, and skills and knowledge are best acquired within realistic contexts and authentic settings, where students are engaged in experiential learning tasks' (Felix, 2002: p3).

More specifically, *situated language learning* focuses on the role of the context and situation in language learning and knowledge construction. In this sense, our social worlds, not only shape the opportunities we have to develop certain types/forms of knowledge and abilities, but also affect our sense of how to use them to achieve particular ends/goals (Brown, et al., 1989; Warschauer, et al., 2000; Abdallah, 2011a). Knowledge itself takes a situated stance, which Barab & Duffy (2000) describe as neither 'objectively defined' nor 'subjectively created', but rather 'reciprocally constructed' within the individual-environment interaction. Thus, it emphasises and prioritises 'social interactions' as a key practice in language learning (Brown, et al., 1989).

This practice can be extended nowadays by those online interactions enabled by the Web, especially virtual worlds such as Second Life (SL); they facilitate language acquisition by engaging students in authentic learning contexts where a sense of community is developed (Warschauer, et al., 2000; Holley & Oliver, 2010). In this regard, Nelson and Ketelhut (2007: p269) argue that educational multi-user virtual environments (MUVEs) such as SL have recently emerged as a form of socio-constructivist and situated cognition-based educational software.

Task-Based Situated Language Learning (TBSLL) is a way of instructional intervention that should promote an interactive environment where some pragmatic language goals can be accomplished. In this sense, a task is viewed as a piece of meaning-focused, communicative work, which involves learners in comprehending, manipulating, producing and interacting in the target language to connect them to the real-world of language use (Nunan, 1999). In this regard, Brown (1994: p229) argues that 'in task-based instruction, the priority is not the bits and pieces of language, but rather the functional purposes for which the language must be used'. For example, the main focus in the learning situation might be on 'how to write functionally', if pragmatic writing is the main intended outcome.

In this regard, TBLL is viewed as an approach to language learning according to which tasks done by students become central to the learning process. It requires the teacher to organise classroom activities around those practical tasks that language users will engage in, even when they are out (Oura, 2001). Situated learning is consistent with it when tasks are authentic, interactive, situated, and goal oriented.

1.1.3 Web 3.0 and virtual language learning

Web 3.0 is sometimes used to mark the convergence of web 2.0 and semantic web (Wahlster, et al., 2006). The *semantic web* in particular marks a significant change or movement from a machine-readable content to a machine-understandable content through meaningful links.

With the advancement of web 2.0 and web 3.0 technologies, 3D MUVEs have been quickly gaining importance as tools of FL instruction that promote collaboration and social presence in a lifelike 3-D environment (Cooke-Plagwitz, 2008). As educational tools, they possess some advantages such as: (1) free access and wide presence; (2) developing creativity; (3) fostering participation and collaboration (Kastoudi, 2012); (4) acting as a shared social space and a graphical user interface; (5) enabling real-time interaction and user-generated content; (6) persistence; (7) active support for in-world social groups (Book, 2004); (8) a place for community development where people come together for a variety of self and group-determined purposes; and (9) an anchor for development of new abilities, identities, and knowledge (Hayes, 2006).

Many recent research studies have dealt with *virtual situated learning environments*, especially within language-learning contexts (e.g. Shi & Yang, 2008; Yang, 2011; Kastoudi, 2012). For example, Shih & Yang (2008) designed a 3D virtually synchronous communication architecture for situated language learning to foster communicative competence among undergraduate students who had studied EFL. In particular, they proposed an immersive and interactive virtual English classroom, entitled VEC3D, that integrated a goal-based instructional design, vivid 3D graphics, and real-time voice communication.

According to Garay & Bernhardt (1998), more than ever before, it has become urgent to prepare English language learners for the new situated and communicative skills and practices connected with new technologies. This involves addressing English as used in the real social context and the new workplace - a process that demands helping language learners to bridge the gap between knowledge about English and the functional-pragmatic use of it. This requires employing interactive online spaces for language learning and practice as a means for enabling interactive communication, and thus promoting authentic and functional language use (Warschauer et al., 2000).

1.1.4 Second Life (SL) and language learning

SL was developed by Linden Lab and launched in June, 2003, and educators, especially FLL researchers (e.g. Kelton, 2007; Cooke-Plagwitz, 2008; Shih & Yang, 2008; Jarmon, et al., 2009; Wang et al., 2009), embraced it with great enthusiasm. They recognised the significant features and possibilities that it holds for language learning, especially because it enables free virtual wandering (e.g. by walking, running, underwater diving, flying, and teleporting) and interacting through representative avatars with others around employing both text-based chat and voice chat.

Recognising its affordances, Joe Miller in 2009 claimed that 'language learning is the most common education-based activity in Second Life' (TeamEngage, 2009). By employing computer-mediated communication (CMC), this virtual learning environment fosters effective language learning and communication for many reasons. First, it helps with reducing learners' affective filter that usually causes anxiety and apprehension, which might negatively influence language learning. Virtual presence can result in reduced apprehension and embarrassment (Schwienhorst, 2002) since SL presents an alternative relaxing environment. In particular, as Sobkowiak (2012) argues, it replicates and simulates real-world places, processes, objects and events. Students thus are able to visit and engage with the environment in ways similar to what could be possible in reality.

Second, this virtual environment acts as a mediator of the sometimes-overwhelming rich linguistic and cultural information found in real-life experiences (Henderson, 2009). This way, the internalisation of such linguistic input and language aspects could be much easier and less stressful.

Third, it allows for many educational affordances throughout objects facilitating authentic language learning. Students can integrate different authentic media (e.g. texts, audios, pictures, and videos) that might support functional-pragmatic language use. This also involves facilitating the simulation of realistic complex relations between different learning objects (Horz, et al., 2009).

Similarly, from an *affordances* perspective that recognises the educational benefits/qualities of an object/environment for foreign language learning (FLL), Sobkowiak (2012) summarises these in building, creating, exploring, chatting, sharing, self-expression, and fun. In this sense, *SL* can afford many language-learning opportunities (e.g. authentic

communication and pragmatic language use). According to Henderson, et al. (2009), SL is particularly well suited for teaching and learning second/foreign languages. Students can immerse themselves in linguistically appropriate environments, adopt roles, and even identify what can provide them with a rich affective-cognitive model for language performance. Moreover, they can interact and collaborate with others to achieve complex goals through pedagogically appropriate media, such as text, voice, and video.

In addition, SL, as Istifci et al. (2011) argues, facilitates communication and meta-communication by creating a platform for students and teachers to interact in a context with no boundaries of time and distance. 'Once student and instructor meet on the common ground of agreeing that they exist, albeit virtually, in an environment in which learning will take place, that agreement is the cement that ties all parties involved to the learning initiatives' (Kelton, 2007: p4).

In this regard, Jarmon, et al. (2009) explored the process of delivering an interdisciplinary cross-cultural communication course in *SL* using an experiential learning approach. More specifically, their study sought empirically examining the actual instructional effectiveness of SL as an experiential cross-cultural learning environment. In addition, researchers and scholars in the Arab world started recently to employ SL as an interactive learning environment. For example, Al-Malki, et al. (2015) report on employing SL as a medium for professional development in a practicum course delivered to some university students in Saudi Arabia.

Moreover, Peterson (2012) reports on task-based interaction of EFL learners in SL, focusing on an investigation of the SL-based text chat of learners located at a university in Japan. Data analysis reveals that the environment, tasks and collaborative interaction are socio-culturally useful in language development. Collaborative interaction involved peer-scaffolding focusing on lexis, and correction. Participants' feedback was broadly positive, indicating that specific features of SL such as individual avatars, coupled to the computer-based nature of the interaction, appeared to enhance discourse management, engagement, and participation. Findings suggest that SL provides an arena for learner-centred social interaction that offers valuable opportunities for target language practice, and the development of autonomy.

In other words, virtual worlds are persistent; the environment (e.g. a restaurant) and the objects (e.g. menus) do not disappear at the end of the lesson. Users can return to the place of their learning, interact with the objects and, depending on the instructional design, peruse records of the event (Henderson, et al., 2009). Moreover, this immersive social environment provides – in linguistic terms - a range of discourse elements, which are generally not available in less immersive environments. Thus, the value of SL is that it merges the physical co-presence with linguistic co-presence of the interlocutors, both of which are important elements in discourse, as they facilitate learning through meaning negotiation (Schwienhorst, 2002).

From a practical language learning perspective, SL allows students to form groups and collaborate by moving their avatars away from the others to conduct interactive semi-real life conversations. Thus, unlike a discussion forum or a text chat, students can dynamically create and reshape groups according to pedagogical imperatives, or interpersonal/social dynamics (Henderson, 2009).

In this regard, Jauregi et al. (2012) investigated the added value that synchronous collaboration projects through video-communication or SL might have in language learning. Results show that telecollaboration experiences have an added value on cultural, linguistic, interpersonal and motivational issues. In particular, the synchronous learning environments used in conjunction with effective interaction tasks and the opportunities to engage in meaningful

interaction with expert peers (native student teachers) contributed to empower intercultural learning experiences.

Moreover, within another language learning context, Kastoudi (2012) examined the potential of 3D Virtual quest games in *SL* to enhance vocabulary acquisition through interaction, negotiation of meaning and noticing. Qualitative analysis showed that there was a great amount of output and meaningful interaction, as well as negotiation of meaning, and small but substantial quantities of incidental learning of vocabulary occurred. Besides, the negotiation of meaning process itself facilitated the development of communicative competence.

Similarly, a recent study by Lan (2014) aimed to determine the effectiveness of SL for improving the oral output of overseas Chinese students learning Mandarin Chinese. Results showed that learning Mandarin in a SL environment significantly increased the in-class oral output of those students, who also made significant improvements in oral performance and language learning attitudes.

In the same vein, Wang et al. (2009) employed an evaluation research approach to search for appropriate ways to integrate *SL* into an EFL programme. The focus was on Chinese students' perspectives of an EFL Programme in SL and their perceived technology readiness to use SL for EFL learning.

For research purposes, tasks need to be used in a situated fashion within a 3D setting that mimics real-life situations. Task-based learning as a situated constructivist-based methodology is compatible with the SL environment in which real people (i.e. students) are represented by *avatars* behaving on their behalf. In this sense, situated language learning, with its focus on cognitive engagement with authentic task-based communicative events enabled by this virtual space, should help students to experience EFL in various situations within the context of the target culture.

Many studies have dealt with employing online situated ELL environment (e.g. Shih & Yang, 2008; Yang, 2011; Abdallah, 2013). For example, Yang (2011) attempts to engage college students who were learning EFL in the target language and culture, and subsequently improve their language performance, through an online situated language learning environment that employed both synchronous and asynchronous online communication modes in and after class.

Reviewing literature, very few studies linked SL with writing. Munro (2010), for example, report on an evaluation study of two sessions of creative writing workshops offered online using SL. Key findings indicate positive gains in participants' creative writing performance, especially from virtual collaborative interactions online using avatars. As a learning environment, SL provided adequate and ample creative writing opportunities.

However, no studies so far dealt with (or connected) SL with pragmatic writing in English. More specifically, no studies sought to develop pragmatic-functional writing skills through a situated learning intervention based on Second Life.

1.1.5 Technological self-efficacy

Many psychological factors might influence student learning. In particular, some affective or emotional components (e.g. self-concept, body image, and confidence) might influence the individual student's comprehension and overall performance. Distinguished from 'self-concept' and 'self-esteem', Self-efficacy has been recently researched as one of those important affective components that influences and directs learning. Self-efficacy is grounded in a larger theoretical framework known as 'social-cognitive' theory, which assumes that human achievement depends

on interactions between one's behaviours or personal factors (e.g. thoughts and beliefs) and external environmental conditions (Bandura, 1997).

In general, 'Self-efficacy' refers to a person's belief in his/her own competence: that s/he is capable of performing in a certain manner to attain a certain set of goals (Ormrod, 2006). One's sense of self-efficacy can play a major role in how one approaches goals, tasks, and challenges (Luszczynska & Schwarzer, 2005). In an ELL context, Zheng, et al. (2009) explored self-efficacy as an affective factor in learning EFL within a virtual world environment (Quest Atlantis). Findings suggest that virtual worlds may provide a space for English language learners (ELLs) to increase confidence and comfort and to overcome cultural barriers for ELL.

Henderson, et al. (2009) conducted one of the few studies that tackled both SL and self-efficacy in a language learning context. The study found that collaborative language activities in an immersive virtual world (SL) improved students' self-efficacy beliefs about their capacity to use Chinese language in a variety of real-life contexts.

As a variation of self-efficacy, technological self-efficacy (TSE) has become a very essential learning component that teachers should consider. Originally, the term emerged to indicate embracing and adopting a new technology. More specifically, it is 'the belief in one's ability to successfully perform a technologically sophisticated new task' (McDonald & Siegall, 1992). Further, based on Bandura's (1997) definition of academic self-efficacy, TSE can also refer to an individual's belief (conviction) that they can successfully achieve at a designated level on a technological task or attain a specific goal while using available technologies. It is about a student's belief that s/he can successfully engage in and complete course-specific technological tasks, such as accomplishing course outcomes within a certain technological environment, and thus demonstrating technological competency skills. So far, no studies have dealt with technological self-efficacy in an *SL* environment within an ELL context, especially as far as pragmatic writing is concerned.

1.2 Research Problem & Objectives

Second-year EFL student teachers at Assiut University College of Education (AUCOE) are experiencing difficulties with the pragmatic use of the English language, especially as far as writing composition is concerned. This is critical in their pre-service teacher education programme; they might continue until graduation without developing sufficient pragmatic competence (Abdallah, 2014). In the course of their study and during the teaching practice sessions, they are sometimes required to re-write and adapt some difficult English passages to make them easy to learn. After graduation, their need for developing pragmatic writing skills increases drastically, especially when required to teach some functional aspects of English. This necessitates being competent enough themselves in the pragmatic use of English quite early in their education or training programme.

As far as language-learning environment is concerned, it was evident - through some interviews and observations - that those student teachers were hardly provided with any interactive language-learning environments that effectively foster their pragmatic use, and thus enable them to compose English functionally. Computers and language labs are hardly used for anything more than language modelling and listening practice. Thus, there are few – if any at all– opportunities to communicate and interact via electronic means in the language lab.

A small-scale semi-structured interview revealed that many of those student teachers were unable to functionally use English in writing in simulated real-life interactions. For example, when required to produce some simple short pragmatic documents (e.g. reports &

requests), they were unable to produce a satisfactory product belonging to the target genre, and thus demonstrated inappropriate pragmatic writing skills. In addition, EFL student teachers' discussions on a course Forum revealed inadequate pragmatic competence. Some of them clearly stated many personal needs in writing such as self-expression, guiding and directing others, and planning to do something.

In addition, most of them revealed negative views about themselves and their academic performance within a technological environment, especially as far as their expectations of their ability to fulfil specific tasks were concerned. This indicates a need to improve their technological self-efficacy to become confident producers and users of the English language.

Therefore, EFL student teachers need to be immersed in a natural, input-rich and meaningful learning environment where the target language can be used spontaneously and functionally. It is supposed that a situated language-learning environment based on *SL* might support EFL student teachers' pragmatic language use while writing, and thus develop some of their pragmatic writing skills and enhance their technological self-efficacy. Throughout this interactive, virtual and situated environment, EFL student teachers can be exposed to a realistic input that takes the form of tasks that include some everyday-life functions and situations.

Subsequently, the study aims at: (1) providing a situated, Web-mediated language learning environment as an alternative to the traditional textbook environment to help 2nd-year EFL student teachers' with pragmatic language use, and thus develop their pragmatic writing skills; (2) exposing those EFL student teachers to SL as a Web-based application and an interactive collaborative learning environment that supports pragmatic language use; (3) designing a situated instructional tasks compatible with SL; (4) assessing the effect of using a virtual task-based situated language-learning environment based on SL on developing 2nd-year EFL student teachers' pragmatic writing skills and enhancing their technological self-efficacy; and (5) assessing the potential difference for the experimental group students' in technological self-efficacy after developing pragmatic writing skills.

In other words, it attempts answering the following questions: (1) 'What is the effect of using a virtual situated task-based language-learning environment enabled by *SL* on developing 2nd-year EFL student teachers' pragmatic writing skills (control group vs. experimental group)?'; (2) 'What is the effect of using a virtual situated language-learning environment enabled by *SL* on 2nd-year EFL student teachers' technological self-efficacy?'; (3) 'What is the relationship between 2nd-year EFL student teachers' (experimental group only) pragmatic writing skills and their technological self-efficacy?'

2. Methodology

2.1 Main Approach

To accomplish the main research objectives and answer research questions, the researchers employed a *post-test control-group* experimental design as the main methodology, which involves a five-stage design framework. The main reason for employing this design is the researchers' desire to identify how the proposed intervention (SL environment) would work in reality with the target learners, by comparing the performance of student teachers in each group (i.e. the *control* group that studied in the normal way, and the *experimental* group that was exposed to SL) on the post-test.

2.2 Sampling

The target population was 2nd year EFL student teachers at AUCOE (n=176). To accomplish research objectives, a probability (purposive) sampling technique (i.e. criterion sampling) was employed for selecting participants in the experimental (SL) group (n=10). This was employed to reach the most convenient and valid participants from among the target population of EFL student teachers. Although it tends to be a qualitative sampling technique, purposive sampling can be sometimes used in quantitative and experimental research designs to fulfil specific needs (Cohen et al. 2007; Moule & Goodman, 2009).

Then, randomised sampling was used to select a matching control group (n=10). The main reason for selecting these small numbers related to difficulties of arranging face-to-face meetings at the university virtual lab, and subsequently, SL group members were required to work from home on their own PC's (for more details on this, please refer to Stage 1 'Analysis' below in the design framework proposed by the study).

2.3 Data Collection Methods & Tools

Methods and tools designed and administered by the researchers fell under two main categories: instructional-interventional tools and measurement tools. The instructional-interventional tools included: (1) a list of pragmatic writing skills (see Table 1); (2) an SL Technical Guide (available at: http://assiuttefl.blogspot.com/2015/05/registering-for-and-installing-second.html); (3) a Pragmatic Writing Instructional Guide (available at: http://assiuttefl.blogspot.com/2015/05/pragmatic-writing-instructional-guide.html); (4) Situated Interventional Tasks (see Figures 2-7 below); and (5) Reports.

Measurement tools included: (1) Pragmatic Writing Skills Post-Test (see Appendix A); (2) Academic Self-Efficacy Scale (see Appendix B); and (3) E-portfolio (Reflective Diaries) for formative assessment (see Appendix C).

3. Procedures

In line with the main research approach discussed above, procedures followed in the study were based on a five-stage instructional design framework (see Figure 1 below)

3.1 Analysis Stage

A-Identifying Learners' Needs

As discussed in the sampling section above, some 2nd year EFL student teachers at AUCOE were selected due to their poor performance in writing tasks. Many of them were interviewed as a focus group to identify their pragmatic writing problems and needs; also, many of them were asked to record online their specific writing needs on a course Forum.

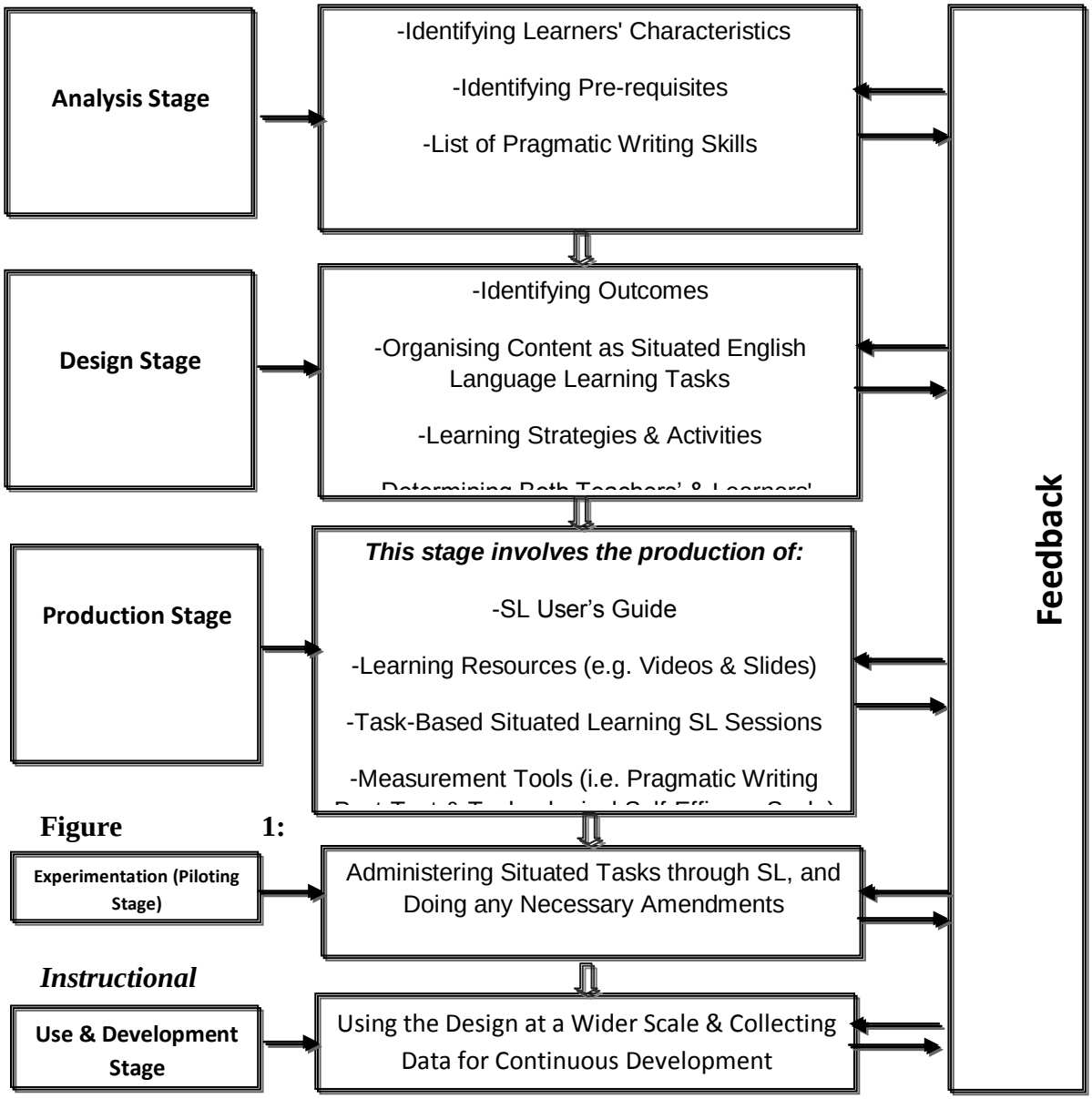

Figure 1: ***Design Framework of TBSLL Facilitated by SL***

Thus, SL group (n = 10) was assigned for the study based a purposive sampling procedure; the researchers selected only those who met certain conditions. This is a sub-type of purposive sampling, which Moule and Goodman (2009: p274) refer to as *criterion sampling* (i.e. cases where predetermined criteria exist). A control group (n=10) was used as a comparative group, where student teachers were randomly selected to learn a lecture-based pragmatic-writing course.

B-Identifying Pre-requisites

The SL group included student teachers who met some specific criteria that were counted as core requirements for using SL, such as: (1) being interested in SL; (2) being able to work from home; (3) having access to the Internet (moderate to high speed); (4) possessing proper PC's in good condition with the minimum technical requirements for operating SL software; and (5) having Facebook and e-mail accounts. The SL version used was *Second_Life_3_7_19_295700_i686*

Participants were guided into unifying the first five characters in their usernames (ENG14) so that they could be easily identified in the SL environment, especially when strangers appear in the same place or meeting point (see screen shots below).

C-Pragmatic Writing List

A review and analysis of relevant literature was conducted to reach a list of pragmatic writing skills in English. Then, the preliminary list was submitted to a panel of jury members (some TESOL/TEFL specialists) to state their opinion about it, especially in terms of importance and relevance. Finally, a final list of pragmatic writing skills was composed based on the jury's feedback (see Table 1 below).

Table 1: *Pragmatic Writing Skills*

Items
1. Writing down a short Curriculum Vitae (CV) to submit to whom it might concern (e.g. employers, managers, and academic professors).
2. Taking notes while listening to or watching something (e.g. a lecture or movie).
3. Filling in a job 'application form' for recruitment purposes.
4. Providing written feedback (e.g. using electronic tools or online facilities) when required.
5. Writing (e.g. using e-mail) to accept or refuse an invitation.
6. Making personal requests in writing (e.g. using e-mail and other social networking tools).
7. Writing to thank someone for something.
8. Writing down the main ideas tackled in an oral presentation.
9. Writing to explain something and providing any supporting details.
10. Stating the main highlights (i.e. topics, points and ideas) of a piece of writing.
11. Composing formal letters/e-mails for study and/or recruitment purposes.
12. Writing invitations (e.g. using e-mail) to invite someone for something.
13. Communicating in writing with a course instructor to ask for clarification or advice.
14. Writing down the main headings, sub-headings and topic sentences included in a piece of writing.
15. Writing down an 'official/business letter/e-mail' to request something (e.g. unpaid leave).
16. Writing a synopsis or summary of an article, chapter, and/or a complete book.
17. Writing to apologise for something done wrong.

Items
18. Writing a memo to inform someone or a group of people about a specific issue encouraging them to take action.

3.2 Design Stage

A-Identifying Learning Outcomes

Those outcomes are represented in: (1) Filling-in an application form; (2) writing down a brief CV; (3) writing down the main highlights of an oral presentation; (4) writing down a memo (e.g. using e-mail); (5) interacting with others in a public place (e.g. club); and (6) taking notes of an ongoing presentation.

A-Organising Content as Situated English Language Learning Tasks

Content was divided into 7 situated learning tasks (total duration=20 hours); each session took around 2 hours, except for the 1st session that needed an extension, as well as some tasks which needed additional sessions (Sessions 5 & 6).

B-Learning Strategies & Activities

The instructional design employed in the study was based on a Task-Based Situated Language Learning (TBSLL) strategy that draws on a socio-constructivist situated learning theory (Brown, et al., 1989; Nunan, 1999; Street, 2009). This strategy includes some methods and techniques that were consistent with both the nature of each task as well as the SL environment (e.g. community-based learning CBL & meaning negotiation strategy). For more details, please see info-graphics below (Figures 2-7).

C-Assigning Both Teachers' and Learners' Roles within SL Environment

Both researchers determined and divided clearly their roles as instructors within SL before doing the experiment. Thus, the 1st researcher (the academic instructor) was to explain and clarify the theoretical component involved in each pragmatic writing task, assign the task, and follow-up with participants while performing the task to ensure their mastery of the target pragmatic skills. On the other hand, the 2nd researcher (the technology instructor) was required to identify the appropriate SL places for the task at hand, and then follow-up with students within the SL environment to resolve any technical difficulties that participants could meet. For learners (SL participants), each of them had to immerse himself/herself within the SL environment and interact with other colleagues (mainly through chat) while performing any task; eventually participants had to fill-in a reflective diary template that was used as an e-portfolio (see Appendix C) to upload to the group Facebook page to be assessed by the 1st researcher. In addition, they were asked to submit their final reports towards the end of the course to be assessed by both researchers.

3.3 Production Stage

A-SL User's Guide

The 2nd researcher prepared an SL User's Guide (available at: http://assiuttefl.blogspot.com/2015/05/registering-for-and-installing-second.html) that explains

and demonstrates many things related to how to use the SL application, starting from how to select an Avatar, and ending with the inventories or lists that could help users to independently explore SL environment and get acquainted with it.

B-Learning Resources & Activities

Learning resources employed in the SL environment were represented in: (1) some presentations (slides) that were made within the SL environment; (2) some online YouTube videos that were displayed directly to participants in SL; (3) a Facebook group entitled, 'Second Life For English Writing' was launched for the purpose of: uploading some documents (e.g. SL User's Guide), distributing any directions in regard to the situated learning tasks, and uploading and submitting assignments completed by participants; and discussions (see Figures 2-7 below).

C-Tasks-Based Situated Learning SL Sessions

The following figures, which were designed in the form of *info-graphics,* illustrate briefly each session and the main components (i.e. Tasks, Location & Setting, Learning Methods & Techniques, Linguistic Input & New Items, Virtual Interactions, and Evaluation Techniques).

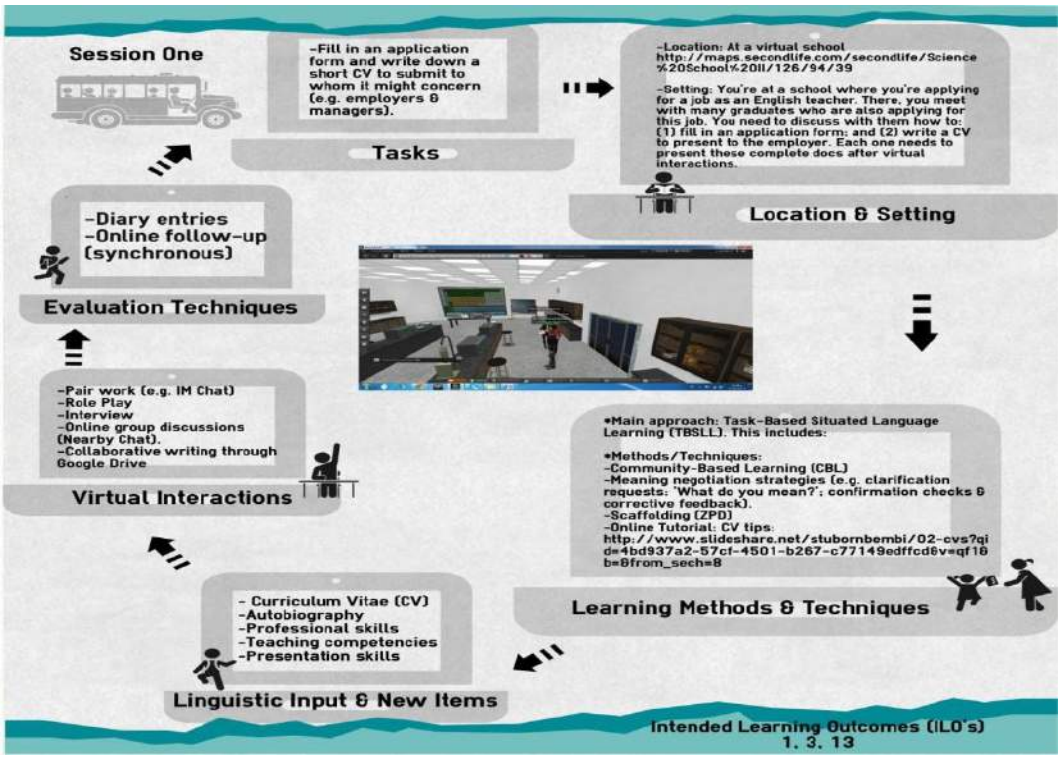

Figure 2: ***Session One***

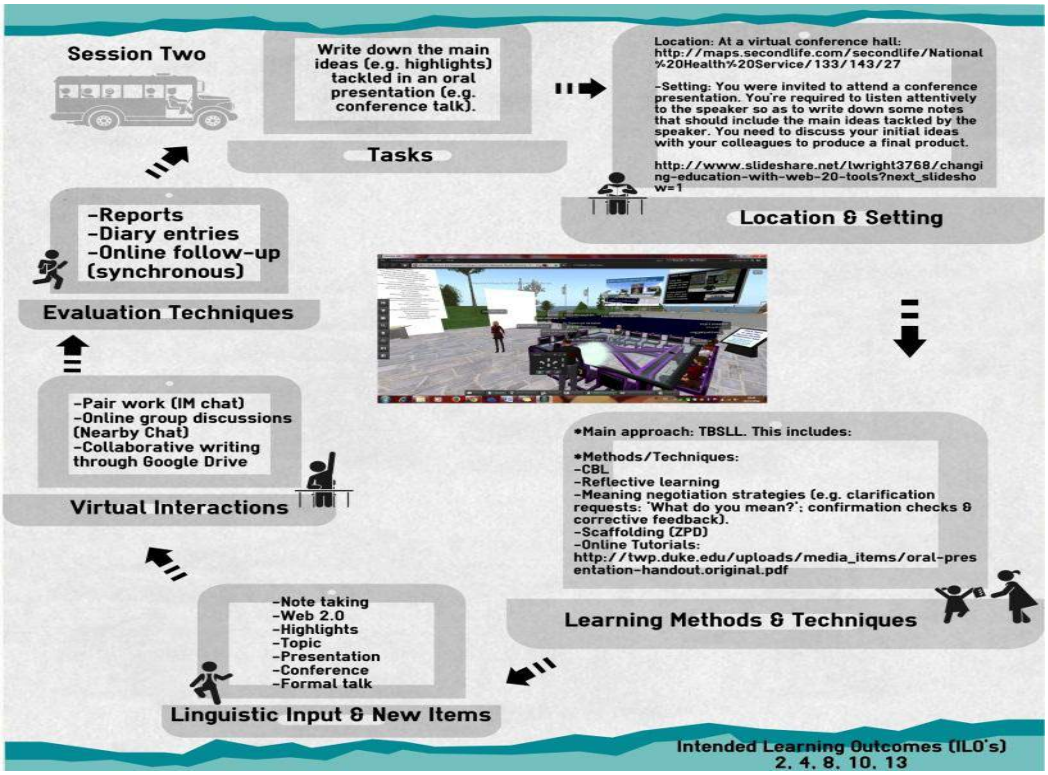

Figure 3: ***Session Two***

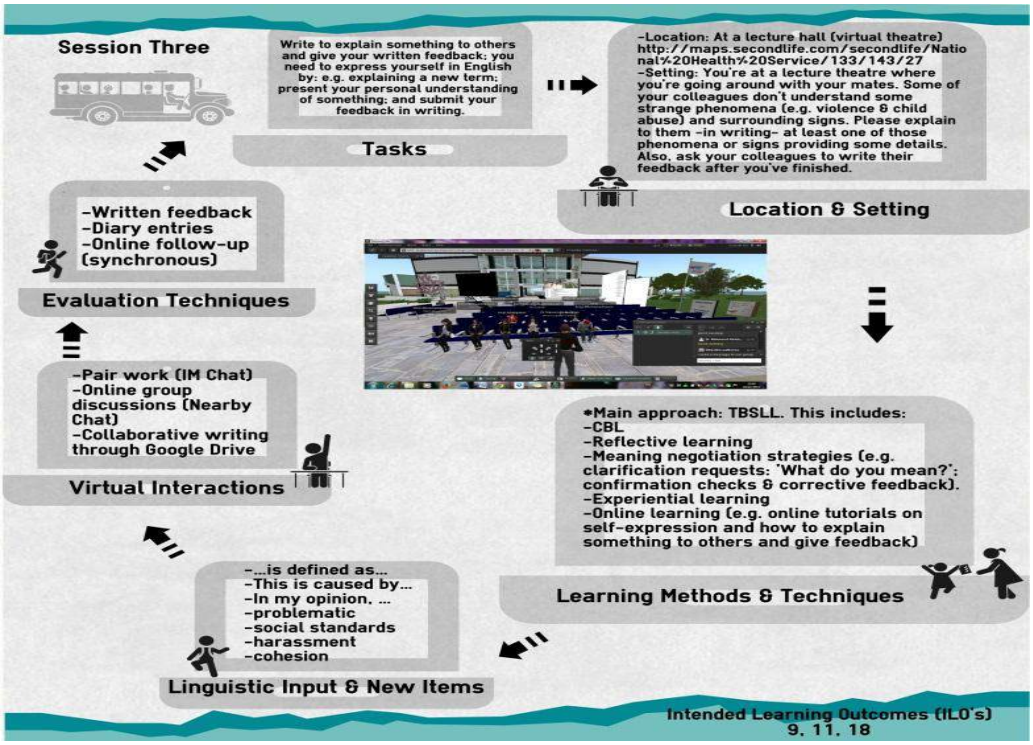

Figure 4: ***Session Three***

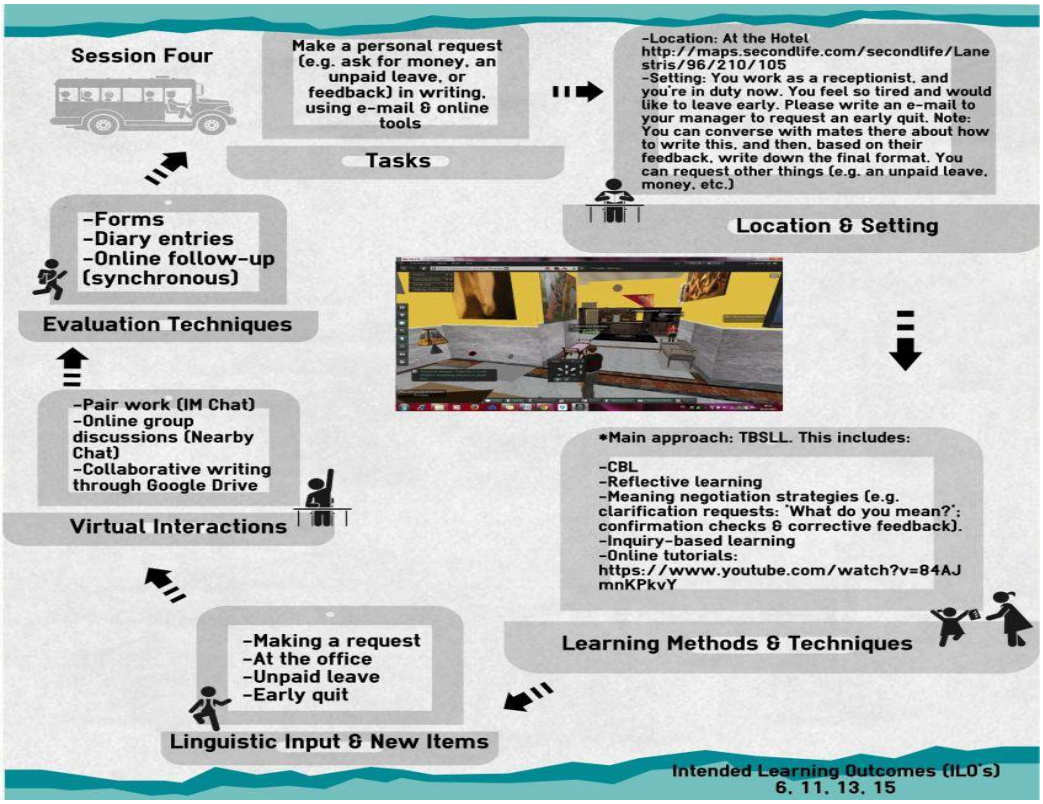

Figure 5: ***Session Four***

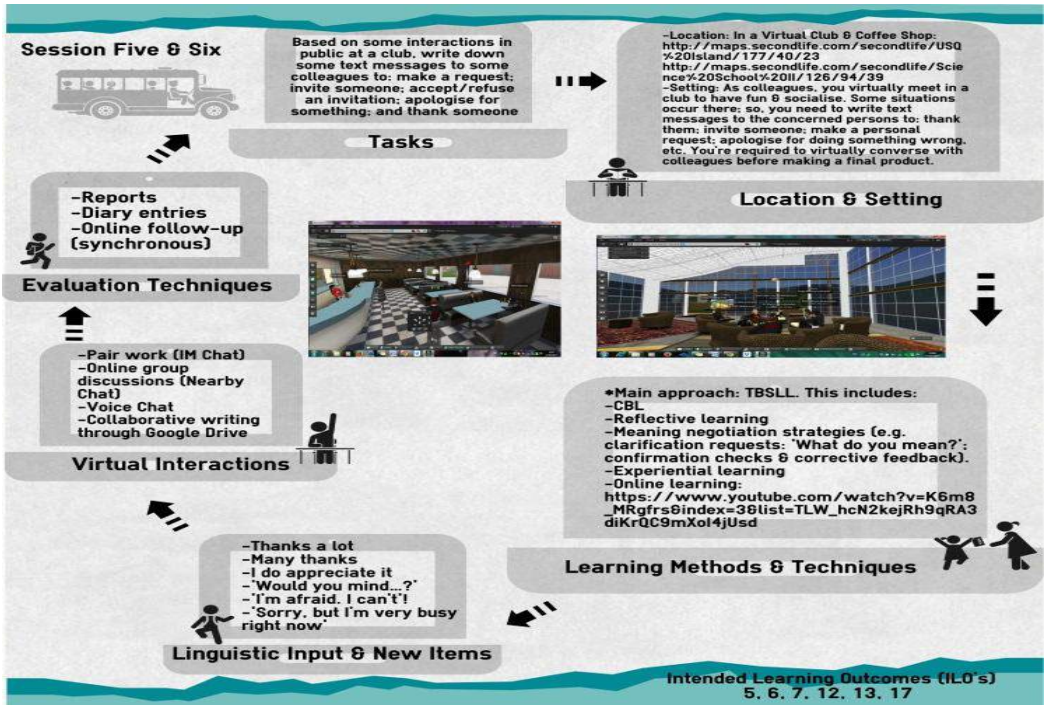

Figure 6: Session Five & Six

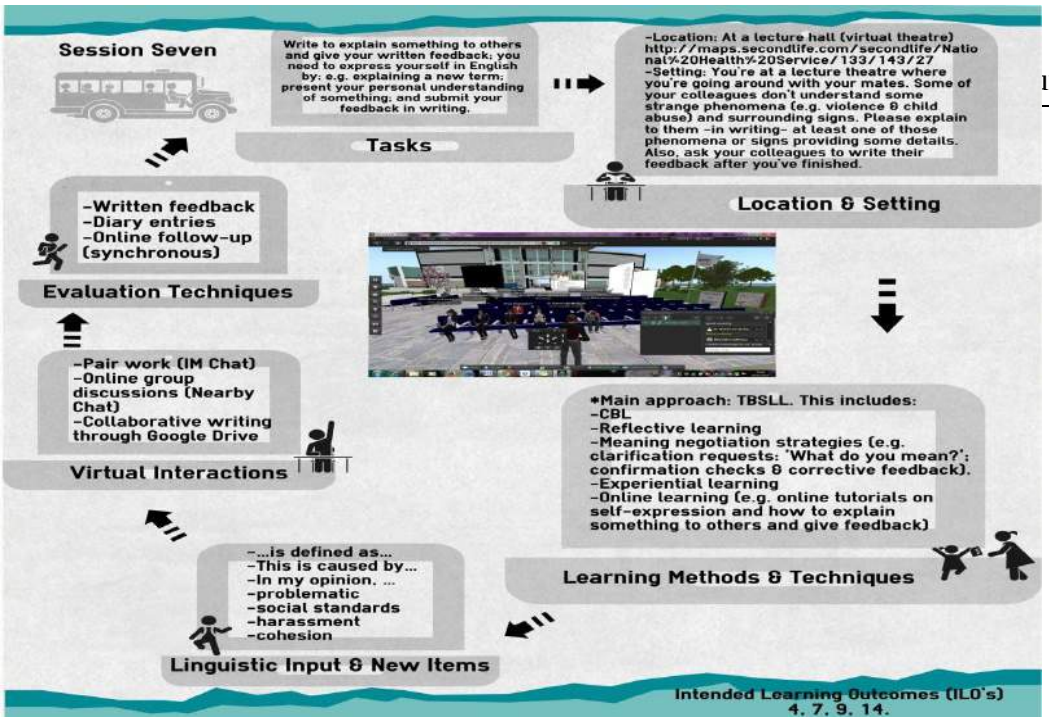

Figure 7: ***Session 7***

C-Producing Measurement Tools

The 1st researcher prepared the Pragmatic Writing Test: Examiner's Guide and Student's Version) (see Appendix A). It was constructed in the light of the target writing tasks and outcomes. It included six questions (20 marks for each; total score = 120), all of them were completed without the examiner's guidance, except for the 1st question that relied on listening. Questions varied in timing (ranging from 10 to 20 minutes depending on the nature of each task). To check validity of the test, it was displayed to some ELL & writing specialists (n=20), and modified based on their suggestions. Reliability was tested by split-half technique using Cronbach's Alpha, and the resulting value was 0.7.

The 2nd researcher constructed the Technological Self-Efficacy Scale guided by a review of literature in the field as well as the nature of the SL learning environment. In its initial form, the scale consisted of 55 items that were displayed to some jury members specialised in Educational Technology and Instructional Psychology. In the light of their remarks, some items were rephrased and removed; others were moved and placed under other dimensions. Thus, the final scale included 50 items distributed under four main dimensions: (1) Virtual Learning Environment (8 items); (2) Technological Persistence (9 items) (those two dimensions represent 'Input'); (3) Technological Responsibility (19 items) (which represents 'Processes'); and (4) Technological Experience (14 items) (which represents 'Output') (see Appendix B). The split-half technique (Cronbach's Alpha) was employed to test reliability resulting in a value of 0.8

3.4 Piloting Stage

At this stage, which preceded the experimentation of the design with the SL group, the design (SL situated tasks) was piloted with 4 EFL student teachers who participated voluntarily. The main goal was to test the SL environment in general and its suitability to the target students by administering some samples of the designed tasks. Two successive sessions were conducted, and accordingly some notes were taken to improve this virtual learning environment.

3.5 Use & Development Stage

Generally speaking, two groups were selected: a control group (n=10) and an experimental (SL) group (n=10). Participants in the experimental (SL) group were identified through some informal interviews and online chats based on the specified criteria mentioned above (see the 'Sampling' section above). Then, as a preliminary procedure, a Facebook group page was created to act as a platform to include those participants so that they could: (1) see all instructions and announcements related to using SL; (2) ask questions and exchange any useful ideas; (3) receive feedback and tutorials; (4) find solutions to any technical problems that they might encounter while using SL; (5) communicate smoothly at any time with instructors (i.e. the researchers), and with each other; and (6) have an online meeting point in cases of emergency (e.g. when the SL application crashes).

Then, the main experiment was conducted within the SL environment, in the form of task-based learning sessions, some of which were prepared in advance, and some required virtual situations and interactions that sometimes included some strangers/SL users who were involved in topics of discussion at hand. The whole intervention (7 sessions) required 16 hours (8 meeting times), some of which were conducted during the 1st semester, and most of them during the 2nd semester of the academic year 2014/15. Each session lasted for approximately 2 hours, except for the 1st session, which took around 4 hours.

Since SL is a demanding application in Egypt, which is too hard to operate successfully in high traffic, participants were asked to work during a specific period of time early in the morning (from 8:00 am to 10:00 am), and sometimes late at night (from 10:00 pm to 12:00 am) when information traffic was low and consequently, Internet speed was quite high.

SL participants were gradually exposed to the TBSLL environment facilitated by SL, while those in the control group were instructed in the traditional way (i.e. normal lecturing and workshops).

Following the experiment, the research measurement tools (i.e. Pragmatic Writing Test and Technological Self-Efficacy Scale) were administered to both groups on an individual basis. Then, results were obtained and processed statistically using SPSS 16, and then interpreted in the light of the main research questions.

More specifically, there are many details within this experimentation stage that need more elaboration. Due to some constraints (e.g. Internet speed problems at university where using online social-networking websites and virtual world applications was officially banned during working hours), only virtual sessions were done from home at both instructors' and participants' convenience.

Pragmatic writing topics were delivered simultaneously face-to-face to participants in the control group (n=10). They studied the course theoretically in lecture halls and workshops (total=3 hours a week), for successive 6 weeks. Those topics were consistently organised with the virtual sessions conducted with the SL group once a week.

At the beginning, SL participants were guided by the 2nd researcher – both face-to-face (support and orientation for 2 hours) and online (for 2 hours) into how to use SL and resolve some technical issues; this included ensuring their mastery of the basic skills required for interaction in the SL environment (e.g. editing profile, moving, teleporting, and changing view angle) before starting the scheduled virtual sessions. In addition, an SL User Guide was constructed and uploaded to the SL Facebook page to be available to all group.

Further, more technical problems were identified; and subsequently, the researchers interfered on an ad-hock basis to resolve them. For example, the researchers were obliged to

unify SL version (Second Life Viewer 2.3.7.19) for all users to avoid mismatch between application requirements and participants' computers' specifications. In this regard, private tutorials were conducted when required, and sessions were not launched before all technical issues had been resolved.

The first virtual session started on Saturday, 22 Nov. 2014 where participants were required to fill-in an application form of a teaching job, and write an accompanying CV to present to the employer (see Figure 2 above). Participants met in an open free learning hall in SL, which was chosen and tried out in advance by researchers based on its suitability for the target task (see screen shot below). During this virtual session, many participants needed technical assistance, and therefore, the session required another assistance on Facebook. Further, another supplementary session was arranged at the same place on SL to enable participants to complete all the required tasks, and eventually present their final products (see screen shots below).

There always was a general introductory session in the same virtual auditorium or teaching hall (see screen shots) which was employed as a meeting point where all participants' avatars gathered and met to hear orientation made by instructors. During this, some videos or slides were presented as links within the SL environment. In addition, participants were guided into using other online learning resources outside the SL environment. To make things work properly while interacting in SL, especially as far as communication among all members was concerned, all participants were asked to send and accept friend's requests to and from each other, including course instructors.

The detailed learning/teaching agenda was very flexible to suit the situated-learning pedagogy imposed by SL environment. Thus, plans were sometimes adapted and changed to cater for new situations and events. For example, some foreign strangers in many occasions came along to watch what we were doing. Because they were speaking English, the researchers took this opportunity in their favour by asking the strangers to do some functional tasks with participants. They were so cooperative and interactive, and promised to show up whenever they were requested to help with the learning process (see screen shots below).

Virtual places were sometimes changed or replaced with more appropriate ones once participants experienced any problems or difficulties while exploring them. Seating arrangements and positions were done based on the nature of the task at hand, and the language functions in focus to mimic real-life interactions. Facilities already there in the virtual auditorium (e.g. screens) were purposively employed to serve the learning process (e.g. watching online YouTube videos).

Communication gestures (e.g. 'hey', 'wow', 'laughing', and 'dancing') were functionally used along with speech and text messages to make avatars sound real, and this could reinforce the intended outcomes.

Technical problems were always occurring, such as: avatar freezing, connection break-down, inability to use certain features, and inability to speak. Technical assistance was always provided by the technology instructor on an ad-hoc basis.

Along with the obligatory existence of the participants in one place for interactive purposes (through pair work and group work), free tours were allowed to allow participants to explore new areas or sites to become familiarised with the SL application and get used to new places (see screen shot below).

Due to the nature of the writing tasks as part of the functional writing course, both 'nearby chat' and 'private IM chat' were employed for different reasons and purposes. Thus, nearby chat was employed for whole-group interactions, while private IM chat was employed for resolving individual technical problems or discussing some private issues (see screen shot below).

Improvisation, as an element that distinguished virtual worlds in general and SL in particular, was effectively employed as an immersive language learning practise. Participants were sometimes required to improvise phrases and sentences while being involved in role-play and other situated activities.

4. Results & Discussion

In this section, the researchers display the results of the study sequentially based on the research questions.

To answer the 1st question, *'What is the effect of using a virtual situated task-based language-learning environment enabled by SL on developing 2nd-year EFL student teachers' pragmatic writing skills (control group vs. experimental group)?'*, the pragmatic writing test for both the control group and the SL group by two scorers, and the mean score for each participant was taken. Then, results were obtained in SPSS through Mann-Whitney for non-parametric data. To obtain effect size, the following equation was employed: $r = z / \sqrt{n}$ *(http://yatani.jp/HCIstats/WilcoxonSigned#EffectSize)* (see Table 2).

Table 2: ***Mann-Whitney Results for Pragmatic Writing Test***

	Group	N	Mean Rank	Sum of Ranks	Z Value	Significance	Effect Size
Student's Score	Control	10	6.40	64.00			
	SL	10	14.60	146.00	3.103	0.01	0.98

	Group	N	Mean Rank	Sum of Ranks	Z Value	Significance	Effect Size
Student's Score	Control	10	6.40	64.00			
	SL	10	14.60	146.00	3.103	0.01	0.98
	Total	20					

The table above indicates statistically significant differences at the 0.01 level between participants' means of ranks on the Pragmatic Writing Test in the two groups in favour of the experimental (SL) group. Besides, the effect size value was 0.98, which indicates high gains by participants in the SL group. These positive results can be attributed to the following privileges that the SL group experienced: (1) SL provided innovative and non-traditional learning methods and techniques, such as meaning negotiation strategies, peer correction, Avatars interactions, and oral & written chat; (2) participants employed the rich linguistic input they had acquired and developed via other academic courses, and thus could put this into practice in a joyful, playful, and interactive environment that fostered working creatively while carrying out some tasks within SL; (3) SL immersed participants in a virtual learning environment and made them feel with a strong personal presence. This goes with a study conducted by Jarmon, et al. (2009); (4) SL connected language learning theory with practice, as it added new dimensions for language use and practice, which included identification with avatars and role playing; (5) evaluation in SL was conducted using formative assessment procedures as opposed to traditional lecture-based methods, and this led to the positive gains as reflected by the test results; (6) participants performed many different roles within the SL environment, and this led them to developing their pragmatic writing skills; and (7) participants' reflective diaries led them to understand how they were learning within SL, and how they became aware of their own perspectives as well as those of others.

The above results are consistent with those reached by other studies that employed SL as an effective learning environment for a variety of language learning purposes (e.g. Shih & Yang, 2008; Jauregi et al., 2012; Peterson, 2012; Lan, 2014; Al-Malki, et al., 2015).

To answer the 2nd question, *'What is the effect of using a virtual situated language-learning environment enabled by SL on 2nd-year EFL student teachers' technological self-efficacy?'*, the Technological Self-Efficacy Scale for both groups was processed into SPSS; results were reached through using the Mann-Whitney non-parametric test, and then the effect size was obtained using the same equation used above (see Table 3 below).

Table 3: ***Mann-Whitney Results for Technological Self-Efficacy Scale***

	Group	N	Mean Rank	Sum of Ranks	Z Value	Significance	Effect Size
Student's Score	Control	10	7.15	71.50			
	SL	10	13.85	138.50	2.536	0.01	0.80
	Total	20					

The table above indicates a statistically significant difference at the 0.01 level between participants' means ranks of scores on the scale for the two groups in favour of the experimental (SL) group; the value of significance level was less than 0.05, and this denotes an increased

technological self-efficacy for those who were exposed to the virtual SL environment compared with their counterparts in the control group. This is consistent with Henderson, et al.'s (2009) study.

This can be attributed to: (1) the free, positive, interactive and enjoyable atmosphere experienced by SL group within this virtual learning environment, and which helped them to form positive attitudes towards the writing skills; this was evident by the Technological Self-Efficacy Scale results as well as the fact that participants continued working in SL voluntarily; (2) the virtual stimulation of language use and practice provided by the SL environment as participants were – as indicated by their reports that were used for formative assessment purposes - capable of applying, testing and adapting some interactive strategies, both orally and in writing beyond the classroom boundaries. Participants reported enjoying this type of interaction within this virtual environment; (3) feeling identified with their avatars to the extent that one would apologise after hitting another avatar by mistake; (4) feeling actively indulged in an innovative collaborative project that influenced real life; (5) the great utility of SL as a supportive learning environment – as reported by most participants - despite any experienced technical and technological difficulties (e.g. freezes, crashes, updates and electricity problems).

To answer the 3rd and last question, *'What is the relationship between 2nd-year EFL student teachers' (experimental group only) pragmatic writing skills and their technological self-efficacy?*', the correlation coefficient was obtained by Spearman equation in SPSS (see Table 4 below).

Table 4: ***Results of Spearman's Correlation between Pragmatic Writing Test & Technological Self-Efficacy Scale for SL group***

Group	N	Spearman's Coefficient	Significance
SL	10	0.50	0.05

Results displayed in the above table indicates that the correlation coefficient value is 0.5 which is high and significant at the 0.05 level, indicating the existence of correlation between development of pragmatic writing skills through SL environment and technological self-efficacy for the SL participants. This can be attributed to – as indicated by participants' reports - some factors most of which related to the fact that SL used in the writing course facilitated and improved participants' learning thanks to some specific features of SL along with the employed situated learning tasks. These features include: (1) the affordance of hosting social interactions; (2) allowing participants to actively test their ideas and plans, and put them into practice; (3) grounding SL on real world, as the researchers had already known participants through academic courses and face-to-face interactions; (4) providing participants with multiple opportunities for employing, exploiting and developing a variety of skills (e.g. social, technological, interactive, cross-cultural learning, reflective, and time-management skills); (5) mimicking reality - and even going beyond it – through: flying, diving, penetrating, roaming, and high jumping.

5. Conclusion

Results of the study indicate effectiveness of the TBSLL design within the SL environment in developing participants' pragmatic writing and technological self-efficacy. Further, a strong

connection was found between pragmatic writing test and technological self-efficacy. While interpreting the results, the researchers drew heavily on the new learning environment design and interactive features that made the difference.

Thus, based on the obtained results, some conclusion can be made, especially as far as SL environment is concerned: (1) The SL environment is a strong extension of traditional instruction, especially as far as the practical component is concerned; (2) it is considered as an improvement of the learning method through connecting the theoretical aspect with the practical one; (3) it is an outlet for developing imagination and turning it into a creative reality within ELL context; (4) it has a strong contribution in the dissemination of other cultures, such as health awareness and conducting experiments; (5) the experiment is worth implementation with other academic courses and to improve other language skills..

It has become evident that SL is uniquely suited media for developing role playing scenarios to engage learning, if we provide the right mix of opportunity and structure. Indeed, role playing in SL, as Jarmon, et al. (2009) note, may represent perhaps one of the single most compelling educational opportunities for adults in the 21st Century. Moreover, SL can be employed develop a wide range of language skills, communication skills, and research skills. In addition, the idea of employing SL environment might be taken further into authentic language learning contexts. As far as communicative language teaching and community-based learning approaches are used, SL can create and foster many ELL opportunities. Further, SL might be used as means of teaching practice and continuous professional development, especially when networking skills on wide cross-cultural scales are in focus.

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Appendix A
Pragmatic Writing Test

(Examiner's Manual)

****Introduction***

This is a pragmatic-functional writing test that aims at assessing 2nd-year EFL student teachers' pragmatic-functional writing skills. For our research purposes, pragmatic-functional writing, as opposed

to academic and creative writing, is defined as ***that kind of writing that involves employing the English language for functional and pragmatic purposes associated with direct real-life use. It aims at conveying a specific, direct and clear message to a specific audience, and thus includes several areas such as writing instructions, memos, formal letters, notes, invitations, advertisements, and reports.***

****General Instructions to Examiner***

1. Under your guidance, learners need to deal with each question/section separately and in order;
2. A short general oral introduction (for about 5 minutes) might be used. If used, it will not be counted from the total test time.
3. For the listening-based section/question, please read the short lecture (TWICE at maximum) at normal speed; encourage learners to take notes while listening;
4. Final answers should be provided in the allocated spaces in the same testing sheet;
5. Along with the main testing sheet, learners/examinees must be provided with draft sheets of paper to use for drafting their preliminary answers and initial attempts;
6. All answers MUST BE provided ***in writing***;
7. Learners must abide by time allocated for each section/question in the test; they MUST move quickly to the next section when the allocated time is over.
8. All testing sheets must be collected roughly at the end of the test time.

****Listening Script for Question One*** (a short lecture to be read by the examiner TWICE at maximum)

As far as the reading types are concerned, there are two main types: ***intensive*** *reading and* ***extensive*** *reading.* ***Intensive*** *reading is that type which is commonly used* ***inside*** *the classroom to train learners on using reading for specific goals and purposes. In this case, there are tangible tasks to be performed and which should never exceed the time limitations imposed by the school timetable. In these situations, students are normally required to read a short text. A focus is placed on some language issues that the text involves, and therefore, an explanation of the new language items by the teacher is a main practice.*

Extensive *reading, on the other hand, is this free type which is done independently by students at home. It is usually advised as an extra or* ***optional*** *activity that students might do to develop a deeper understanding of the target language as well as some general language skills. Sometimes, students are referred to the library by their teacher to read a story or a book that supports certain topics or learning aspects. This is a common demonstration of an extensive reading activity. In extensive reading situations, students read long pieces of texts such as stories; they sometimes read some parts for* ***details****, and at other times, they* ***skim*** *other parts in order to get the general idea or identify other parts of interest to read in detail. There is no standard way or method for carrying out this type since students are free to do it in the way they like and at the times that suit them. Thus, it is a stress-free type that is carried out in leisure and for pleasure with no obligation. Eventually, it might influence, in a way or another, students' language learning and academic achievement.*

****Scoring Criteria***

Scorers need to use the following criteria to assess each learner's written performance for each question. Each criterion composes 5 marks of the whole score of each question (20 marks):

1. ***Organisation*** (i.e. the extent to which the content is organised).
2. ***Communication*** (i.e. how effectively the main message has been functionally communicated to the reader).
3. ***Style*** (i.e. the extent to which the language usage is appropriate and comprehensible; the exactness or vagueness of the choice of words is also considered).
4. ***Content*** (i.e. rating the quality of the content in general; its relevance).

Each learner/examinee is assessed on a ***5-point competence continuum*** based on the final written product as follows:

1 = INADEQUATE
2 = FAIR
3 = ADEQUATE
4 = GOOD
5 = EXCELLENT

Note: All the 6 questions are stated in the student's version below.

Pragmatic Writing Test
(Students' Version)

Dear student,
Please read very well each of the 6 questions below, and feel free to answer it in the allocated space as required. Of course, you're free to answer it in the way you like. Allocated time might vary for each question; therefore, you MUST move to the next question as soon as the time is over. Please listen carefully for 5 minutes (not part of test time) to the examiner's introductory notes, and try your best to follow them during the test.

Please treat the following as required providing all your answers in writing just below each question: (Total score = 6 X 20 = 120 marks)

1. Listen to a short lecture, then write down, based on your understanding, the main points or highlights in the lecture. Note: It is very important to take notes in the provided sheet while listening ***(Allocated time: 20 minutes)***

Total score = 20 (…./**20**)			
Organisation	**Communication**	**Style**	**Content**
…./**5**	…./**5**	…./**5**	…./**5**

---

2. Write down a short CV of yourself to a school headmaster. You are required to state your qualifications and convince your employer of your teaching competency and suitability for the job. ***(Allocated time: 20 minutes)***

Total score = 20			
Organisation	**Communication**	**Style**	**Content**
…./**5**	…./**5**	…./**5**	…./**5**

---

3. Write down <u>a memo</u> to inform someone or a group of people (your colleagues/mates) about a specific issue (e.g. a negative phenomenon, a risk, bad way of conduct, a good practice that can be followed, etc.) encouraging them to take action. ***(Allocated time: 20 minutes)***

Total score = 20			
Organisation	**Communication**	**Style**	**Content**
…./**5**	…./**5**	…./**5**	…./**5**

---

4. Make a personal request (e.g. ask for money or help; or ask for your boss' permission to leave early). ***(Allocated time: 10 minutes)***

Total score = 20			
Organisation	**Communication**	**Style**	**Content**
…./**5**	…./**5**	…./**5**	…./**5**

---

5. Write a text message of no more than 50 words to a friend of yours to: thank him/her for doing something; ask him/her for money; apologize to him/her about something; or invite him/her to attend your birthday party…Just choose to do ***ONE*** *thing only* ***(Allocated time: 10 minutes)***

Total score = 20			
Organisation	**Communication**	**Style**	**Content**
…./**5**	…./**5**	…./**5**	…./**5**

---

6. Write a paragraph of about 10 sentences to ***explain*** *something to others; please express yourself as much as you can (and in the way you like) to convey your personal understanding. Please note that you can make use of an external sheet of paper to plan or outline your paragraph before writing it down.* ***(Allocated time: 20 minutes)***

Total score = 20			
Organisation	**Communication**	**Style**	**Content**
…./**5**	…./**5**	…./**5**	…./**5**

College of Education
Curriculum & Instruction Dept.

Appendix B
Technological Self-Efficacy Scale

Dear student,

This questionnaire aims at identifying your technological self-efficacy. Your viewpoint is extremely important for accomplishing our research objectives. Any information you provide is very confidential and won't be used for any purposes other than research.

Please note that

1. This scale is not intended to be a test or an exam;
2. There is no right or wrong answer;
3. You should tick ONE response only for each statement without skipping any;
4. Allocated time ranges between 10-20 minutes;
5. You have to answer each item by ticking one of 5 available response options (graded from: 1=Strongly Disagree to 5=Strongly Agree), which applies most to you, as shown below:

No	Statement	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
1			√			

Name (Optional): ----------

ID: ----------

No	Statement		*Response*				
			Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
1-Virtual Learning Environment							
1.1	I feel that my academic potentials are not realized through the virtual learning environment.	-					
1.2	I'm able to achieve academic progress within the virtual learning environment.	+					
1.3	The virtual learning environment provides me with facilities that support self-learning.	+					
1.4	I feel dissatisfied with the climate of the virtual learning environment in which I learned.	-					
1.5	The virtual learning environment fosters my lifelong learning.	+					
1.6	The pressures and challenges I encounter within the virtual learning environment weaken my academic energy.	-					
1.7	I feel satisfied with learning through the virtual environment.	+					
1.8	The virtual learning environment encourages me to realize my academic potentials.	+					
2-Technological Persistence							
2.1	I continue carrying out technological tasks actively and enthusiastically till they are complete.	+					
2.2	I like learning those courses and topics that challenge my technological capacities.	+					
2.3	I feel annoyed when faced with difficult technological tasks.	-					
2.4	I resume my technological attempts no matter how difficult the beginning is.	+					

No	Statement		*Response*				
			Strongly Disagree 1	**Disagree 2**	**Undecided 3**	**Agree 4**	**Strongly Agree 5**
2.5	I feel determined and persistent while performing technological tasks.	+					
2.6	I feel bored while studying through technology for long periods of time.	-					
2.7	I stay active despite any technological difficulties I might face.						
2.8	I possess the will and ambition necessary for continuous learning through technology.	+					
2.9	It is hard to distract me away from achieving the required technological tasks.	+					
3-Technological Responsibility							
3.1	I'm able to develop and advance my technological skills.	+					
3.2	I fully bear responsibility for accomplishing technological tasks.	+					
3.3	I feel uncomfortable when indulged in technological activities.	-					
3.4	I manage my time efficiently while using technology.	+					
3.5	I strictly follow a specific schedule or timetable while practicing technological activities.	+					
3.6	I always accomplish the technological tasks that I assign to myself.	+					
3.7	I experience difficulties with performing my roles while using technology.	-					
3.8	The methods I employ in studying and organizing instructional materials make me feel technologically competent.	+					
3.9	I'm able to resolve any problems that I might experience while using technology.	+					
3.10	I'm able to manage any required technological tasks in a way that makes me feel confident.	+					
3.11	I always succeed in accomplishing the technological activities I plan.	+					
3.12	My way of studying doesn't help me with accomplishing technological tasks.	-					
3.13	My goals are clear enough to directly lead to accomplishing the technological tasks required from me.	+					
3.14	I achieve the required technological tasks throughout positive real efforts.	+					
3.15	I possess the ability to accomplish the required technological instructional tasks.	+					

No	Statement		*Response*				
			Strongly Disagree 1	**Disagree 2**	**Undecided 3**	**Agree 4**	**Strongly Agree 5**
3.16	I feel unable to satisfactorily accomplish the required technological learning tasks.	-					
3.17	While using technology, I'm able to organize my ideas clearly and accurately.	+					
3.18	I trust my proficiency whenever I learn a new academic topic using technology.	+					
3.19	I feel confident in my technological ability in performing any required assignment.	+					
4-Technological Experience							
4.1	My technological performance is not at the expected level.	-					
4.2	I derive confidence in my academic abilities from my technological expertise.	+					
4.3	My technological experience provides me with confidence while facing academic difficulties.	+					
4.4	I feel that I've gained satisfactory technological experience.	+					
4.5	I feel proud of possessing adequate technological experience.	+					
4.6	Learning through technology provided me with distinguished academic experience.	+					
4.7	I enjoy a good technological status among my classmates.	+					
4.8	The technological experience I've achieved doesn't reinforce my self-confidence.	-					
4.9	My technological experience makes me feel proud among my colleagues.	+					
4.10	I feel happy with the technological experience that helps with accomplishing my goals.	+					
4.11	My current technological experience doesn't exploit my actual potentials.	-					
4.12	My technological experience provides me with potentials for success in public life.	+					
4.13	I feel frustrated because my technological experience doesn't achieve my goals.	-					
4.14	My technological experience enables me to achieve academic competence.	+					

Appendix C
E-Portfolio: A Reflective Diary Template

Dear student,

Please keep a copy of this empty model in a safe place on your Pc as you'll need to fill it out after each virtual meeting on Second Life (SL). This is ***a reflective diary*** in which you need to **reflect on** what you have done and learned after each virtual session on SL. This way, we become able to monitor your progress, understand the problems/difficulties you might have encountered, intervene to resolve any technical or personal issues as early as possible, and finally improve the forthcoming sessions. You need to finish this by the next session. Here you're going to provide your **personal reflections and feedback** on the virtual English language learning community employed by SL. To make things easier to you, we've created this model with some **main headings**. W'd like you to kindly write down your personal reflections/viewpoints under each corresponding heading, and finally send your filled-in model as an e-mail attachment or a Facebook message file for both of us:

A-There are things I liked about this virtual community on SL in this session, such as:

1-
2-
3-
4-

B-There are things I disliked about this virtual community during the session, such as:

1-
2-
3-
4-

C-I've learned many new things out of this virtual session, such as:

1-
2-
3-
4

D-The virtual interactions and online activities I went through in the SL environment were useful/useless because…

1-
2-
3-
4-

E-I'd like to continue/stop being a member in this virtual learning community because....

1-
2-
3-
4-

F-I suggest the following tips/points for improving this virtual learning session on SL:

1-
2-
3-
4-

G-I experienced the following problems or difficulties while using SL as a virtual environment:

1-
2-
3-
4-

You can add any extra necessary details as appropriate!

Best regards

Dr Mahmoud M. S. Abdallah Dr Marian M. Mansour

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The effect of CALL proposed Program on University Students' Achievement in English

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Abstract
The study aimed at investigating the impact of CALL program on the Iraqi students' achievement in English. The participants of the study were 38 students from the Second stage at the English Department who were purposefully chosen from Cihan University in Sulaymaniyah province in the Kurdistan of Iraq. They were assigned to an treatment group and to a control group. Seventeen students (who had laptop computers) were assigned to the experimental (treatment) group, and 21 students to the control group. The instruments of the study is a CALL program (JavaScript), and pre-post achievement test. The findings of the study indicated that using CALL had a positive effect on the experimental group students' achievement. Based on the results of the current study, the researcher presented some recommendations in this paper.
Keywords: CALL program, E-learning, TEFL via technology , UNECEF computer program, computerized text.

Background of the Study

In August 1990, the United Nations Security Council imposed economic sanctions on Iraq, with Resolution 661 of August 6, 1990. These sanctions ended in May 2003. Ever since that same month, in which the war which was launched by Coalition Forces against Iraq ended, the country has been under occupation. UNESCO reports that prior to the first Gulf War in 1991 Iraq had one of the best educational performances in the region. Primary school Gross Enrollment Rate was 100% and literacy levels were high. Since that time education has suffered as a result of war, sanctions, and instability; it has been seriously affected by both the sanctions and the war (De Santisteban, 2005; UNESCO, 2008).

The occupation and subsequent events, most notably the armed conflict currently taking place between resistance guerrillas and occupation soldiers, inhibit the reconstruction of the education system. Ongoing instability has dramatically hindered the normal operation of schools and educational activities. The system has suffered as a result of widespread violence, power cuts and lack of appropriate teaching conditions in many education centers.

Thus, the education system in Iraq has been affected by these policies in two ways. First, it has been one of the targets of both military action and the sanctions. Second, the sanctions have had the gravest consequences not only for current, but also for future generations.

Introduction

As information and communication technology (ICT) has quickly become one of the basic building blocks of modern society; many countries now regard understanding ICT and mastering its basic skills and concepts as a part of the core of education, alongside reading, writing and numeracy (UNESCO, 2007). Iraq, like many other nations, faces many challenges in installing and integrating ICT into the learning process in schools. Improving education quality to Iraqi students is a primary focus for UNESCO Iraq Office to be able to bring Iraq into the 21st Century and strengthen its human capital. Implementing the International Computer Driving License (ICDL) program will offer excellent opportunities to improving education and government employee performance/ UNESCO, UNESCWA and Iraq's Ministry of Education endorse ICDL for ministry teachers and staff (UNESCO, 2009).

The UN's responses to the education needs of all parts of Iraqi society are extensive and varied. To support education sector governance, an education management information system has been set up with support from UNESCO and UNICEF to assist the Ministry and Directorates of Education in monitoring progress in education (UNICEF, 2006). UNESCO, in partnership with UNESCWA, is developing e-learning resources and training courses to ensure a better educational system in Iraq. Their goals are to build an educational project. The ICT in Education for Iraq project is designed to build sustainable capacity in Iraqi Ministry of Education for the continuing quality improvement of teaching and learning, focusing on the use of ICT. In order to improve ICT literacy and skills of the Ministry of Education staff, teachers, and students, the institutional capacity of the Ministry of Education will be enhanced to design, develop, and distribute a variety of e-learning resources, accompanied by programs of teacher professional development to implement such resources (Stensgaard, 2007).

As part of Iraq Development Project UNESCO - Iraq Office recently signed a contract with ICDL GCC Foundation to implement the ICDL digital literacy global standard in the Iraqi educational system under the umbrella of the existing national project called 'ICT in Education for Iraq. ICT in Education for Iraq is a project currently implemented (2007-2011) by both UNESCO and UNESCWA, and is designed to build sustainable capacity in Iraqi MOE for the

continuing quality improvement of teaching and learning, focusing on the use of ICT. In order to improve the ICT literacy and skills of the MOE staff, teachers, and students, the institutional capacity of the MOE will be enhanced through this project to design, develop, and distribute a variety of e-Learning resources, and accompanying programs of teacher professional development to implement such resources. It will also strengthen the capacity of Iraqi educational system to use digital tools effectively for teaching and learning through the establishment of six ICT Development Centers, two in Baghdad and the rest in four different governorates in Iraq (Erbil, Neinawa, Basra, and Najaf) to train school teachers and other educators. The ICDL program implementation, as part of UNESCO and UNESCWA "ICT in Education for Iraq" project will support the Iraqi MOE efforts to use ICT to improve educational outcomes and to prepare Iraqi young people to compete in a global economy. The ICDL program implementation in Iraq MOE relies on ICDL GCC Foundation's expertise in supporting primary and secondary school teachers to integrate ICT in education and improve learning outcomes (Stensgaard, 2007).

The researchers believe that the United Nation (UN) with the Government of Iraq and its partners will continue to provide its full support and commitment to increase access to quality education as a lifelong experience in accordance with Iraq's development goals.

Computer Assisted Language Learning (CALL) Program

It is worth noting here Beatty's (2003) notion that it is difficult to describe CALL as a single idea because it has a broad range of activities and covers many issues such as materials design, technologies, pedagogical theories, and modes of instruction.

The field of language teaching has witnessed some changes and developments recently. One of the most significant recent developments influencing the teachers and the learners in language education programs is the pedagogical educational technology, in particular the use of computers in the language classroom (Chapelle, 2009). As Warschauer and Healey (1998) point out, CALL is not a new development in language teaching, as it has been used since 1960s. Behaviourist CALL was implemented in the 1960s and 1970s, when the Audio-lingual method was mostly used, and provided students with drills and practice. This model used the computer as a tutor, presenting drills and non-judgmental feedback. Based on the communicative approach, communicative CALL focuses more on using forms rather than on the forms themselves. The communicative CALL programmes provide skill practice in a non-drill format, through language games, reading and text reconstruction. This approach still uses the computer as a tutor, although it gives students choices, control and interaction. Another CALL model used for communicative activities involves the computer as stimulus, as in programmes that stimulate writing or discussions, and which may not be specifically designed for language learners.

Finally, communicative CALL also uses the computer as a tool, in programmes that do not provide language material, but enable the learner to understand and use the language, such as word processors, desk-top publishing, spelling and grammar checks programmes, as used for instance in process writing. The new modern language learning methodology has integrative CALL, which is based on multimedia computers and the Internet. These technological developments have brought text, graphics, sound, animation and video to be accessed on a single inexpensive computer.

The scope of CALL includes a wide variety of instructional functions. These have to be realized in terms of a limited number of CALL modes. The CALL functions to be performed and a selection of the CALL modes available for their implementation are: management of learning,

testing, tutoring, exercising, use of a computer as laboratory, use of a computer for producing teaching materials, dissemination of material, archival of material, and medium of expression. While the CALL modes are: problem solving; drill and practice; inquiry mode; simulation; gaming; tutorial mode; and dialogue mode. Each of those functions and modes is applicable to all levels of education and training (Barker and Yeates, 1985).

The big question now is "should CALL be utilized in the Iraqi context or not?" To give a clear "Yes, of course!" or "No, of course not!" The researcher will try to answer this question throughout investigating the effect of using CALL in teaching the English language and also will derive the answers from the students' perceptions of using CALL in their teaching of the English language.

Currently in Iraq, it is notable that the UNICEF, UNESCO, and the Ministry of Education have adopted certain plans to improve the teaching of English in the public schools. The use of computers and technology products has become a priority. To attain this goal, the Ministry of Education encourages teachers to be enrolled in computer courses like ICDL, word links, and Internet. It is expected that this study will add a foundation stone to the efforts that aim to construct a reasonable and flexible CALL, which may help in developing learners' achievement integrating the four language skills when learning and teaching English.

Statement of the Problem

The researchers noticed that in spite of the efforts made by the Iraqi Ministry of Education, UNESCO, and UNECEF to develop the educational system in Iraq, Iraqi students were still suffering from low achievement in English. It seems that the current methodology employed in the Iraqi schools, especially at primary stages does not enhance the students' abilities to develop their achievement level in English. The researchers think that the use of technology in general and CALL in specific may help in changing this situation. Therefore, this study is designed to measure the effectiveness of a computerized language learning program on the achievement of the primary children in English.

Purpose of the Study

This study aims at investigating how CALL can be effectively integrated into English teaching in the Iraqi context to develop the level of competence and performance of the university students. Moreover, it considers some of the advantages and disadvantages of using CALL problems that go with the use of CALL in learning English are also be detected.

Question of the Study

This study aims to answer the following question:

Are there any statistically significant differences at (α= 0.05) between the mean scores of the experimental and control groups on the achievement test in English of the Iraqi university students' using computerized materials and those using conventional materials?

Significance of the Study

Integrative CALL started from the 1990s and tried to integrate the teaching of language skills into tasks or projects to provide direction and coherence. Integration of computers to support the learning environment in teaching language is still in its infancy in Iraq. Its implementation may change both the instructional strategy and also the teaching and learning environment.

To the best of the researcher's knowledge, no studies have been carried out on using computer to integrate the four language skills when teaching English to the University students in general, and English department in particular in Kurdistan of Iraq. The researcher; therefore, has designed a CALL program to be at teachers' and students' disposal, which they can use when teaching and learning English in the classroom. The students and their parents can use this program easily at home to speed up their learning skills according to their learning abilities.

The Ministry of Education and teachers of English may benefit from the present study. The Ministry of Education could benefit from the results of the study, which may be a good indicator of utilizing CALL in the public and private universities. Moreover, the teachers may benefit from the program to utilize new techniques for teaching English via computer. They may also benefit from this study in designing new computer programs to teach the other language skills and aspects. The UNESCO and UNICEF may benefit from the study to find out if their efforts and objectives have been achieved since they started the program to improve the educational system in Iraq.

Limitations of the Study

There are several limitations of this study. The researcher may summarize these limitations in the following points:

1- The sample of this study is limited to the second stage at English department at Cihan University.
2- The results of the study are limited by the time for the period in which the study was conducted as technology and its applications may change dramatically in the near future.
3- The material of the study is derived from the "Real Listening and Speaking" textbook.
4- The time of the study is limited for the period of the first semester 2014.

Review of Related Literature

To reveal the effect of multimedia, Raphan (1996) developed a multimedia CALL program used to determine how EFL students would handle the multimedia screen with simultaneous audio, visual, and note taking. The result showed that students adapted to the multimedia information quickly. Additionally, students interacted positively with the system, practiced grammar and vocabulary in context and commented on the usefulness of the individualized instruction. Furthermore, students' listening comprehension and vocabulary improved. There was also an improvement in their reading ability.

AbuSeileek (2004) designed a CALL program and tested its effect on student's writing ability in English. He concluded that students using computers in learning writing skills achieved higher scores than those who studied the same skills in the conventional method.

In order to improve spoken language competency, Jiang and Ramsay (2005) believed that CALL applications must reproduce the social interaction that lies at the heart of language learning and language use. They utilized CALL in the learning of second language to explore whether CALL can be used to extend opportunities for rapport building in language teaching beyond the face-to-face interaction of the classroom (rapport's importance lies in its potential to enhance learning, motivate learners, and reduce learner anxiety). The results suggested that CALL may help foster learner-teacher rapport and that scaffolding, such as strategically composing rapport-fostering questions in sound-files, was conducive to this outcome.

CALL also can improve students' reading abilities as shown in Huang (2007) who pointed out that adult L2 learners were often encouraged to acquire new words through reading

in order to promote language proficiency. The results showed that learners improved their vocabulary scores after using the reading program. The online extensive reading syllabus demonstrated that such a design for a reading program is technically feasible and pedagogically beneficial and provides value in both vocabulary gains and learner satisfaction.

Shdaifat (2006) investigated the effect of using computerized instructional games on EFL second-grade pupils' learning of vocabulary. The major findings of the study indicated that using the computerized instructional games has a positive effect on students' learning of vocabulary.
Murphy (2007) described an ongoing project to create an online version of a reading programme, a custom-designed English language proficiency course at a university in Japan. Students were randomly selected from upper and lower levels of English proficiency. Some students worked in pairs and some alone. The results showed that the interaction between type of feedback and manner of study (individual or pair work) was statistically significant; students performed best on a follow-up comprehension exercise when in pairs and having been provided with Elaborative feedback. Furthermore, it was found that elaborative feedback was conducive to quality interaction.

Abdel Halim (2009) investigated the effect of CALL on the first secondary students' reading comprehension achievement in English at public schools in Jordan. Results of analysis showed a significant difference between CALL users and nonusers in favor of the experimental group (computer users). Results of this study have provided evidence for the effect of CALL on learning English.

Participants of the Study

The study was conducted at Cihan University in Sulaymaniyah province in the Kurdistan of Iraq . The total number of participants at second stage was 38 students. The participants were chosen purposefully, because the regulations of the university do not allow to mix the groups and choose randomly sample . The researcher divided the participants into two groups, experimental and control. The control group composed of 17 students who were not using laptop computers. The treatment group consisted of 21 students who were using laptop computers.

Table 1. ***Distribution of the participants according to the variable of the study (method of teaching).***

Group	Frequency	Percent
Control	17	64.3
Treatment	21	35.7
Total	**38**	**100.0**

The Instructional Program

The researcher developed an instructional program taken from Real Listening and Speaking 3 textbook, by Miles Craven. The units taken were: How's it going, I need to see a doctor, What's the problem?, and I'd appreciate it. These units were analyzed and redesigned in a computerized manner where the questions and answers were accessed through this program to facilitate the learning process for the students. The design and development of the program was made with the help of a computer's design expert to fit the level of the students.

The CALL program was organized into four sections, which corresponded to the four main areas of language use. The four sections were: Listening, Speaking, Reading, and Writing. The program was designed to develop these four skills. texts were designed to help the students

to practice their reading skills, photos were included to promote responses and help the students to practice their speaking skills, icons linked to recordings were embedded in the program to help the students to practice their listening skills, and finally, there were model texts which designed to help the students to practice their writing skills. The students could go directly to the activity they wanted to learn by clicking on the icons which were located on the top of the screen.

Validity of the Program

After being designed with the help of a computer expert, the program was reviewed by a panel of three university professors from Baghdad University (Dijlah College), and computer experts. The panel suggested certain changes related to color, structure, and the animation of icons. These changes were made and the program was given back to the panel. They all accepted the modification made to the program.

Variables of the Study

This study consists of the following variables:

1. The independent variable is the method of teaching which has two levels: the computerized instructional program and the traditional method.
2. The dependent variable is the students' achievement scores on the post- test in listening, speaking, reading, and writing.

Results Related to the Question of the Study

To answer the question, " Are there any statistically significant differences at (α= 0.05) between the mean scores of the experimental and control groups on the achievement test in English of the Iraqi university students' using computerized materials and those using conventional materials?"

The means and standard deviations were calculated for students' overall achievement score of pre- and posttest according to the independent variable (teaching methods: CALL and conventional). In addition, adjusted means and standard errors of students' scores on the posttest were computed as seen in Table 2.

Table 2. ***Means and standard deviations of students' scores on overall achievement on pre- and posttest***

Group	N	Achievement (Covariate)		Posttest Achievement			
		Mean	Std. Dev.	Mean	Std. Dev.	Adj. Mean	Std. Error
Control	17	37.444	4.76	59.800	14.50	60.162	1.91
Treatment	21	39.720	5.81	92.080	8.85	**91.429**	2.57

Table 2 shows that there are observed differences between the two means of the participants' achievement score on posttest due to the level differences of the independent variable of the study (teaching method). To examine the significance of these observed differences, the researcher used ANCOVA to compute participants' overall achievement scores of the posttest according to the study independent variable (teaching method) after neutralizing students' performances on overall achievement scores on pre-test scores as seen in Table 3.

Table 3. ***Results of ANCOVA for students' overall achievement scores according to the study variable***

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial η^2
Achievement (Covariate)	357.011	1	357.011	2.221	0.141	3.21%
Group	15019.760	1	15019.760	**93.455**	0.000	58.24%
Error	10768.029	67	160.717			
Total	27871.443	69				

Table 3 shows that there are observed differences at (α= 0.05) between adjusted means of the post-test scores for the overall students' achievement scores due to the study independent variable (teaching method) in favor of the experimental group that learned via CALL program in comparison with the control group, that learned by the conventional method. The effect-size of the study variable (teaching method) was 58.24%, which means that there was a great relationship between the variable of the study and the overall students' achievement scores on posttest according to the criteria of Cohen (1988). In addition, means and standard deviations were computed for the pre- and post- test scores of the participants' subscores (that is the sub scores of listening, speaking, reading and writing skills) according to the study independent variable. In addition, the adjusted means and standard errors of the students post- test scores were computed as seen in Table 4.

Table 4. ***Means and standard deviations for the pre- and post-test scores on students' achievement sub-scores of test***

Dimension	Group	Pretest		Posttest			
		Mean	Std. Dev	Mean	Std. Dev	Adj. Mean	Std. Error
Reading	Control	10.044	1.54	14.911	4.25	15.08	0.58
	Treatment	10.760	3.27	22.600	2.80	**22.29**	0.78
Writing	Control	9.244	2.04	14.000	4.51	14.07	0.62
	Treatment	9.160	1.68	22.760	2.88	**22.63**	0.84
Speaking	Control	9.022	2.32	15.067	3.45	15.14	0.48
	Treatment	10.120	1.74	23.200	2.53	**23.06**	0.65
Listening	Control	9.133	1.98	15.822	3.86	15.94	0.50
	Treatment	9.680	2.12	23.520	2.26	**23.30**	0.68

Table 4 shows that there are observed differences between the means of students' achievement scores on the sub-scores of the pre-test due to the different levels of the independent variable (teaching method). To decide which type of analysis the researcher should use (MANCOVA, or ANCOVA), the researcher used Bartlett's test of Sphericity; the results are presented in Table 5.

Table 5. ***Correlation coefficient among students' sub-scores of post-test and the results of Bartlett's test***

Correlation	Reading	Writing	Speaking
Writing	**0.85**		
Speaking	**0.73**	**0.89**	

Listening	**0.50**	**0.65**	**0.71**
Bartlett's Test of Sphericity	**χ^2**	**Df**	**Sig.**
	232.224	9	0.000

Table 5 shows that there is a significant correlation at (α = 0.05) among students subscores posttest according to the independent variable of the study (teaching method). It indicates that MANOVA should be used on students' achievement scores on the sub-scores of the posttest according to the variable of the study (teaching method) after neutralizing students' performances effect on the pre- test as seen in Table 6.

Table 6. ***Students' achievement sub-scores test according to the study independent variable***

Effect	MANOVA test	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Reading (Covariate)	Wilks' Lambda	0.938	1.002	4	61	0.413	6.17%
Writing (Covariate)	Wilks' Lambda	0.931	1.137	4	61	0.348	6.94%
Speaking (Covariate)	Wilks' Lambda	0.857	2.547	4	61	0.048	14.31%
Listening (Covariate)	Wilks' Lambda	0.975	0.395	4	61	0.811	2.53%
GROUP	Hotelling's Trace	1.609	**24.530**	4	61	0.000	61.66%

Table 6 shows a significant effect of the study independent variable (teaching method) at (α= 0.05) on the students' achievement sub-scores of the test.

To determine which sub- scores of the posttest have significant effect, ANCOVA was conducted on students' performances on the sub-scores of the posttest separately according to the independent variable of the study (teaching method) after neutralizing the effect of students' performances on sun- scores pre-test as seen in Table 7.

Table 7. ***Results of ANCOVA on students' achievement sub-scores of posttest according to the study independent variable***

Dependent Variable	Source	Sum of Squares	Df	Mean Square	F	Sig.	Partial η^2
Reading	Reading (Covariate)	0.450	1	0.450	0.031	0.861	0.05%
	Writing (Covariate)	0.063	1	0.063	0.004	0.948	0.01%
	Speaking (Covariate)	35.223	1	35.223	2.422	0.125	3.65%
	Listening (Covariate)	2.618	1	2.618	0.180	0.673	0.28%
	GROUP	769.062	1	769.062	**52.883**	0.000	45.24%
	Error	930.739	64	14.543			
	Total	1933.771	69				
Writing	Reading (Covariate)	2.858	1	2.858	0.172	0.680	0.27%
	Writing (Covariate)	6.235	1	6.235	0.374	0.543	0.58%
	Speaking (Covariate)	9.020	1	9.020	0.542	0.464	0.84%
	Listening (Covariate)	4.189	1	4.189	0.252	0.618	0.39%
	GROUP	1087.836	1	1087.836	**65.318**	0.000	50.51%

	Error	1065.885	64	16.654			
	Total	2327.843	69				
Speaking	Reading (Covariate)	9.186	1	9.186	0.917	0.342	1.41%
	Writing (Covariate)	3.971	1	3.971	0.396	0.531	0.62%
	Speaking (Covariate)	27.178	1	27.178	2.713	0.104	4.07%
	Listening (Covariate)	0.040	1	0.040	0.004	0.950	0.01%
	GROUP	930.493	1	930.493	**92.901**	0.000	59.21%
	Error	641.020	64	10.016			
	Total	1739.943	69				
Listening	Reading (Covariate)	0.284	1	0.284	0.026	0.873	0.04%
	Writing (Covariate)	33.975	1	33.975	3.099	0.083	4.62%
	Speaking (Covariate)	31.795	1	31.795	2.900	0.093	4.33%
	Listening (Covariate)	0.521	1	0.521	0.048	0.828	0.07%
	GROUP	802.240	1	802.240	**73.164**	0.000	53.34%
	Error	701.759	64	10.965			
	Total	1729.143	69				

Table 7 shows that there are significant statistical differences at (α = 0.05) between the adjusted means of the posttest scores of the students' achievement sub- degrees of the test in Listening, Speaking, Reading, and Writing skills, due to the teaching method in favor of the students of the experimental group who were taught via CALL in comparison with the students of the control group who were taught via the conventional method. The effect size of the independent variable in post- test was as follows: (45.24% for reading proficiency, 50.51% for writing proficiency, 59.21 for speaking proficiency, and 53.34% for listening proficiency); which means that the relationship between the independent variable and students' achievement subscores is great (according to the criteria of Cohen, 1988).

Discussion, Implementations and Recommendations

Discussion of the Results of the Question of the study

The finding of the present study showed that there were statistically significant differences between the adjusted mean scores of the post response of the overall students' achievement test. This is due to the difference in the teaching methods: the computerized program versus the conventional method.

The results also revealed that there was a significant correlation among the four skills (listening, speaking, reading, and writing). The highest correlation was between speaking and writing (0.89), and the lowest correlation was between reading and listening (0.50). The above results revealed that the CALL program has been designed in an integrative way which Brown (2001), Omaggio (2001), Krashen (1997), and Ausubel (1968) focused on. The presentation of the materials in an integrative way via CALL has helped students to develop their proficiency in the four skills.

The researcher believes that the CALL program was designed to go with Krashen's Monitor Model Hypothesis. He suggested the "input hypothesis" which stated that input should be: comprehensible; interesting and relevant; delivered in safe and calm environment. Thus, students who learned via CALL have scored higher than those who learned via the conventional method, who were not exposed to comprehensible input.

Conclusion

In light of the results of the study, the researcher can say that the use of technology inside and outside the classroom tend to make learning more interesting, especially with adults and this is what Brown (2001) and Omaggio (2000) stressed. They believed that when the materials meet students' interests, learning will last for a long time. CALL has promoted learners' motivation and efforts by locating precisely the information which the learner needs and learns by himself, raises students' confidence, allows students to take calculated risks, and makes learning authentic and meaningful. These features provide the learner with real world context.

Pedagogical Implication

Based on the results of the study, the following implications can be drawn:

- The CALL program remains not an alternative but a complementary tool in reinforcing classroom activities.
- CALL could be a very useful tool in TEFL, provided that it supplements face-to- face language instruction, not replaces it.
- Teaching and learning can change through the use of technology.
- EFL teachers should enroll in specialized courses related to teaching via CALL.
- CALL might be used to facilitate the learning process by providing immediate feedback and clear instruction.

Recommendations

The researcher may put forth the following recommendations:

- The use of technology in language teaching should be investigated further. Researchers should conduct further studies on the effectiveness of CALL method on teaching language skills and other components of the language.
- The Iraqi teachers are advised to vary their methods, techniques and ways of teaching according to their students' needs and interests. They are also advised to use the computerized method more intensively and more frequently.
- The researcher recommend that EFL teachers use the CALL program in their teaching, since it enhances students' achievements as well as their attitudes toward teaching English via CALL.
- Curricula designers are recommended to include CALL in the English textbooks.

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Discussion-Based Approach to English Language Teaching and Learning A Digital Dedicated Language Laboratory

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Abstract
One of the most fundamental concerns of teaching English as a foreign language (EFL) is to maximize the opportunities of learner-learner talk. Digitalized technological facilities can motivate committed teachers to adapt and adopt innovative ways of teaching oral skills. This article reports on an action research project implemented during one semester with a group of 14 willing Master students at the Department of Foreign Languages, Mohamed Cherif Messadia University, Souk-Ahras, Algeria. The aim was to investigate the effectiveness of the Digital Dedicated Language Laboratory (DDLL) in teaching English through a discussion-based approach. A well designed protocol made up of three types of discussion: *framing*, *conceptual*, and *application* discussions was adopted. The findings revealed that students were able to develop their linguistic, socio-cultural and pragmatic competences. They were also given the opportunity to exploit the various facilities, and tools available at the DDLL.
Keywords: Action research; digital; discussion; EFL; laboratory; oral skills.

1. Introduction

Traditionally, language researchers and specialists have subscribed to the belief that second and foreign language pedagogy renews and improves itself in three basic ways: innovation through change in teaching methods, innovation through language related sciences and research, and technological innovation. In connection to technological innovative ways, it has been observed that changes in theories of language teaching and learning affect uses of technologies and new technologies affect language teaching and learning theories. (Harmer, 2001)

A surge of combining the utilization of the most fashionable Information and Communications Technologies (ICTs) with the up-to-date learner-centered instructional tendencies has been witnessed within the Algerian educational innovations or the so-called LMD (Licence- Master-Doctorat) reform that has been putting down new roots in Algerian universities. The reform aims at ensuring top-quality training for Algerian students through a set of competencies necessary for the promotion of their academic spirit and the achievement of a genuine osmosis with socio-economic environments.

2. Statement of the Problem

It is beyond all disputes that the Tech-based education tendency was due to the tremendous explosion in the diffusion and use of new technologies in our daily life. These new technologies are so widespread that one feels outdated if not using them. There is a continual technological power game in which those who have the latest technology are perceived better than those who do not. Higher Education system in Algeria followed the pace and most universities benefited from the latest technological equipment and facilities which have been placed at the disposal of students of foreign languages. In addition, among the main components of the LMD reform is the integration of the latest technological facilities at the heart of foreign language teaching and learning. Almost all Algerian universities have been equipped with DDLLs and thus supplanting the old-fashioned audio-lingual ones. So, willing to try out innovative new methods, English language Departments are making various attempts to assimilate these new changes gradually. This situation urges English language teachers to look for ways through which DDLLs enhance classroom discussion.

3. Discussion-based Approach: Theoretical Background

Discussion is a term that refers to "talk between two or more people in which thoughts, feelings, and ideas are expressed, questions are asked and answered, or news and information is exchanged" (The *Cambridge Advanced Learner's Dictionary).* Thornbury and Slade (2006) defined discussion along seven basic characteristics. Discussion is (1) predominantly *spoken* and based on a set of *prosodic features;* (2) *spontaneous* and *synchronous;* (3) occurs in a *shared context; (4) interactive; (5) interpersonal*; (6) endowed with an *informal style* but in certain communication situations, it takes place *more formally*; (7) revelatory of the speaker's *identity*. Whenever one communicates, one discloses information about one's identity. This latter is never fixed; it is "something which we are constantly building and negotiating all our lives" (Thornborrow, 2004: 158).

It is indisputable that interaction is the most fundamental mode of human communication. Humans are social beings who need to communicate and to establish and strengthen social relationships with people around them, and this can be attained through language. We resort to language and more precisely to discussions to change our beliefs, values, aspirations, hopes and most of all our identities. Vygotsky (1962) claimed that we learn through our interactions and

communications with others. He suggested that learning occurs through the interactions students have with peers, teachers, and other experts. Unfortunately, in Algerian schools and universities the opportunities of second/foreign language learners to talk, interact, and participate in class are very restricted; discussion as an extended communication, often interactive is of minor preoccupation and learners are not given enough opportunity to exchange views on some topics. Discussion is given little attention. It is very frequently limited in English language classroom and issued for comprehension goals rather than for developing students' thinking. Most students remain silent in a classroom, half listening to their teachers as they lecture in front of the room. Teachers still rely on the IRE (**I**nitiate-**R**espond-**E**valuate) traditional model despite its failure to promote students' discussions and thinking at higher levels. Some teachers do insist on their autocratic teaching and do not appreciate discussions with its outcomes and issues. Some others are not certain of its workability with too large sized classes where only few students are taking part while the majority is listening stonily (Dillon, 1994). As we began to shift from teacher-centred to learner-centred model, many laudable efforts to change things have been taking place, and conversation is slowly but surely working its way in order to oust the traditional teacher-driven management of talk. So it is time to start looking at ways to enhance classroom discussion.

Coming back to the nature of communication, it is true that discussion is complex and necessitates not only a sufficient knowledge of the linguistic system in terms of syntactic and grammatical structures, vocabulary and pronunciation, but also the ability to conduct a conversation according to some pragmatic, socio-cultural, and discourse rules. Yet, the two main difficulties encountered by foreign language learners may be divided into two symptoms and root causes: either their unfamiliarity with the different aspects of language and thus inability to produce language suitable for discussion, or the availability for use of such knowledge is not well-exploited; a fact that constrains learners to resort to some communication strategies. Algerian students learn English for academic purposes or as an international language in order to communicate with both native and non-native speakers. It is the case where intelligibility takes precedence over accuracy. Mispronunciations and other communication strategies are tolerated. However, ideally students are at the same time intelligible and accurate. The secret is simply to find the right way to do it in classrooms.

3.1 Discussion-based Approach to English Language Teaching and Learning

Richards and Rogers (2001) proposed a classroom discussion teaching model based on three main levels. The first is the approach, being the set of theories, principles, and sometimes assumptions dealing with not only the structure and representation of language but the way it is taught and learnt as well. The second is the design and concerns objectives, syllabus, tasks, instructional materials, and teachers and learners' roles. The third level is the procedure which is the way things are conducted correctly. Thornbury and Slade (2006) added a fourth level and called it process highlighting the fact that discussion must be used as a means to learn language and not as an end in itself. Process includes topicalization, group organization and teacher's involvement via a set of follow up and evaluative comments.

The discussion-based pattern that has been chosen in the present study is a combination of Richards and Rogers' procedural modal, and Henning's (2008) cyclical approach alternating between teacher's guided discussion and higher students' contribution. This pattern matches Habermas' (1984) theory of communicative action which "describes how students move from their everyday experience and language to more technical academic concepts and language"

(Henning, 2008: 155). Accordingly, students bring from their everyday life some conversational skills, and then use them to learning more technical language and concepts before they eventually integrate them into conversations inside and outside the school setting. The pattern is an extension of the inductive and deductive discussion patterns. The first element *framing* discussion is inductive because the students move from their own experiences to a new learning. The *conceptual* discussion, the second element, is also an inductive discussion whereas the *application* discussion, the third type in the model, is a deductive discussion which moves from concept learning to student experience. The three components are distinguished by the different types of discourse moves used, by the group and accountability strategies, as well as by the amount of preparation required.

A *framing discussion* always takes place at the outset of any lesson or a whole teaching unit and usually before new ideas, concepts and principles are introduced. The teacher begins with questions that elicit opinions based on the students' previous knowledge they acquired through their everyday experience and/or at school. Consequently, students will be more engaged to contribute extensively with very little preparation. The knowledge elicited should be relevant to what is going to be learned later. A framing discussion is, therefore, inductive since it draws from students' experience to learn new concepts. So, it can be an opportunity for the teacher to have an idea and evaluate such knowledge.

Much like the framing discussion, the *conceptual discussion* is inductive; it depends on the students' previous knowledge and experience in order to build up new learning. A conceptual framework aims at supplying students with new concepts, and ideas. It necessitates much more preparation than the framing discussion. Students are exposed to new information through a lecture, some reading or guided activities and through which new concepts and vocabulary are introduced. Students can also work in small groups but a longer time in order to study, develop and share ideas through a group project, for example. At this level, the teacher's interventions occur more frequently to explain key factual information needed when conducting the activity. Many probing questions and follow up discourse moves are used by the teacher. Thus, the conceptual discussion is totally teacher-guided because students face new and difficult concepts and consequently will benefit from the teacher's support whenever needed. There will be less student-to-student interaction, and their answers are mostly brief. It is very likely that discussion will look like the traditional IRE participant framework.

Contrary to the framing discussion and conceptual discussion, the *application discussion* is a deductive framework based, i.e. it comes after sometimes several days of learning and application of new information. It requires much more preparation than the conceptual discussion because students will use newly acquired knowledge in unknown settings and is the last stage of a cycle that begins with their prior experience, then moves to new learning and ends with an application in a real world setting.

In the second level of their model, Richards' and Rogers' (2001) put emphasis on the appropriate and intelligent utilization of tools when designing language teaching tasks. Yet, a teaching tool is nothing if pedagogy does not keep pace. Several studies have documented that foreign language learning and teaching relies upon the classical pedagogical triangle: teacher, learner, and content.

Nevertheless, research has made it clear that the classroom setting plays a significant role in learning (Egbert, 1993). It evolves in parallel with the teaching approach and method. It used to be traditional and then has become modern and technological. So, a DDLL is a technological classroom where EFL is taught and learnt differently. In reality, a language laboratory is not only

a classroom but rather a combination of space and media (tools). To be truly dedicated to language teaching, it must be equipped appropriately. If inadvertently or purposely, the tools are not exploited, the laboratory becomes a simple classroom.

It is for that very reason that the classical pedagogic triangle has to be reexamined by reversing the classical classroom pattern to a new pattern that assures the space the significance it has. So, the classroom will be in the foreground and the whole teaching and learning process will result in a pedagogical four-sided pyramid instead of a triangle as it is proposed in Figure 1:

Figure 1: Pedagogical Four-sided Pyramid

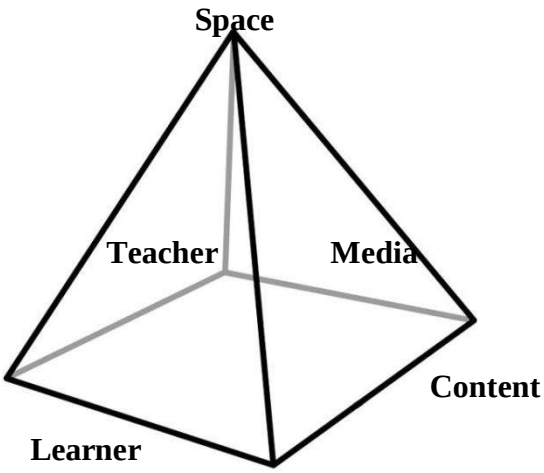
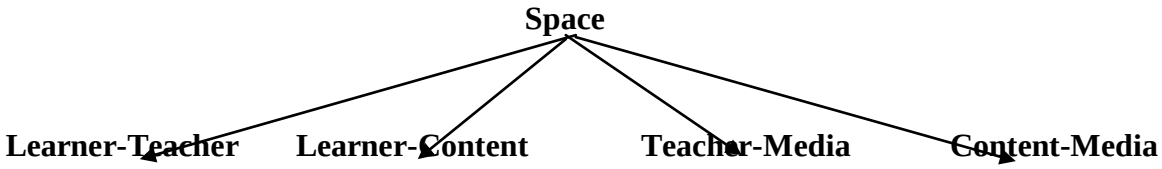


***Figure 1*: Pedagogical Four-sided Pyramid**

Space is put at the top of the pyramid in order to highlight the notion that it is dedicated, and the four other components revolve around it much like satellites. They coexist for a unique goal which is learning language. Such conceptualization will lead to bring about four modeling pedagogical situations:



Furthermore, four other interactions can take place at the base of the pyramid:

Learner – teacher - content	**Learner - teacher - media**
Teacher - media - content	**Learner - media - content**

It is worthy to note that the DDLL is not a method but a medium or an environment in which a wide variety of methods, approaches or pedagogical philosophies may be implemented. As a consequence, a true and full integration of DDLLs in foreign language pedagogy has become an urgent issue. An implementation policy depends very tightly upon a certain number of determining factors among which the educational policy of the higher authorities, the institutional vision, individual teachers' philosophy and practice in adopting and adapting this new environment, and learners' ability, and motivation (McCarthy, 1999). At the institutional level, the University, for example, a strategic technology planning must exist. It is a whole process of change that requires university agents, administrators, teachers and learners, to change their ideas about how teachers teach and how students learn. As for teachers, they need training, information and clear demonstration that the use of DDLLs enhances existing teaching by leading students to better understanding, manipulation or use of languages. A true integration presupposes also the generation of positive attitudes on the part of the learners.

4. A Digital Dedicated Language Laboratory: An Experiential Study

This study can help to refine our understanding of the new concepts of Technology-Enhanced Language Learning and demonstrate that the future of EFL teaching and learning in Algerian universities is in the normalization of such facilities. These days it is a common place for educationalists to talk of the pedagogical character of the new technologies. Davies, Bangs, Frisby, and Walton, (2005) claim that today's learners are digital natives. They use new technologies not only to learn and work but to socialize, get information, and entertain as well. They are prone to explore and exploit them in extraordinary manner and rate. It is a sterling fact that urges educational authorities as well as teachers to reconsider their beliefs about these learners, their needs and potentialities, and the urgent implementation of new technological facilities in foreign language classrooms. We live in a time of change; so DDLLs have to be redefined as valuable parts of daily English language instruction. University students will be more productive, self-determinant and responsible of their own learning. Moreover, with a certain degree of willingness, welcome and awareness, English language teachers will become more technologically competent.

4.1 Research Question and Aim

Drawing on what was said earlier, the study investigated *what benefits a DDLL can offer to EFL teaching and learning of 'classroom discussion'*. In this respect the aim of the study is not to challenge or support a teaching theory but rather find out new and better ways of doing things. Henceforth, particular goals for the ongoing utilization of a DDLL through a discussion-based approach to EFL teaching and learning are set to:

a. Empower Algerian university students' oral and interactive skills.
b. Enrich Algerian students' socio-cultural knowledge.
c. Lower any pervasive affective factors vis-à-vis English language learning
d. Give strength to English teachers' roles and responsibilities as active agents of pedagogical and technological change.

4.2 Methodology Design

Since the aim of the present study was to improve DDLLs practice and render it more efficient, an action research cyclical process was adopted in 2013 during a whole semester (14 weeks) at the Department of Foreign Languages, Mohamed-Cherif Messadia University, Souk-Ahras,

Algeria. Coghlan and Brannick's (2010) spiral model made up of four linked phases (Figure 2) was chosen and adapted to the purpose of the study.

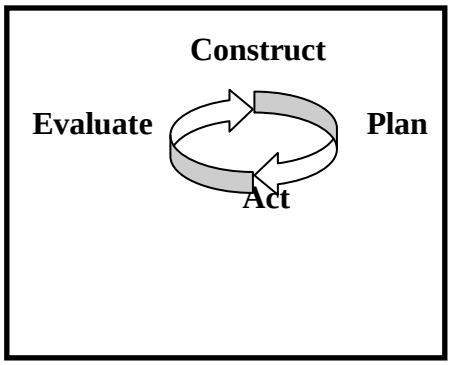


Figure 2: **Spiral Model of Action Research. (Adpated from Coghlan and Brannick, 2010)**

Collaborative action research as a cyclical reflective process with four main linked phases was chosen: *construct, plan, act*, and *evaluate*. It is an enquiry which aims at improving and rendering practice more efficient.

4.3 Participants

Over a 14-week period, 9 female and 5 male willing Master students from the Department of Foreign Languages were selected according to a convenience sampling protocol. They were informed that the learning sessions in the DDLL during that period were outside regular class hours and not compulsory. Every participant was asked to keep a journal to write remarks, ideas and even track changes to be discussed in a group meeting following each cycle.

4.4 Procedure

It is important to note that this study is concerned with the two first cycles. In cycle 1, the first phase, various attempts are made to construct an idea about the reasons and the motives behind the underuse of the DDLL by teachers and students at the Department of Foreign Languages. Once the problem was identified and data were gathered and interpreted through questionnaires and interviews, a plan for action was collaboratively decided. It addressed answers to six questions (Table 1): who (students), what (topic /content-based syllabus), how (teaching method), why (reasons / goals), where (DDLL), and when (time).

Table 1. ***Action Research (Cycle 1)***

Action Research (Cycle 1)					
Participants (Who)	Content (What)	Design (How)	Goal (Why/for what)	Setting (where)	Time (When)
14 students (master 2)	Use of the DDLL	Dialogic discussion	Acquiring technical competence	DDLL	Week 1

The third phase is action. The last stage deals with evaluation which involved assessing what was done, interpreting the effects of the action and whether there was an improvement or not.

On the basis of the results, interpretations and reflections, cycle 2 started with focus on discussion-based approach to English language learning. During phase one, the whole group of Master 2 (35 students) started a new topic; read a text on interpersonal communication, did some comprehension, grammar, and vocabulary activities in a normal classroom. Then, what to be done in the DDLL with the selected 14 students was decided and planned as it is shown in table 2. The action phase was concerned with the application of the three-folded discussion-based framework. The recorded data helped to reflect on what was practiced and identify issues for improvement during the next cycle.

Table 2. ***Action Research (Cycle 2)***

Action Research (Cycle 1)					
Participants (Who)	**Content (What)**	**Design (How)**	**Goal (Why/for what)**	**Setting (where)**	**Time (When)**
14 students (Master)	Good vs poor conversation styles	Framing + conceptual + application discussion	linguistic, sociocultural, pragmatic	DDLL	Week 2

4.5 Data Gathering and Analysis

Since the present study investigates the possibility to adopt the DDLL as a legitimate instructional tool to enhance EFL learners' communicative competence through a structured discussion-based approach, it was thought necessary to triangulate the data sources: **(a)** closed and open response questionnaires in order to collect and elicit data on the teachers and students' attitudes and experiences with respect to the utilization of the DDLL. **(b)** Systematic classroom observation of the whole learning context via audio-visual recordings. **(c)** Students' journals containing ideas, remarks, and comments. **(d)** Group meetings following each cycle.

As for the analysis of data, both quantitative and qualitative methods were used. At first, the qualitative data were analyzed separately then were compared and categorized (Table 3) according to Richards' and Rogers' (2001) scheme:

Table 3. ***Discussion-based Procedural Scheme (Adapted from Richards and Rodgers, 2001)***

Discussion-based Procedural Scheme	
***	Eclectic
Objectives	Interactional oral skills
Content	Topic-based
Activities	Communicative-focused
Instructional Materials	Content and objective-related
Teacher's role	Guide, facilitator, catalyst
Learner's role	More responsible but still requiring guidance

5. Findings

(i) Introduction to the Digital Dedicated Language Laboratory: Cycle 1

Traditionally, some researchers (Davies, Bangs, Frisby, & Walton, 2005) have subscribed to the belief that a language laboratory is useful when the teacher knows how to use it skillfully. Such competence and craftsmanship must not be swamped and disrupted by fear, reluctance, or ignorance. The findings that emerged from the response to the questionnaires destined to both teachers and students of the department indicate that the DDLL which was purchased and installed in 2008 has never been exploited but used as an ordinary classroom. The laboratory (Sanako Lab 100) was equipped with only one computer for the instructor station linked to 14 carrel stations for students arranged in U-shape, endowed with audio panels with high-quality digital audio, and headphones. The students asserted that they have never manipulated such facility. Instructions not to touch them were very clear. As for teachers, they argue that they do not have any idea on how to exploit the DDLL for three reasons: (1) they did not get any training; (2) they were instructed not to try it, and (3) the new learning/teaching model does not conform to their ideas, and so they choose to go on with the conventional teaching practices of oral skills. In this respect, Davies, Bangs, Frisby, and Walton (2005) have conclusively shown that in order to overcome such attitudinal problems, teachers need training, information and clear demonstration that the use of language laboratories enhances the existing teaching by leading students to better understanding, manipulation and use of the target language.

The results helped design cycle 1 which attempted to probe into introducing the DDLL to the 14 willing students. Eventually, they received explanations on the functionality of each component mainly the audio panel, and some instructions in terms of manipulation and security. The course lasted one hour and half during which students were encouraged to ask questions. It was observed that the students were very motivated and were able to manipulate the different tools. A surprising interaction was detected. Students supported each other in identifying the components and their use. Some other students suggested that recommendations posters should be pinned up.

During cycle 1, despite repetitive attempts, it was very hard to gather the N= 22 teachers of the department to discuss the workability of the DDLL; unfortunately only n=5 teachers decided to take up the challenge and play the game. These teachers were solicited to collaborate during the project. They observed the courses and took part in group meetings following each cycle.

(ii) Discussion-Based Approach to English Language Teaching and Learning:Cycle 2

The results of Cycle 2 provide insights into the importance of structuring the discussion. The teaching method was eclectic due to the fact that speaking is an extremely complex skill that necessitates not only a sufficient knowledge of the linguistic system in terms of syntactic and grammatical structures, vocabulary and pronunciation, but the ability to conduct a conversation and tackle problems according to some pragmatic, socio-cultural, and discourse rules. As for the content, the prompt that was chosen dealt with *interpersonal communication and identification of the good as well as the poor discussion styles.*

Based on the proposed model, the three types of discussion took place during the action phase.

5.1 The Framing Discussion

The findings revealed that the discussion was ensured because of, firstly, the right choice of the topic favored by the individual and social values of the students, and secondly the students' increased knowledge during the constructing phase that took place in an ordinary classroom. Henning (2008) referred to this situation as a *'low risk environment'*, where students were encouraged to comment, and react to the conversation styles of different people they meet on social occasions. A head projector was used to show some pictures associated with the topic and a pair-discussion session was set up by the teacher via the computer system. The pairs were randomized giving a chance to change the pairs after a short time so that each student was able to comment on the pictures with many students in a low risk environment. It was obvious that the teacher could hear what the students were saying and supply them with some information or directives such as not to use the mother tongue. The recorded data showed that there was some teacher guidance through follow up comments might be because it was the first experience for students. Surprisingly, the majority of students was at ease with the technology and excited to talk to each other in English.

5.2 The Conceptual Discussion

Conceptual discussion, though inductive and dependent on students' previous experience, is more teacher-guided. New ideas and concepts in relation to the main topic and to what was done previously were introduced. With the help of a head projector some descriptive texts along with the pictures were shown and the students were asked to match them and then decide on the good and bad discussion styles. It was a very enriching opportunity for the students to learn new vocabulary and adequate grammatical structures; they were motivated and interested in different things in the laboratory. A new session was created and group-discussion activity was selected. The system allowed forming three groups manually. Frequent explanations of key factual information were provided to students. From time to time, the 'intercom' was used to hear what was going on. Still, the recorded data indicated that some students did not respect communicative strategies. They talked at the same time and interrupted each other very frequently. With the help of the teachers, they acquired new notions on good and poor conversationalists such as: *the bragger, the bore, the interrupter, the liar, the gossipy, etc*. Some students commented upon their friends' behavior during the group-discussion activity accusing them as being interrupters. The researchers seized the opportunity and asked the students to comment such behaviors, whether good or bad using appropriate adjectives in a well-structured forms: *it's + adjective + to + verb / Gerund + is + adjective*. The activity necessitated direct teacher's cues, explanations, recapitulations, and reformulations.

5.3 The Application Discussion

This type of discussion allowed the students to apply and integrate what they learnt into a real setting experience (Henning, 2008). For the researchers, it was the ultimate opportunity to evaluate the students' new learning. Thus, they started a new session, selected the whole fixed group-discussion activity, and created a discussion question made available on the projector. Students were asked to discuss freely on the following prompts: *Have you ever met anyone who*:

- *Asks about other people's personal business?*
- *Always whispers secrets to his friends in front of other people?*
- *Interrupts someone else's story?*
- *Speaks foreign language in front of people who don't understand it?*

The students' progression to discussions was apparent. The experiment produced a remarkable transformative learning experience for the students. Students' longer coherent interventions using appropriate vocabulary and structural forms were striking. Most of the moves were made up of high frequency words such as basic evaluative adjectives, verbs, basic adverbs, discourse markers, modals. However some students used a lot of pause fillers, hedging and repeated what they said. Sometimes, their moves were truncated. They avoided interrupting each other. Each one had the opportunity to hold the floor for a certain time. They answered to each other eliciting questions. Most importantly, the students' moves outnumbered considerably the teacher's. At the same time teachers, as reported by Thornbury and Slade (2006), went on supporting students through cuing and few recapitulations, reformulations and repetitions.

6. Conclusion

The present paper aimed to explore the utility of the DDLL in a discussion-based approach to teaching and learning EFL. The choice of the action research was done on purpose to find out ways to improve the teaching and learning practices. Although the results cannot be definitive, they are indicative. They reveal that with a well-designed protocol and an intelligent exploitation of the DDLL potentialities, our students will be able to develop their English language learning (accuracy) as well as learn the art of taking part in discussions inside and outside the classroom. Overall, these results could foster other teachers to undertake other action research projects in their own institutions.

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The Analysis of Cohesive links and Content, Interactional Quality and Objective Measures Based on the Conceptual Framework of Nandi

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Abstract

The aim of this paper is to highlight the importance of cohesion in producing an interactive and meaningful discourse in harmony with the content, interactional quality and objective measure of the discussion forums in online discussion forums which contribute to knowledge in the course content which includes ideas and experiences. Discussion transcripts of five weeks of an online threaded discussion forum from a course entitled "Shaping the Way We Teach English, the Landscape of English Language Teaching" were taken and analyzed. The analysis of cohesive links was done based on the discourse analysis technique and the discussions are analyzed based on the content, interactional quality based on the framework of Nandi (2009). The results of the analysis revealed that the discussions which are long and deep have more usage of the cohesive links than surface discussions or replies. The analysis also highlights that the discussions are likely to fulfill the criteria proposed by Nandi and sharing experiences and ideas & the current practices that are practiced by different people in different places are mainly the content. The posts promote a deeper and more meaningful angle to the course content.

Keywords: Cohesion, content, discourse, Nandi Framework, online discussion

1. Introduction

Online learning systems have been described as web based learning environments consisting of digitally formatted content resources via the use of the World Wide Web and communication devices to provide communication link between the instructor and students where they can actively interact (Piguet & Peraya, 2000).Technology is the infrastructure, the bones of distance education, (Bates, 2005, p.3). As technology becomes the normal and expected means of communication and education, Bruce and Hogan (1998), point out, important changes occur in expectations about the abilities of the students have to acquire to be successful language users. Chappelle (2003) says that, "the bond between technology and language use in the modern world should prompt all language professionals to reflect on the ways in which technology is changing the profession of English language teaching in particular and applied linguistics as a whole." Widdowson (1983:10) opinion is that Clark (1983) claims that technologies are merely vehicles that deliver instruction and do not themselves influence student achievement. Colleges also have emphasized the creation of fully online degree programs, and 62 percent of the schools surveyed now award degrees entirely through distance education.

Salmon (2005) contends that online discussion promotes active thinking and interaction with others. Levenburg and Major (2000) suggest that assessing participation (a) recognizes students' workload and time commitment with respect to online discussions and (b) encourages students to participate in required learning activities associated with the discussions. Finally, a number of researchers agree that assessment criteria can be used as a guide to students for learning outcomes and expected quality of thinking (Celentin, 2007; Ho, 2002; Kneser, Pilkington, & Treasure-Jones, 2001; McKenzie & Murphy, 2000) (cited inn Guy and Wishart, 2009). Mazzolini and Maddison (2007) classified the instructor participation into four categories: 1.asking questions; 2. answering the questions posted by the students; 3. Combination of answer and follow up questions; and 4. other administrative or housekeeping related posts.

2. Theoretical Framework

The Internet and communication mediated by this electronic information network have gradually introduced their own text formats and, consequently, new genres. According to Vogel, Online discussions are referred to as Internet multi-party conversations, can be realised either in the form of synchronous groups taking place in near real time or in the form of asynchronous groups (or asynchronous discussion or chat) (cf. Herring 2008: 3), which happen in postponed time. The typical properties of discussion groups are non-linear interaction, importance of personal and idiosyncratic features (Crystal 2001) and lack of most fundamental properties of conversation, such as turn-taking, adjacency pairs, floor Taking (Herring 1999). One of the most common means of asynchronous communication is the "threaded" discussion that Hewitt (2005, p. 568) defines as "a hierarchically organized collection of notes in which all notes but one (the note that started the thread is written as 'replies' to earlier notes." Because of its hierarchical structure, threading allows students to trace conversational chains of messages that relate to the original subject (cited in Guy and Wishart, 2009). Interactive Written Discourse (IWD) in synchronous online dialogues, Ferrara, Brunner, and Whittemore (1991) define IWD as a newly emerging register with characteristics of both written and spoken language. Although synchronous and asynchronous online interaction differ in significant ways (Lapadat, 2002), both are newly emerging forms of written discursive interaction, and both offer opportunities to observe how participants implement discursive devices in a new communicative context and go about establishing conventions of use.

Conceptual Framework

Therefore, this paper looks into the discourse of online discussion forums from the angle of lexical cohesion, focusing cohesive ties identifiable in the texts of the chosen genre. "Interaction" has been recognized as the most significant attribute in any online system or course. The importance of interactivity is highlighted by several researchers who have conducted research in online learning systems (Maor & Volet, 2007; Al-Mahmood & McLoughlin, 2004; Sharples, 2000). Without interactivity, a discussion forum simply becomes a bulletin board for posting messages and information (Hamilton, Chang and Balbo, 2012, p.684). Cohesion is a semantic concept, defined as "relations of meaning that exist within the text, and that define it as a text." (Halliday and Hasan 1976: 5). Cohesion works within as well as outside sentence boundaries, following usually the natural order of distribution of information from the given to the new. As a typical property of any text, Halliday and Hasan claimed that, "every sentence except the first exhibits some form of cohesion with a preceding sentence, usually with the one immediately preceding. In other words, every sentence contains at least one anaphoric tie connecting it with what has gone before." (1976: 293). Lexical cohesion contributes importantly to creating the texture (Halliday and Hasan 1976), a distinctive inherent quality of a text, and increases the overall coherence of the text. A ***conceptual framework*** proposed by Nandi et. al. (2009) adapted from the works of Henri (1992), Newman, Webb and Cochrane (1996) and Garrison, Anderson and Archer (2001) defines several themes on which qualitative online interaction can be designed and assessed. In order to assess each criterion the authors have separated the above criteria into three broad categories:

- **Content:** demonstrating the expertise of the learners in the discussion topic, by which the talent of the learners can be assessed.
- **nteraction quality:** looking at the way learners interact with each other online in a constructive manner, which implies that the contribution should be collaborative and meaningful for the community of learners
- ***Objective measures:*** highlighting how consistently and frequently learners participate in discussion.

3. Statement Of The Problem

Online courses give a platform for discussions to all the participants of the courses on the topic or the content and share experiences and ideas with other participants in the same course. To identify the main idea from long and deep discussions is difficult as there may be less or no use of cohesive devices and coherence in writing the posts on discussion forums. As the use of cohesive devices in discussions enhance the meaning and make it understandable and readable to the readers, not all the people use cohesive links in discussions as they assume it is an informal discussion and end up posting mixed up ideas which makes it difficult for the readers to understand.

4. Research Questions

a. What are the cohesive links used in different context by most of the participants?
b. What are the expertise of the learners demonstrated, the interactional quality and the objective measures in the discussions?

4.1 Research Objectives

a. To identify the cohesive links used by most of the participants and the context.

b. To investigate the expertise of the learners demonstrated, the interactional quality and the objective measures in the discussions.

5. Literature Review

Online Learning

The terms e-learning and online learning are often used interchangeably, although e-learning can encompass any form of telecommunications and computer-based learning while online learning means using specifically the internet and the web. Online learning allows participants to collapse time and space (Cole; 2000), however the learning materials must be designed properly to engage the learner and promote learning. According to Rossett (2002), online learning has many promises but it takes commitment and resources and must be done right. Ring and Mathieux (2002) suggest that online learning should have high authenticity, high interactivity and high collaboration. Khan (1997) defines online instruction as an innovative approach for delivering instruction to a remote audience using the web as the medium. Online learning involves more than just presentation and delivery of materials using the web: the learner and the learning process should be the focus of online learning. " (Anderson, 2008, p.16-17). Moore and Kearsely (2012) says that "Distance education courses are open to public scrutiny since they are delivered by mediated programs that can accessed easily. The growth of distance education implies major changes of culture as well as the structure of those schools and training organizations that decide to become involved." "MOOCs are a recent development in distance education. Online language courses have normally focused on formal aspects and on written skills, dealing mainly with vocabulary acquisition and grammatical practice and limiting the activities included to reading comprehension and closed written production, with a minority of them offering closed listening comprehension activities" (Martín-Monje, Barcena & Read 2013). "Blended Learning according to Clayton Christensen Institute for Disruptive Innovation is a "a formal education plan program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path or pace (Bailey, Schneider & Ark, p. 15)." "Digital learning allows schools to realize many areas of cost savings especially when moving to an environment in which many traditional spending areas will naturally decrease like paper, textbooks, manuals etc. (ibid: p-28)"

Asynchronous Interactions

Online asynchronous discussion is argued to have many benefits for student learning, such as helping learners negotiate higher levels of understanding, share and develop alternative viewpoints (Rovai, 2000). In an earlier paper we developed a conceptual framework for assessing interaction quality in online discussion forums and noted that existing criteria do not focus on interaction or engagement or quality but instead they focus on content and objective measures such as participation rate (Nandi, Chang & Balbo, 2009). According to Hawkes and Dennis (2003), establishing clear criteria for the assessment of online discussion is critical for successful use of this medium. Brannon and Essex (2001) stated the need for clear communication protocols and requirements for posting, and suggested that the continued development of an innovative evaluation framework is necessary to improve the quality of contributions to an online discussion. Klisc, McGill & Hobbs (2009) suggested that incorporation of assessment of participation has a positive impact on learning outcomes. Discussion forums have frequently been used successfully as communication tools in online learning environments to facilitate interaction between students to share knowledge (Rovai, 2002; Bradshaw & Hinton, 2004; Berner, 2003). There are different levels

of participation in discussion forums. Firstly some are "lurkers" (Salmon, 2003) i.e. who just read the messages and don't participate. They may learn by reading the posts and incorporating the ideas into their assignments (Guzdial and Carroll, 2002). Secondly some people read the messages and treat it as a notice board posting their own position and having limited interactivity. Thirdly the participation is interactive and used to its full potential (Ho, 2002) for learning where collaboration and interaction facilitates the achievement of good learning outcomes (cited in Wishart and Guy, 2009).

Lexical Cohesion

According to Halliday and Hasan (1976), the primary factor of whether a set of sentences do or do not constitute a text depends on cohesive relationships between and within the sentences which create texture. Malmkjar (2004, p.543) is of the opinion that "cohesion concerns the way in which the linguistic items of which a text is composed are meaningfully connected to each other in a sequence on the basis of the grammatical rules of the language, and formal devices signal the relationship between sentence. Cohesion connects certain grammatical or lexical features of the sentences to the text of the other sentences in the text. Halliday and Hasan (1976, p.14) argue that cohesion is expressed partly through the grammar and partly through the vocabulary, hence grammatical cohesion and lexical cohesion. "It is necessary to consider that cohesion is a semantic relation but, like all the components of semantic system, it is realized through the lexico grammatical system. The lexico grammatical system includes both grammar and vocabulary. Of the cohesive types reference, substitution, and ellipsis are grammatical; lexical cohesion is lexical; and finally conjunction is on the borderline of the two, mainly grammatical, but with a lexical component in it" (Halliday and Hasan 1976. p.5). According to Schiffrin, Hamilton and Tannen (2001), "Conjunction is concerned with resources for connecting messages, via addition, comparison, temporality, and causality. This system subsumes earlier work on linking between clauses in a framework which considers, in addition, the ways in which connections can be realized inside a clause through verbs, prepositions, and nouns, (p.35)". Cohesion used to be described as "the way certain words or grammatical features of a sentence can connect that sentence to its predecessors and successors in a text" (Hoey 1996: 3). Cohesion can also be realized by implicit (zero) signals, defined as follows: "those surface representations which are realized by a phonologically null anaphoric or cataphoric element, the explicit reading of which is recoverable on the basis of commonly shared knowledge of the language system in general." (Tárnyiková 2009:52). Brown & Yule (1983) focused much on the process of analyzing written discourse (cited in Gang and Qiao, 2014)

Methods to Analyze

There are different methods for text analysis which include content analysis, grounded theory, ethnographic methods, narrative semiotics, critical discourse analysis, distinction theory text analysis etc.

However, for this study the method of "Content Analysis" is exploited which analyze both cohesion and coherence. Cohesion in this respect refers to the components of the textual surface whereas coherence constitutes the meaning of the text. Therefore, the systematic analysis of the relationship between these two dimensions is confined to linguistic methods (Titscher, Mayer, Wodak and Vetter, 2000). Content analysis is the longest established method of text analysis among the set of empirical methods of social investigation (Holsti, 1968, Silberman, 1974, Herkner, 1974). All material especially generated for psyco-social research (group discussions, depth interviews, and

meeting reports, etc. can also be subjected to content analysis. We have not yet found the limits to the application of content analysis and related software. The Internet provides a wealth of "free" data for researchers and curious data analysts to conduct a variety of investigations, which could generate unique and powerful information and could even lead to useful and rich conclusions" (Frietas, Moscorala, Jenkins, (1998). Zhang and Wildemuth (2009, p. 308) outlining that "qualitative content analysis goes beyond merely counting words or extracting objective content from texts to examine meanings, themes and patterns that may be manifest or latent in a particular text".

6. Research Methodology

The research design exploited for conducting this research is Qualitative Content Analysis. Weber (1990, p. 117) defines as "content analysis is a research method that uses a set of procedures to make valid inferences from text." Zhang and Wildemuth (2009, p. 308) outlined that "qualitative content analysis goes beyond merely counting words or extracting objective content from texts to examine meanings, themes and patterns that may be manifest or latent in a particular text". Content analysis enables a process to systematically examine the quality of learning in online discussions (Gunawardena et al., 1997). Henri (1992) described computer conferencing as a "gold mine of information" (p. 118) that would provide researchers a rich resource to analyze and advance online learning.

Use of content analysis to assess online discussions has increased over the past 20 years, just as Henri had predicted, but concerns about lack of uniformity and disclosure of the analysis methods have arisen (De Wever et al., 2006; Rourke et al., 2001). Issues in comparing content analysis studies of online discussions have arisen due to a lack of consistency in the different analysis instruments used (Rourke & Anderson, 2004). "This lack of replication (i.e., of successful applications of other researchers' coding schemes) should be regarded as a serious problem" (Rourke et al., 2001, p. 6). Consequently, research literature has stressed the need for more studies to employ similar instruments (T. Anderson, 2005; De Wever et al., 2006), which in turn should increase the reliability and validity of these types of studies (Stacey & Gerbic, 2003).

7. Data Collection

The data is collected from five weeks of discussions in a discussion forum of an online course entitled "**Shaping the Way We Teach English, the Landscape of English Language Teaching"** by University of Oregon offered on a mooc platform COURSERA which is free and accessible to all.

Table.1 ***Course Overview***

COURSE	Shaping the Way We Teach English, the Landscape of English Language Teaching"
PLATFORM	COURSERA BY University Of Oregon
PARTICIPANTS	Lecturers, teachers and trainee students
DURATION	5 WEEKS

SYLLABUS VIEW	Week 1: AUTHENTIC MATERIALS AND REALIA Project overview, introductions; authentic materials and realia that really motivate learners Week 2: PAIR AND GROUP WORK FOR COLLABORATIVE LEARNING Using small groups to make your class more communicative Week 3: CRITICAL AND CREATIVE THINKING Creative and critical thinking to drive learning Week 4: LEARNER FEEDBACK AND ASSESSMENT Formative assessment and error correction in the classroom Week 5: LANGUAGE IN CONTEXT Language structured by themes and topics in the curriculum

8. Data Analysis

The discussion forum transcripts for each week of the course which is the required forum as per the course developers where the participants have to participate are being taken and analyzed. Maximum of range of the posts are from 1- 100 posts for all the five weeks. Brannon and Essex (2001) stated the need for clear communication protocols and requirements for posting, and suggested that the continued development of an innovative evaluation framework is necessary to improve the quality of contributions to an online discussion. The first part of the analysis presents the evaluation of the participation and quality postings for online discussions and the second part of the analysis highlights the range of cohesive devices used by the participants in the discussion forums.

The Data is analyzed in two parts:

1. To answer the ***first research question***, the technique of discourse analysis is employed to find out the range of cohesive devices used in the discussions.
2. To answer ***the second research question***, the analysis is based on the criteria proposed in the framework of Nandi et. Al. (2009).

8.1 The framework of Nandi et. al. (2009) highlights criterion that have separated the above criteria into three broad categories: Content, .Interaction quality & Objective measures which are being explained.

The criteria from the framework is shown in (rubric 1.1). The analysis will include all these sub-criteria under the bigger category of criteria.

Content	a. Clarification b. Justification or judgment c. Inferencing or interpretation d. Application of knowledge (relevance) e. Prioritization f. Breadth of knowledge
Interaction quality	a. Critical discussion of contributions b. New ideas/solutions from interactions. c. Sharing outside knowledge or expertise d. Use of social cues or emotions to engage with participants
Objective measures	a. Participation rate b. Consistency of participation

9. Results And Discussion

The results are shown according to the analysis of the discussions and the range of cohesive devices used for each week discussion transcripts. The results of the kind of discussions include the content, interactional quality and objective measures which are based on the criteria proposed by Nandi. Therefore, the results are shown based on the ***conceptual framework (Nandi et al, 2009) and discourse analysis technique*** to identify the range of cohesive devices in the form of tables to make it clear according to each week.

9.1 TABLE-A- WEEK 1 DISCUSSION FORUM ANALYSIS
9.2 TABLE-B- WEEK 2 DISCUSSION FORUM ANALYSIS
9.3 TABLE-C- WEEK 3 DISCUSSION FORUM ANALYSIS
9.4 TABLE-D- WEEK 4 DISCUSSION FORUM ANALYSIS
9.5 TABLE-E- WEEK 5 DISCUSSION FORUM ANALYSIS

9.1. Kind of discussion and the cohesive devices used in week 1 discussion forum

Table-A	**Week 1 Discussion Forum Analysis (62 Posts)**
Kind of discussions	***Content*** • The posts are more like justification of their ideas, sharing ideas and their personal preferences. • The discussion gives new ideas as the participants share their experience with the other members. • The discussions are combined from the information shared by the other participant. • Language errors are present. • Posts are repeated by some participants. ***Interaction quality*** • Some discussions are deep and long where they describe their experience and discuss their strategies of teaching. • There are some critical discussions. • There are surface discussions where participants just point out the main point from the previous post. ***Objective measures*** • Reasonable consistency in the participation rate. • Participants take part in discussions actively.
Range of cohesive devices	• Deep and long discussions have range of cohesive links. • Surface discussions have only "AND" as a cohesive link. • Some posts do not have any cohesive links. • Examples: ***And, for example, therefore, since, because, also, than, so, or, in order to, like, but, however, whereas, moreover, then, whether, to sum up.***
Frequency of occurrence	And- **44** For example- **3** Therefore- **1** Since- **1** Because- **4** Also- **2** Than- **1** So- **7** Or- **6** In order to- **2** Like- **1** But-**5** However- **2** Whereas-**1** Moreover- **1** Then- **1** Whether -**1** To sum up- **1**

9.2 ***Kind of discussion and the cohesive devices used in week 2 discussion forum.***

Table- B	Week 2 Discussion Forum Analysis (100 Posts)
Kind of discussions	***Content*** • The posts are more like justification of their ideas, sharing ideas and their personal preferences. • The discussion gives new ideas as the participants share their experience with the other members. • The discussions are combined from the information shared by the other participant. • Language errors are present. • Posts are repeated by some participants. ***Interaction quality*** • Some discussions are deep and long where they describe their experience and discuss their strategies of teaching. • There are some critical discussions. • There are surface discussions where participants just point out the main point from the previous post. ***Objective measures*** • Reasonable consistency in the participation rate. • Participants take part in discussions actively.
Range of cohesive devices	• Deep and long discussions have range of cohesive links. • Surface discussions have only "AND" as a cohesive link. • Some posts do not have any cohesive links. • Examples: ***And, for example, therefore, since, because, also, than, so, or, in order to, like, but, however, whereas, moreover, then, whether, to sum up.***
Frequency of occurrence	And- **44** For example- **3** Therefore- **1** Since- **1** Because- **4** Also- **2** Than- **1** So- **7** Or- **6** In order to- **2** Like- **1** But-**5** However- **2** Whereas-**1** Moreover- **1** Then- **1** Whether -**1** To sum up- **1**

9.3 ***Kind of discussions and the cohesive devices used in week-3 discussion forum.***

Table-C	**Week 3 Discussion Forum Analysis (100 Posts)**
Kind of discussions	***Content*** • The posts are more like justification of their ideas, sharing ideas and their personal preferences. • The discussion prompts the others to give their ideas and interpret others idea and critique as the participants share their experience with the other members. • The discussions are combined from the information shared by the other participant. • New ideas and creativity is included in the discussions. ***Interaction quality*** • Some discussions are deep and long where they describe their experience and discuss their strategies of teaching. • There are very few surface discussions where participants just point out the main point from the previous post. ***Objective measures*** • Reasonable consistency in the participation rate. • Participants take part in discussions actively.
Range of cohesive devices	• Deep and long discussions have range of cohesive links. • Surface discussions have only "AND" as a cohesive link. • Some posts do not have any cohesive links. Examples: ***And, between, therefore, in addition, because, also, than, so, or, such as, but, however, then.***

Frequency of occurrence	And- **46** Between- **1** Therefore- **1** In addition- **1** Because- **2** Also- **3** Then- **6** So- **5** Or- **6** Such as- **1** But- **18** However- **3** Thus- **2**

9.4 *Kind of discussion and the cohesive devices used in week 4 discussion forum.*

Table-D	**Week 4 Discussion Forum Analysis (14 Posts)**
Kind of discussions	***Content*** • The posts are very few and only few participants share idea restrictively. ***Interaction quality*** • Some discussions are deep and long where they describe their experience and discuss their strategies of teaching. • There are no surface discussions. • The discussions are not coherent. ***Objective measures*** • No consistency in the participation rate.
Range of cohesive devices	• Deep and long discussions have range of cohesive links. • Some posts do not have any cohesive links. • Examples: ***And, both, also, so, since, but, then, therefore, for example.***
Frequency of occurrence	And- **12** Both- **1** Also- **1** So- **1**

	Since- **1** But- **4** Then- **1** Therefore- **1** For example- **1**

9.5 Kind of discussion and the cohesive devices used in week 5 discussion forum

Table-E	**Week 5 Discussion Forum Analysis (48 posts)**
Kind of discussions	***Content*** • The posts are more like arguments of their ideas, sharing ideas and justifying personal preferences or practices. • The discussion prompts the others to give their ideas and interpret others idea and critique as the participants share their experience with the other members. • The discussions are combined from the information shared by the other participant. • New ideas and creativity is included in the discussions. • There are some language errors in the posts. ***Interaction quality*** • Discussions are deep and long where they describe their experience and discuss their strategies of teaching. • There are very surface discussions where participants give answers for the previous posts. ***Objective measures*** • Reasonable consistency in the participation rate. • Participants take part in discussions actively.
Range of cohesive devices	• Deep and long discussions have range of cohesive links. • Surface discussions have only "AND" as a cohesive link. • Some posts do not have any cohesive links. • Examples: ***And, between, because, then, so, or, such as, but, however, then, as well as, on the contrary, first, second, also, further, both, for instance, for example, consequently, thus.***

Frequency of occurrence	And- **8** Between- **1** Because- **6** Then- **1** So- **2** Or- **1** Such as- **1** But- **7** However- **3** Than- **1** As well as- **2**	On the contrary- **1** First- **1** Second- **1** Also- **2** Further- **1** Both- **1** For instance- **1** For example- **6** Consequently- **1** Thus- **1**

9.6 Overall Analysis

There are range of different types of cohesive devices used by the participants in order to connect ideas and discuss. The participants used different types of cohesive devices to perform ***different actions like to show contrast, to explain, to connect two statements, to give examples, to summarize, highlight or to list down the steps of the procedures in the research***. The range of cohesive devices for used for different types of cohesion like listing/enumeration, giving examples, highlighting/reinforcement, contrast and comparison, connecting and addition, consequence/result are formulated into seven broad categories and the range of cohesive devices used for each category are divided accordingly which are shown in table below. Each category is being explained below to give a deep insight in the usage of cohesive devices of the same type.

Categories of cohesive devices	Examples of the cohesive devices fro forums
1. Result/consequence/summary	Therefore, thus, to sum up, so, then, consequently.
2. Contrast and comparison	Or, but, in contrast, whereas, on the contrary, also, however. Like, whether, than, more, as well as
3. Giving examples/exemplification	Such as, on the other hand, for example instance
4. Reinforcement/addition	In addition, further, also, next, then, mo important.
5. Connective/position/highlighting/ Giving reasons	And, between, because.
6. Listing/enumeration/time &sequence	First, second, last, further, next.

Explanation Of Each Category

The above categories shows that different cohesive devices have same function of connecting ideas, creating flow among the knowledge and make it more readable and understandable but

possess different meanings depending on the context. They are used at suitable places where the cohesive devices play the different roles which are explained below.

1. ***To summarize or give results/consequences***, the devices used are therefore, thus, to sum up, finally, so, then, in total. Devices ***like to sum up, then*** are being mostly used to show the results. The device ***"then"*** is used to highlight the time and sequence of the process and also indicate the upcoming process or results for a particular process as all these devices have the same function but give different meaning in different sentences to summarize or conclude.
2. ***To compare and contrast*** the devices used are ***or, but, on the contrary, however, whereas, also, like, whether, than***. These devices help in showing contrast and comparison to show the relationship between the information.
3. ***To give examples/exemplification*** devices like ***such as, for example, for instance, on the other hand*** are used which perform the same function but vary in their usage.
4. ***To show reinforcement/addition*** the devices used are ***in addition, further, also & next*** which show addition or reinforcement in the existing knowledge of fact and showing addition of steps used further, highlight information which shouldn't be ignored.
5. ***To give reasons/ show position/highlighting*** devices such as ***between, because, And*** are used. The device ***"between"*** show the reason for differences between opinion or result or information provided by any source. ***"Because"*** give reasons for the information present or the findings and "more important" highlights the main reasons.
6. ***To list or enumerate,*** devices ***like first, second, last, further, next*** are used. These devices are used to list down the steps or give information in a sequential manner. They help to sequence the process steps, information and the results or findings.

AND: This is the most common cohesive device used everywhere and is used mostly by the participants in the discussion forums either to connect two statements, give equal importance to the two statements and also to create coherence within the forum. The frequency of occurrence of this device is highest among all which is **170 times** in total in all week's forum.

Discussion

The key focus of this research was on the kind of discussions done by the participants and the range of cohesive devices used by the participant's in discussion forums. By analyzing discussion forum, I have uncovered the kind of discussions and the range of cohesive devices used for online discussion forums. Therefore, it is clear that the content of posts meet Nandi's Framework of providing a content which includes justification, clarification, prioritization, Inferencing which can only be understood and easily readable if a range of cohesive devices will be used by the participants

As mentioned earlier, I have compared the findings of the data collection with the set criteria from the conceptual framework (Nandi et al., 2009). Results show that almost the theme of the discussion posts are of sharing ideas, creativity and sharing personal practices and experiences. There are arguments, justifications and also give a scope for others to add in the information. An extra qualitative analysis of discussion also came out of the data analysis which is discussed below in detail**.**

Quality Of Posts: In general, the quality of the posts consisted of the criteria of the conceptual framework by Nandi et al. (2009) which are clarification, justification or judgment, Inferencing or interpretation, application of knowledge (relevance), prioritization & .breadth of knowledge. The participants make maximum use of the discussion forum to share their ideas, justify their point of

views by applying knowledge relevant to the topic and increasing the scope for the others to contribute in knowledge. Therefore, the quality of posts overall in the discussion forums was high and it did not reflect poor contribution of information.

Interaction Quality: The criteria for interaction quality set in the framework includes critical discussion of contributions, new ideas/solutions from interactions, sharing outside knowledge or expertise, use of social cues or emotions to engage with participants. All these features of interaction were very evident in the discussion transcripts as all the participants share their experiences and practices in their countries and places which are engage the social cues of the participants. There is a lot of sharing of ideas and creativity, practices which can be used to improve the previous practices and critically contributing to the information is also prevalent in the discussions.

As seen from the above two criteria, the third criteria which is **OBJECTIVE MEASURES** according to the framework fulfills automatically as it shows active and consistent participation in all weeks except in week-4 which is evident because of the least number of posts among all the weeks.

Cohesive Devices: As seen from the analysis, the discussions which are deep and long and have cohesive links whereas discussions which are surface and responses to the previous posts using phrases like I agree with…, Thanks for sharing do not contain any cohesive link and also disturbs the coherent factor in the discussions. Most of the discussions are connected with only one cohesive link which is **"AND"** and some of the posts which are descriptions, arguments or justifications consist of a number of cohesive devices as shown above. These cohesive devices helps to bring in the coherence factor which shows the flow of the information throughout the posts. But some surface or one line discussions break the coherency in the discussion forums. The most commonly used cohesive devices throughout the course are ***And, For instance,*** therefore, as well as, because, also, on the other hand, than, so, or, most important, in order to, like, such as, but, however, between, for example.

Therefore based on the analysis and discussions, implications have been formulated to teach cohesion as the main element in online writing skills**.**

Implications

English for specific purposes comes with a specific context where language in that context is the focus when teaching is concerned. As cohesion being one of the most important aspects of language is independent of any context, so any written discourse whether in an online course or non-online course has to be cohesive and considered as a major element to be taught to the students.

The idea or approach of Widdowson (1983) model named "A three tier model", which was introduced to account for actual language use, has been taken into consideration to meet the needs of the students as Widdowson model is primarily concerned with the theoretical background of to teaching of English for specific purposes and is a discourse model that is firmly based on schema theory. The model therefore contains three levels:

a. Systematic level (linguistic competence)
b. Schematic level (communicative competence)
c. Procedural level (communicative capacity)

As Fulcher (1998) explains that the procedural level is significantly different from 1 and 2 levels and it is this level which deals with performance issues or how the reader establishes a mental representation of the text is able to predict what is coming in the text, the approach adapted is based on this level of the three tier model. It is concerned in the ways in which a reader goes about

interpreting the schemata of the text. Widdowson distinguished between frame procedures and routine procedures where frame procedures are said to explain the ability to utilize from frame schemata and routine procedures are said to explain the ability to utilize from routine schemata. Frame procedures are defined by those that establish and maintain reference especially with regard to cohesion and working out "given" from the new information (Widdowson, p.41-42, 67) (cited in G. Fulcher, 1998). Fulcher further explains that through these procedures the reader fits new information into frame. The procedures involve tracing cohesive links and understanding the relationship of information as belonging to a specific frame, which is the engagement of schematic knowledge in processing text meaning. G. Fulcher (1989) elaborated more on cohesion and frame procedures that "as cohesion is concerned with both endophoric and exophoric reference and lexical cohesion, it may be said that the frame procedures are those concerned with the interpretation of and formation of ideational schemata." Ideational schemata are related to conceptual organization (Widdowson, 1983, p55-56).

Therefore, the approach to teach cohesion so as to able the students to apply their knowledge of language use and its applications in understanding and comprehending the text is inspired by the idea of Widdowson (1983) for frame procedures in the procedural level of his three tier model. It gives a clear insight as in how the schema i.e. organizational concept of a text plays an important role in comprehending the text and understanding the relation of information sentence by sentence.

The context for teaching cohesion could be decided by identification of the skill to be taught as it plays an important role in all the skills which should be organized well and delivered cohesively and coherently as Hasan (1984) cogently argued that there is a string connection between cohesion and making sense of coherent text (cited in Fulcher, 1998).

Conclusion

Cohesion is very important for any kind of written discourse. The ideas highlighted in any kind of written discourse i.e. discussions for this study requires cohesive links to create transitions from one idea to another. Any written discourse should possess language which is readable and understandable. As already seen in the analysis that most of the discussions are long where the participants share their experiences and ideas with others in the forum, it is very important to write cohesively to make others understand and make use of your experiences and ideas. It helps in improving the content and the interactional quality of the discussions on discussion forums. It also increases the participation rate when the participants have the ability to connect ideas, justify, and clarify their view, perceptions, and their practices to different people on the forum. If written cohesively, the content makes sense and shows value whereas scattered ideas and content mostly result as just some text written which do not possess any value and meaning.

Therefore, any kind of discussions done online should be written more cohesively as the online platform makes it available for a larger audience. Online learning helps us to spread our ideas and creativity among larger audiences. Language can never be separated from any kind of discourse.

About the Author:

Aysha Mohd Sharif is a post graduate student of MATESP (teaching English for specific purposes) in International Islamic University Malaysia doing specialization in teaching English for specific purposes, developing courses and materials for language teaching, using technology in language teaching using the principles of applied linguistics. She is also a blogger who have developed blogs for online courses and materials and a researcher.

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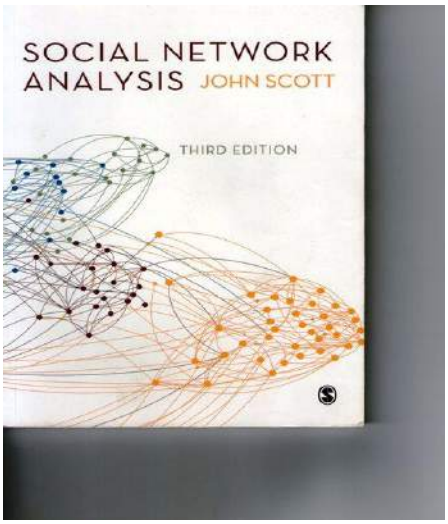
Book Review

Social Network Analysis



Author: **John Scott**
Title of the Book: **Social Network Analysis**
Year of Publication: 2013
Publisher: Sage, United Kingdom
Number of Pages: 201
Reviewer: **Dr. Nadia IDRI,** University of Bejaia.

In such a digitalized and modernized world, social relations have known a new development and became characterized by online world-wide levels. This digital form of the world is what we concretize by means of social networking and social media that are becoming omnipresent in the individual's daily life. Hence, methods and approaches to analyze such new social structures of this new social life are permanently required. The existence of Social Network Analysis (SNA) becomes a necessary issue for not only researchers but also for practitioners in many disciplines. Stemming from this principle, we consider Scott's third edited book on SNA after its publication in 1991 and 2000 as an updated resource for all social network analysists.

The book is written in nine chapters and 185 pages. Scott, in his third edition updated and revised its content according to the changes that took place during the last decade in the field of SNA. The author facilitated its usage through its well-organized form and simplified language. That is, the book contains helpful indexes for authors and subjects, provides supplement of comments and notes on each chapter as well as the usefulness and the objective of each chapter. The book includes diversified references that are more likely helpful in understanding social relations from both a diachronic and synchronic standpoints. Scott's analysis of the phenomenon stems from the origin of social relations' analysis and structures of these relations since the issue is not novel in social anthropology mainly. Then, Scott expanded his explanations to online social structures; a phenomenon that knows a rapid change in the last decade. That what makes his references stem from 1908 to 2012; where he presented the evolution of the phenomenon through a diachronic analysis of social networking. For this reason, he added a totally new chapter compared to the two first editions where he focused on recent changes on network dynamics and change over time.

The book represents and intellectual enterprise in the field of SNA. Scott reported historical knowledge about social networks' development. To achieve such a goal, he enriched the related sources to this phenomenon, questioned the way social networks has been analyzed putting focus on the rapid development in this concern. To achieve such an aim, the author offered an explicit explanation of key concepts employed in assessing network structure such as density centrality, cliques and blocks. In addition, he tried to translate mathematical discussion into more comprehensible words using a less technical form this is more likely to broaden the book's readership especially that Scott used multidisciplinary resources and illustrations that ranges from nursing, biology, anthropology, economics, etc. It is evident that all disciplines make use of social networks since the 1970's where SNA appeared. In this epoch, a wide number technical work and specialist applications saw light to analyze the nature of social actions, social structure and relations that characterize social networking websites like facebook and twitter. However, the provided analysis methods required mathematical knowledge and highly technical literature existed and this led Scott to write the book and help researchers with little mathematical knowledge. In this book, Scott presented different types of data appropriate to SNA. Here, details about kinship patterns, community structure, interlocking directorships are highlighted.

In his first chapter, Scott introduced the many types of data that call upon the use of various types of analysis methods; "relational data", "ideational data" "attribute data". The book provides illustrations about existing program for analysis such as UCINET and PAJEK. Scott also put focus on socio-metric analysis using graph theory methods (Chapter Two). Then, the author has gone through interpersonal configurations and cliques. In this, he focused on different approaches from various disciplines naming formal models, the Harvard breakthrough and social physics (Chapter Two). All the above content makes part of the two first chapters. The first is devoted to networks and relations whereas the second deals with the development of SNA.

After the presentation of SNA and its development, Scott moved in his third chapter to relational data and its analysis. According to Scott, SNA is more appropriate for relational data and the methods depend on the availability of these data rather than attribute data. The author worked this chapter to help the user of his handbook learn how to collect this kind of data, store and prepare it for SNA. Sampling is highlighted in relation to specific areas before dealing with the preparation and the organization of relational data; which according to Scott, are not covered

in existing texts the thing that led him cover a number of such issues as gaining access, designing questionnaires, sampling, non-response treatment, etc. (Chapter 3). All in all, this chapter is devoted to handling relational data in a matrix form focusing upon transposing, adding and multiplying of matrices.

The handbook offers a simplified presentation of the graph theory which is based on the sociogram use where matrices are used and translated into formal concepts and theorems. This is the starting point of any SNA. The graph theory is generally used to simplify the complex mathematical nature of the analysis to describe and analyze networks and their features in a more general manner. Scott illustrated his explanations related to graph theory and sociograms with different types of matrices and graphs such as adjacency matrix, alternative graph diagrams, directed graph (Chapter 4). In doing so, Scott has gone through the explanation of related terms like the concept of density; as crucial in the theory. This concept was elucidated from ego-centric and socio-centric perspectives. Here, the needed formulas with examples were presented the thing that makes the book serves as a guide for its user. Then, the author explained density by presenting the digression on absolute density for the problem of size and mass measurement with the needed formulas to do that. He ended the chapter with community structure and density where facebook, twitter were given as examples of social structures and interpersonal relations.

Given that social networks are bound to the principle of sociometry, and that there is always a centre of interest or the "star", centrality or a point of centrality is part of SNA (Chapter 5). This centre can either be an individual person or an organization. In this chapter, Scott distinguished between local centrality and global centrality. When measuring the point of centrality, it is then the overall "centralization" of the graph; which is another concept clarified by Scott.

Social networks are also divided into cohesive sub-groups and "cliques". They generally inform about the person's or the group's identity and sense of belonging. However, the different social worlds give permanently birth to a huge amount of emerging sub-groups and, hence, the appearance of a wide range of theoretical models for analysis. These are described as "cliques", 'clusters', 'components', 'cores' and 'circles' (Chapter 6). Scott presented the theoretical bases in this chapter where components, cycles and knots; cliques' intersections; and components in citation circles were tackled.

As a follow up of the theoretical explanation of cliques, clusters and components; the author went further to detail the analysis of positions within social structures. In SNA, dealing with structural equivalence is needed when dealing with roles and social positions. In addition, although many concepts that describe these social structures appear, they are sometimes misused or used and starts identifying the concepts and their uses. A case in point is the "cluster" and the "clique". Hence, the author focused on clusters in terms of combining and dividing points, the block modeling wit CONCOR; the 'CONVergence iterated CORelations'; the algoritm that uses correlation coefficients as measures of similarity. Here, Scott presented various models like the simple block model, the hierarchical block model. There is also a section in this chapter about corporate interlocks and participations

As a living phenomenon, social networks can in no way remain treated as static since they are dealing with social structures and interpersonal relations. However, SNA has moved beyond descriptive ends in the analysis and took a cross-sectional dimension. Scott did not ignore this important development in the methods and approaches in SNA and attempted to

present this change in the processual models that rely on statistical techniques and relate them to the recent work on the 'small-world' issues (Chapter 8).

A detailed last chapter with illustrative diagrams about networks to facilitate the analysis through pictorial representations is provided. Scott enriched this ninth chapter with figures that clarify any kind of analysis. He also provided the reader with explanations about the 'multi-dimensional scaling' mathematical approach where concepts like distance, space and metrics are clarified. Then, principal component analysis or the so called 'factor analysis'; though different they are, is also tackled. Scott presented the non-metric methods and went through the advances in network visualization. Here, many programs are available like VIEWNET, MOVIEMOL, MAGE, SONIA, PAJEC. The UCINET, for instance, the program helps to visualize the network, you can pull up the data in NetDraw (the network visualization program packaged with UCINET) and code for each relationship and show all of the relationships together in one sociogram or separately(Durland, 2013). Final notes about elites, communities and influence are also presented in this book in its last section.

To conclude, the book is an excellent resource that serve workers in SNA whether a beginner or not in this field or in mathematical knowledge. It is an updated source and contain authentic resources.

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