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Editorial

The Role of Cheating: Part 1

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At the risk of being alienated by my colleagues, I would like to address the topic of *Cheating* as a method of learning. I always resented losing first place in my classes at school to a student who cheated, but held to my principles and eventually won top honors at the school and state levels. I am proud of that achievement. Ethics were part of my home, school, culture and religion.

When I moved to the world-of-work, I experienced a different set of rules. I was measured by performance – quality and productivity. I was awestruck by simple mistakes made by my immediate supervisor, whom I greatly respected. I informed him of my concerns. The result was a collaboration of unparalleled quality, and a team model I adopted when I became supervisor. At this elevated level, I made bad decisions that astonished my assistant (and me when informed). We became an effective team and won numerous awards until I left to complete my graduate education in another country.

For five decades, I participated in projects with state and national organizations, government agencies and the Department of Defense, primarily in the United States. I spent about half my time in education, and half in business, industry and government. The real world was a laboratory that gave me an unequalled opportunity to translate requirements of the world-of-work to my students. And the academic experience gave me access to resources greatly needed by industry. It was and continues to be a great relationship.

Unfortunately, academia and the world of work are like trains moving in different directions. Academia sets its own goals and deadlines, and uses archaic systems ("objective" tests designed in the early 1900s) to measure progress in a curriculum that bears little resemblance to the needs of the 21st century. Schools have become a replica of the Jeopardy game that rewards the top few and moves on. It is not producing the kind or number of graduates required by business, industry, government and military in the 21st century.

Academia does not compete well in its ability to sustain funding. Some K-12 schools have been caught cheating on attendance and test scores to get enough funds to hire teachers. Colleges and universities do better, but cost continues to increase more rapidly than GDP and performance is lagging. The problems of education cannot be solved by courts or politicians or privatization. The problems must be solved by educators and researchers designing a system of education to fit the world we live in and the world of the future. If we go back to the core values of education, we must create graduates with the knowledge, skills and abilities consistent with our dynamically changing world.

The world-of-work has a growing need for research skills, entrepreneurship and invention. It requires graduates to have higher levels of communication skills, intelligence, ability to detect, analyze and solve problems and create solutions. Jobs at the bottom of the ladder are being sent offshore or automated. Service jobs that remain do not pay a living wage. Well-paid full-time employment is diminishing yet many available higher level jobs cannot be filled because applicants are not qualified. This is a problem for individuals and families and for an economy based on spending by the masses with an increasing segment of the population falling below the poverty level. Greatly improved education is necessary for a higher level of productivity.

Cheating is an over-rated problem that is focusing attention away from the irrelevant and inefficient system that served us so well in the 19th and early 20th centuries. I will pick up this theme in the next editorial to evaluate cheating as a method of learning and begin to redefine educational requirements for the first few decades of the twenty first century.

Gender perception of the mathematics teachers towards the usage of media materials in teaching mathematics

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Abstract

The purpose of this study is to identify the relationship between the variables of teacher's perception towards the usage of media materials in teaching mathematics in State of Perlis secondary schools. This study also identifies the differences in teachers' perception based on gender. A total of 181 mathematics teacher were involved as the respondents which consist of 71 (40%) male and 110 (60%) female teachers. The data was collected through questionnaires and analyzed using SPSS version 12. The results of the study reveal that a positive significant relationship between the skill variables, facilities provided, effective usage of media materials, and problems faced. The results how a negative significant relationship between the skill variables, problems faced, and effectiveness of the usage of media materials. The results of the study also indicate that there is a significant difference in perception between male and female teachers towards the use of media material in teaching mathematics. The male teachers' perception is higher than female teachers. Through the findings, it is clear that the use of media materials is important in the teaching of mathematics. Nevertheless, good planning is needed prior to using the media materials, these materials must be used appropriately, and be relevant to the subject matter. In this way, the teaching of mathematics in the secondary schools can be more effective and efficient.

Introduction

The use of suitable and attractive media materials in the teaching of Mathematics is vital to success of learning. Use of media materials is proven to invoke students' excitement and desire to get in-depth information and thus make learning more interesting and effective. At the same time, this weakens the practice of rote-learning or memorizing facts without understanding the concept (Kemp & Smellie, 1997). Blackmore, Hardcastle, Bamblett and Owens (2003) posited that teachers who use ICT in the teaching of mathematics are able to motivate and stimulate students to think creatively and this has helped students grasp input given by the teacher.

A study by Ong and Lai (2006) showed that male teachers tend to have a positive attitude towards the use of media materials in teaching mathematics when compared to female teachers. This finding is further confirmed by Liaw (2002) who said that the perception of male teachers is more positive towards the usage of media materials in teaching mathematics compared to female teachers. In addition, a study by Hourtz and Gupta (2001) showed a more significant perception in terms of skills in teaching using media materials among male teachers compared to female teachers despite both having the skills to use media materials.

According to Faridah (2001), the mathematics teacher is only one part of the various media sources. Mathematics teachers have to strategize their teaching to focus on student-centered activities. It is a well-known fact that text books and non-interactive sources may not help in developing or enriching students' learning experience. At the same time, maintaining students' interest and satisfaction in relation to students' experience and performance is crucial in a classroom context. Therefore, the process of teaching and learning mathematics following the conventional method such as chalk and talk must be changed and varied to using other educational resources such as videos, computers, audiotapes and projectors.

Problem statement

The effectiveness of learner-centered instruction in mathematics lessons is enhanced when teachers use media materials. Lisa (2005) said that teaching mathematics using media materials can help to clarify abstract concepts and thus save much time. Mathematics teachers should be aware of the importance of media materials in attracting and maintaining students' attention and interest to learn. Interactive activities using media materials impact students' senses to optimize the learning process. Jones (2004) in his study said that there are hindrances in the use of these media materials during teaching. Among others 21.20% of mathematics teachers agreed that they do not have the confidence to integrate media materials in their teaching and 16.40% said they lack time in preparing the media teaching materials. 15.00% agreed that they lack effective training in the use of media materials in teaching mathematics while 13.30% of mathematics teachers experience technical problems when using the compact discs in their teaching.

The Department of Educational Technology alleged that the use of technology involves all levels of disciplines and teachers. Mathematics teachers who are non-committal and do not know how to use media materials said that teaching Mathematics is easier through chalk and talk. (Utusan Malaysia, 15 April, 2007). To realize the dream of using media materials in the teaching of mathematics, TIME Engineering Berhad has started training 250 qualified technicians to do the repair work and servicing of laptops, projectors and printers. (Utusan Malaysia, 4 September, 2007). Although these facilities are available and accessible in schools, certain schools have problems in terms of maintenance. For instance, LCD projectors in classrooms were used only a few times before they went kaput. Other problems are insufficient numbers of LCD projectors available for classroom use, non-replacement of dismantled screens, and non-functional trolley due to damaged batteries.

The usage of media materials in the teaching of mathematics

The study done in Australia by Robertson, Grady, Fluck and Webb (2006) showed that the usage of ICT enhanced the teaching of mathematics compared to conventional methods. A study by Uhomoibhi (2006) in the Northern Island showed that ICT played an important role in making teaching flow smooth as well as effective. The use of educational CDs in teaching caught the attention of the Government and has been followed through in the year 2001. The objective of using ICT in the teaching of mathematics is to encourage a more enjoyable and effective learning for the students. A mathematics teacher plays an important role in deciding on what method or approach will have a positive impact in the teaching and learning of mathematics in a classroom which is complete with new technology.

A new program using English as the medium of instruction with the help of CD teaching software to teach Mathematics and Science is believed to be effective in making teachers' teaching a success. To ensure that the new program becomes a success, all government funded schools are supplied with laptops, LCD projectors, screen, trolley, television, printer (PIPP, 2006) expecting that all Mathematics and Science teachers would optimally utilize the media materials in their classrooms. Chong, Sharaf and Daniel (2005) showed in their study that 49.5 % teachers utilize the CD in their classrooms, 40.5% use ICT in the teaching process for Mathematics while 10% did not use ICT in their classrooms. This study showed that this new era of information and communication technology has become more important and has caught the teachers' attention.

Students who use suitable technology will learn and memorize a lot more mathematics concepts and thus are able to increase their academic performance (Faridah Serajul Haq, 2001). The study of Computer-Based Education (CBE) which was done by Kulik et al (Yusup Hashim, 1997) showed the CBE approach has increased students' academic achievement, saved teaching and learning time, and improved students' attitude towards school and the learning of mathematics.

Mathematics teachers' perception towards the use of ICT

The study by Badrul Hisham Alang Osman (2008) on 69 secondary school Mathematics teachers in Perak found that 66.7% of mathematics teachers showed a positive attitude towards teaching with the aid of computers and were ready to utilize computers to help in their daily work. Sime and Priestly (2005) did a study on teachers, graduated from Scottish University, regarding the use of ICT in mathematics lessons. The findings showed that there was a positive attitude towards m use of ICT in teaching. The findings also showed that Mathematics teachers are moving towards using new technology to increase the achievement of learning outcomes in their lessons.

Pamela Krish and Noraza Ahmad Zabidi (2007) interviewed 9 teachers who graduated from Universiti Kebangsaan Malaysia regarding the usage of ICT in their mathematics lessons and the responses were that ICT has helped to make the teaching process smooth and easy. The use of ICT materials stimulated students' interest and maintained their attention throughout the lesson. This resulted in the students grasping the skills and concepts disseminated by the teachers. The only weakness is that the teachers had to spend more time with computers to search for relevant teaching and learning materials.

In a study by Albion and Downes, it is found that mathematics teachers have a positive attitude towards computers, but lack confidence in integrating computers in their lessons. This is due to the fact that there is lack of self-belief and self-confidence in the teachers themselves to use the computers in their lessons (Mohd Zaaba Ismail & Zurida Ismail, 2002). Computers now play an active role in education. This change is made possible through effective courses given to Mathematics and Science teachers since 2003. The teachers are more skilled and more confident in using computers in mathematics and science lessons. (Hennessy, Ruthven & Brindley, 2005).

Fatimah Abu Bakar (in a study by Yusup Hashim, 1997) said that lack of media materials, poor maintenance and insufficient physical facilities pose a problem to study of educational resources. It is accepted that computers can support the teaching process, but the support is dependent on the skills, knowledge and commitment of mathematics teachers. The Director of the Educational Technology Department said that ongoing commitment given by mathematics teachers to use of media materials after courses of training is vital to ensure that teachers do not lose track of what they gained during the course (Utusan Malaysia, 15 April, 2007). Although media materials are supplied to schools, a study by Yusup Hashim, Kamarudin Yaakub and Sabrina that the use of these media materials is below par, especially in the secondary schools. This shows that schools have to allocate a certain budget for maintenance of media materials and technical services.

Mathematics teachers perception towards usage of media materials based on gender

A study done by Abdul Rahim Bakar and Shamsiah Mohamed (2008) on 675 trainee teachers at Universiti Putra Malaysia was to see the relation between trainee teachers' confidence, based on gender, in integrating ICT in the teaching of Mathematics. Aytekin Isman and Huseyin Yaratan (2005) in their study showed that male Mathematics teachers use media materials more than the female teachers. This study also found out that Mathematics teachers who frequently use the media materials would be among graduate teachers. This shows that the younger generation is more interested, inclined and is more exposed in the usage of ICT.

Badrul Hisham Alang Osman (2008) did a study on 69 secondary school Mathematics teachers teaching Mathematics using computers in Perak. The findings showed that there is a significant difference between male and female teachers using computers in their Mathematics lesson. A study by Rekabdarkolaei and Amuei (2008) looked at the usage of ICT in Mathematics lesson and the duration of the usage. The findings showed that male teachers took a longer time and are more confident in the usage of ICT in teaching Mathematics compared to female teachers.

This study is to see the perception of Mathematics teachers towards the usage of media materials in the teaching of Mathematics in secondary schools. There are two objectives in this study:-

- To identify the relationship among the independent variables of teachers perception in the teaching of Mathematics.
- To identify the perception of male teachers and female teachers towards the usage of media materials in the teaching of Mathematics.

Methodology

Design of study

Mathematics teachers' perception in terms of skills, facilities, efficacy and problems faced is the dependent variables whereas the respondents' gender in the study is the independent variable. Behaviorist Theory posits that each and every stimulus will produce reaction and learning takes place as the result of stimulation and reaction. Certain stimuli which are related to the other stimuli will result in learning and it is known as conditional. (Yusup Hashim, 1998).

Population and sampling

The respondents comprised of 181 Mathematics teachers from secondary schools in Perlis in which 71 (39%) were male teachers and 110 (61%) were female teachers teaching Mathematics.

Instrumentation

The instrument, which had to be improvised, was taken from a study done by Ngoh Yih Shan (2003) about Science and Mathematics teachers' perception in the usage of ICT. The questionnaire regarding perception of Science Mathematics teachers towards the usage of media consists of 36 items whereby 7 items are concerned with the Skills Domain, 9 items on facilities, 12 and 8 items on efficacy and problems, respectively. The options are represented by number 1 to number 4 to mean absolutely do not agree, do not agree, agree and absolutely agree, respectively. The data is analyzed using SPSS version 12.0. T-test and Pearson Correlation were also used to test the hypothesis.

Pilot study

A pilot study was administered to test the validity and reliability of the questionnaire. A group of respondents consisting of 30 teachers teaching Mathematics in a secondary school were chosen at random. The respondents have the same background as the sample respondents. The Alpha Cronbach value (α) for the questionnaire in the skills domain is 0.72 (after the elimination of items 6, 7, 10 and 11). The Alpha Cronbach value for facilities is 0.81 (after the elimination of items 5 and 11). Index value for efficacy is 0.89 (after eliminating items 1, 2 and 15) and the index value for problems is 0.76 (after eliminating items 2, 3, 6, 10 and 12). All the eliminated items have the Corrected Item-Total Correlation of less than 0.30. (Table 1).

Table 1
Reliability value based on skills, facilities, efficacy and problems.

Dimension	#	Total Correlation of Corrected Item												(α)
		1	2	3	4	5	6	7	8	9	10	11	12	
Skills	7	0.39	0.32	0.36	0.47	0.38	0.62	0.50						0.72
Facilities	9	0.68	0.32	0.40	0.52	0.39	0.43	0.52	0.72	0.68				0.81
Efficacy	12	0.52	0.60	0.63	0.71	0.50	0.67	0.61	0.45	0.50	0.89	0.74	0.74	0.58
Problems	8	0.60	0.65	0.32	0.48	0.37	0.49	0.46	0.38					0.76
Total	36													0.80

Findings

Relationships between variables based on the Mathematics teachers' perception.

Table 2 shows a significant positive relationship (r = 0.78, p < .01) between skills and efficacy in the usage of media materials. The positive relationship between teachers' skills and the efficacy shows that the level of efficacy in the usage of media materials in the lesson increases with the level of skills among the teachers. The r value = 0.78 shows that the relationship between teachers' skills and efficacy in the usage of media materials is average.

The findings also show that there is a significant positive relationship between facilities and efficacy in the usage of media materials (r = 0.42, p < .01) and the relationship is low. This means that the more facilities are available, the higher the efficacy in the usage of the media materials and vice versa. A significant positive relationship is also seen between facilities and problems faced (r = 0.33, p < .01) and the relationship is very low. This means that the more facilities are available, the more problems the teachers will face in the usage of the media materials in their lesson.

There is a significant negative relationship between skills and problems faced in the usage of media materials (r = -0.35, p < .01). The negative coefficient shows that the higher the skill level of the teachers, the less problems they will face in the usage of the media materials and vice versa. The value r = -0.35 shows that the teachers' skills and the problems have a very low relationship. In terms of efficacy, there is a significant negative relationship (r = -0.28, p < .01) between efficacy and problems faced by teachers in the use of the media materials. This shows that the less problems teachers face, the higher the level of efficacy in the use of media materials and that the relationship between them is very low.

Table 2
Result of Pearson Correlation Test on the relationship between the variables based on the Mathematics teachers' perception.

	Facilities	**Efficacy**	**Problems**
Skills	0.41 **	0.78 **	-0.35 **
Facilities		0.42 **	0.33 **
Efficacy			-0.28 **

** p < .05 (Two-tailed test)

Comparison between Mathematics teachers' perception based on gender

The perception regarding skills in the usage of the media materials based on gender is significant as shown in table 3. (t (179) = 10.34, p < .05). This showed that the mean perception of male Mathematics teachers in terms of skills using the media materials during lessons is higher compared to female Mathematics teachers (M = 18.23, SD = 1.85)

Table 3
T-test for perceptions between male and female Mathematics teachers regarding skills in using media materials in the lesson.

Gender	**N**	**Mean**	**SD**	**t**	**Sig.**
Male	71	22.20	2.87	10.34	.00
Female	110	18.23	1.85		

p< .05 (Two-tailed test)

Teachers' perception with regards to facilities in the usage of media materials based on gender in Table 4 was significant. (t (179) = -2.02, p < .05). This showed a difference in perception between male and female teachers towards the use of media materials in the lesson. The study showed that the mean score of female teachers (M = 28.17, SD = 3.17) with regards to facilities in the usage of media materials in the lesson was higher compared to the mean score of male teachers (M = 21.18, SD = 3.28).

Table 4
T-test for perception between male and female Mathematics teachers towards facilities in the usage of media materials in the lesson.

Gender	N	Mean	SD	t	Sig.
Male	71	21.18	3.28	-2.02	0.01
Female	110	27.17	3.17		

p <.05 (two-tailed test)

The perception of male and female teachers towards the effectiveness of efficacy in the usage of media materials in teaching Mathematics is shown in Table 5 where the value t (179) = 8.82, p < .05 is significant. This showed that there is a difference in perception between male and female teachers towards the efficacy of use of media materials in teaching Mathematics. The findings showed that the mean score of male teachers (M=36.96, SD = 5.07) towards efficacy of use of media materials is higher than the mean score for female teachers. (M=31.12, SD=2.91).

Table 5
T-test for perception between male and female teachers towards the efficacy in the usage of media materials in the lesson.

Gender	N	Mean	SD	t	Sig.
Male	71	36.96	5.07	8.82	.00
Female	110	31.12	2.91		

p <.05 (two-tailed test)

The perception of mathematics teachers towards problems faced in the use of media materials in teaching Mathematics based on gender can be seen in Table 6. The value t (179) = -18.74, p < .05 is significant. The findings showed that there is difference in perception between male and female teachers towards problem faced in the usage of media materials in the lesson. The mean score for male teachers is (M=17.31, SD=1.19) which is lower than the mean score for female teachers. (M=22.15, SD=2.27).

Table 6
T-test for perception between male and female teachers towards problem faced in the usage of media materials in the lesson.

Gender	N	Mean	SD	t	Sig.
Male	71	17.31	1.19	-18.74	.00
Female	110	22.15	2.27		

p <.05 (two-tailed test)

The perception of Mathematics teachers towards the usage of media materials based on gender in Table 7 shows the value t (179) = 2.72, p<.05 is significant. The findings showed that there is a difference in perception between male and female teachers towards the use of media materials in

teaching Mathematics. The mean score for male teachers is (M=103.65, SD=10.33) which is higher than the mean score for female teachers (M=99.67,SD=8.40).

Table 7
T-test for perception between male and female teachers
towards the usage of media materials in the lesson.

Gender	N	Mean	SD	t	Sig.
Male	71	103.65	10.33	2.72	.01
Female	110	99.67	8.40		

p < .05 (two-tailed test)

Discussion of study

The findings showed that the perception of Mathematics teachers towards teachers' skills in the usage of media materials is important in teaching the subject. Teachers must have the skills and be more confident in using media materials during Mathematics lessons. (Hennessy, Ruthven & Brindley, 2005). Sometimes teachers do have a positive attitude towards computers but they do not have enough confidence to integrate them in their lessons. They lack self-confidence because they lack skills in ICT (Mohd Zaaba Ismail & Zurida Ismail, 2002). A study by Aytekin Isman and Huseyin Yaratan (2005), Abdul Rahim Bakar, Rekabdarkolaei and Amuei (2008) showed that male Mathematics teachers are more skilled and more confident in the usage of ICT in their teaching compared to female teachers.

Mathematics teachers believe that schools need support in media materials, facilities and usage. The findings in a study by Yusup Hashim (1997) showed that the schools should have allocation for ICT, media support and maintenance. In addition, schools need system-level support from media technicians to repair and maintain ICT equipment in schools. There are teachers who know about computers and media problems but they do not have the skills or expertise to repair or maintain them. Sufficient and satisfactory support and facilities in ICT and media materials will increase the level of usage and efficacy in the teaching of Mathematics. (Lisa, 2005). A study from Uhomoibhi (2006) also stated that the usage of ICT will ease the distribution of information during the teaching process in schools.

Findings of the study showed that the usage of media materials has a positive effect in teaching Mathematics. This is in line with the study done by Robertson et al. (2006) in Australia which proved that the usage of media materials in teaching Mathematics is more captivating and managed to motivate students' learning. Short, in his previous study, supported the data obtained that students' achievement in Mathematics will increase if media materials are used (Yusup Hashim, 1997).

Finding of the study showed that the variables in terms of facilities and problem faced in the usage of media materials have positive relationships. This showed that despite schools have sufficient facilities there are still a handful of teachers who are not committed to practice it due to lack of skills or confidence. Based on the study, Mathematics teachers need more time to plan lessons using media materials but did not feel that it burdens them. This is parallel with the study done by Pamela Krish and Noraza Ahmad Zabidi (2007). The syllabus is also not a problem to Mathematics teachers teaching in secondary schools in Perlis.

The implication of this study is that the Ministry of Education needs to train and organize some programs to increase the skills and the number of technicians in repairing and maintaining the media materials in schools. The schools also should always check the materials to make sure that the media materials are systematic and arranged properly so that they are always in perfect

condition and ever ready to be used. Therefore, lack media materials and computer labs which have insufficient facilities for the usage of media materials have to be looked into and schools should find ways to solve the problems.

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Exploring Saudi EFL Students' Attitudes toward the Internet in Learning English in Saudi Arabia

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Abstract

The purpose of this study was to explore the attitudes of EFL students toward the Internet in learning English in Saudi Arabia. It also explored the relationship between students' attitudes and associated variables, such as age, type of school attended, experience in using the Internet, familiarity with the Internet, amount of education on the Internet, and the number of hours students spend using the Internet. Quantitative and qualitative tools were used in this study. A questionnaire was administered to 100 students who had already finished secondary schools in Saudi Arabia and had joined one of the foundation year programs in English. Data collected clearly indicates that students, to some extent, had positive attitudes toward the use of the Internet in learning English. The interview and observation techniques adopted supported the data revealed. The results are in line with results obtained from previous research (Aytekin, 2004; Bertea, 2009; Hong, Ridzuan, & Kuek, 2003; Tikinarsl, 2008). However, the study found no relationship between the EFL students' attitudes and the variables posed in the study, as stated above. Such a result is in contrast with results obtained previously (Al-Mekhlafi, 2004; Aydn, 2001; Gorman, 2003; Rehman, Hunjra, Safwan, & Ahmad, 2010; Selwyn, 1999; Selwyn et al., 2000; Slate, Manuel, & Brinson, 2002; Usun, 2003;).

Introduction

Over the last two decades the Internet, as one of the technologies used in learning, has been found to be an essential aid in education in general, and learning foreign languages in particular. The Internet helps learners achieve foreign language better because it makes their learning more meaningful. As suggested by Schofield (2003), the Internet also gives learners a powerful means of collecting information, communicating, and collaborating outside of school environment. Thus, Wu and Tsai (2006) have claimed that the attitudes of learners toward the Internet are "a prerequisite for successful Internet-based instruction" (p. 441). Further, it is essential for students to have a positive attitude toward the Internet if they want to achieve better learning.

In Saudi Arabia, where the Internet was introduced between 1998 and 1999 as declared by Hameed (1999), most educational institutions in the country do not have this facility for teaching English. Students are left to learn the foreign language without any reference to the Internet in classrooms. Despite the fact that Saudi Arabia is a rich country, the domain of using this technology in classrooms is not a concern to officials. We cannot deny the fact that the Internet in Saudi Arabia is everywhere, but it has not found its place in the EFL classrooms. There are several requests among students for immediate adoption of this facility since its value is well known—not just to ease the learning process but also to facilitate achievement. Almogbel (2003) stated that Saudi Arabia has spent millions to adopt the Internet in the lower levels of education—namely, intermediate and secondary—but this technology is not yet used for English classes, leaving learners uncertain about the absence of implementing such technology. An investigation is needed into exploring the attitudes of EFL students toward the Internet as an instructional tool.

Literature review

At present, the Internet has an essential role in education, in general, and foreign languages, in particular. Kulekcd (2009) clearly stated that the Internet carries great potential for educational use. Thus, the Internet is regarded as a tool that allows for easier learning among students, efficient teaching and communication, a tool for retrieving information for learning, and help in having a good command of the language being taught (Al-Fulih, 2002; Al-Furaih, 2002b; Chickering & Gamson, 1991; Nabi, Moyer-Guse, & Byrne, 2007; Usun, 2003; Wright & Marsh, 2000). Further, Fusayil (2000), Baer (1996), and Davis (2002) stated that the Internet is an instructional tool that cannot be ignored in education; it increases productivity of education and enhances learning. Al-Fulih (2002) viewed the Internet as a potential tool in education that has an impact on improving the learning process in several ways, one of which is the speed of obtaining instructional materials. Isman (2004) added that through the Internet, students can have real-world learning experiences. Watson (2006) claimed the Internet helps as a mediating tool for instructional environments.

Several researchers clearly indicated the role of the Internet in teaching foreign languages, English in particular (Albejadi, 2000; Albirini, 2004; Alfantookh & Alsultan, 2004; Kasanga, 1996; Isleem, 2003; Means & Olson, 1997; Peterson, 1997; Wiburg & Butker Pasceo, 2002). Chen (2007) elaborated further on the value of the Internet for learning English. He stated that the Internet helps English learners access useful language resources and communicate directly with native English speakers. He added that through the Internet, students can practice applying information and overcome the decontextualized predicament of English learning. In addition, they can learn the foreign language skills via real-world situations. Similarly, Barnawi (2009) supported the rationale of using the Internet in foreign language classes. He stated:

By implementing the Internet in the classroom, learners not only develop their language skills through interacting with different Internet applications, but they also function well on the Internet to explore varied language learning materials, which accommodate their learning needs, expectations, and goals. (p. 4)

The Internet also has a role in helping students use the language taught in a live environment (Wiburg & Butker-Pasceo, 2002). Moreover, the Internet remains a key factor in comprehending certain skills such as grammar and vocabulary. On this point, Aydin (2007) emphasized that the Internet has been a chance for EFL learners to improve their discourse, grammar, vocabulary and language skills in a real and natural environment. The importance of the Internet as a rich source of learning foreign languages has been reinforced by Forsyth (1998). Linder (2004) clearly witnessed this, not only for learners, but also for teachers in terms of accessing information for learning. In their research on using the Internet for teaching English, Warschauer, Shetzer, and Meloni (2000) indicated, among many other factors, that one benefit is the additional opportunity it provides for collaborative activities.

As far as the attitudes of students are concerned, without a positive attitude toward the Internet, learners cannot find the technology entertaining. Researchers such as Mitra and Steffensmeier (2000) and Liu, Macmillan, and Timmons (1998) have clearly indicated that the connection between students' attitudes toward technology and the Internet in combination with learning achievement is established: Having positive attitudes toward the Internet lead students to achieve better in learning skills. Thus, foreign language learners in general, as disclosed by Aydin (2007), usually have direct positive attitudes toward the Internet in their learning.

In connection with this belief, Aydin (2007) reinforces that enough use of the Internet as an instructional tool for EFL learning, in one way or another, should be connected with the students' attitudes toward the Internet itself. Simply put, successful EFL learning depends on the students having positive attitudes. Moreover, it is recognized by researchers that the more students are

aware of technology such as the Internet, the more positive attitudes they should have toward this kind of tool (Jones, 1992).

This, in turn, leads us to claim that students' attitudes toward the Internet in the classroom is related to their awareness of the importance of this technology in learning. Further, Rehman and colleagues (2010) made the picture clearer when exploring students' attitudes toward the Internet: It is their opinion that "to make proper use of the Internet in schools, colleges and universities, there is a need to understand the attitudes of students toward the use of it" (p. 2). Last but not least, Madu, *Otuka, and Adebayo* (2011) reinforced other researchers thinking toward the significance of student's attitudes and the effectiveness of the Internet technology. Madu and colleagues stated that holding a positive attitude toward the Internet is a must for its effective use. Thus, based on what we have highlighted above, measuring students' attitudes toward Internet technology is rather essential to determining whether the learning process is achieved properly.

Methodology

Research questions

Two main questions are addressed in this study, as follows:

Question No. 1. What are the attitudes of EFL students toward Internet technology in Saudi Arabia?

Question No. 2. Is there any significant relationship between the overall level of attitudes and the variables associated with them?

Participants

One hundred students who just finished secondary schools in Saudi Arabia and enrolled in an English foundation program at a higher education institution in Saudi Arabia, were targeted for this study. Ninety freshmen students responded to the study. They came from different parts of the country with different characteristics and backgrounds in the Internet. All were male, as access to female students was difficult for a male researcher due to strict religious policies. All participants were Saudi nationals. Coeducation is not allowed and genders are segregated from the age of seven.

Instruments

To explore the Saudi EFL learners' attitude toward the Internet, both quantitative and qualitative instruments were used. They consisted of questionnaires, interviews, and observations. The questionnaire was used to explore attitudes. Interviews and observations were techniques used for supporting evidence to the data obtained by questionnaires. Several students were interviewed directly by the researcher. In addition, the researcher adopted direct and live observation in classrooms to determine whether the Internet is used during teaching sessions.

The questionnaire consisted of two parts: Section one consisted of six items related to background information, including age, experience of using the Internet, hours spent on the Internet, familiarity with the Internet, nature of the school attended (public or private), and having Internet education. This part was taken with the researcher's modifications. Section two of the questionnaire dealt with students' attitudes toward the Internet. Part one consisted of 21 items taken from Aydin (2007) that were originally designed by Kilincoglu and Altun. Part two comprised of 18 items taken from Rehaman et. al (2010). Both scales were based on a 5-point Likert scale: 5 = Strongly Agree, 4 = Agree, 3 = Undecided, 2 = Disagree, 1 = Strongly Disagree. The researcher was present during completion of the questionnaire to clarify any ambiguities. Although the students were attending an English program, the researcher provided a live translation to the items of the questionnaire in Arabic to avoid any uncertainty.

Data analysis

Data was analyzed using SPSS to obtain frequencies, mean and standard deviation for obtaining the overall level of attitudes among EFL learners toward the Internet. This analysis answered Question No. 1 of the research. On the other hand, to determine whether the variables associated with attitudes, as disclosed in the above section, have any relationship or contribution to the attitudes of students, a t-test Pearson correlation was adopted.

Findings

The study showed findings related to background information. As seen in Table 1, the vast majority of students were between 18–22 years old (97%) with only 3.0% reporting their age as older than 22.

For the type of school attended prior to joining their higher education, the same table reveals that a great majority were graduates from public schools (84%) compared to 16% from private schools. On the other hand, regarding familiarity with the Internet, a great majority of students reported that they were familiar with the Internet (97%) compared with only 3.0% who showed otherwise. With regard to the experience students have in using the Internet, the majority of students indicated an intermediate level of experience (68%), followed by those of advanced level (26%), and those of low level (6.0%). Whether students had enough education in using the Internet, a majority of students (79%) showed that they did not have sufficient education in this regard, followed by those who showed otherwise (20.0%). Finally, 60.0% of students revealed that they spend between 1–3 hours using the Internet followed by those online 4–6 hours (39.0%), and 1.0% for those between 7–10 hours.

Table 1
Saudi EFL students' attitudes toward the internet

Variable	Percentage	Percentage	Percentage	Percentage
Age	18–22 (97.0%	Older (3.0%)	—	—
Type of School Attended	Public (84.0%)	Private (16.0)	—	—
Familiarity with the Internet	Yes, (97.0%)	No (3.0%)	—	—
Students' Experience in Using the Internet	Low (6.0%)	Intermediate (68.0%)	Advanced (26.0%)	—
Education Students had in the Internet	Yes (20.0%)	No (79.0%)	—	—
Hours Students Spend Using the Internet	1–3 (60.0%)	4–6 (39.0%)	7–10 (1.0%)	Over 10 (0.0%)

Results obtained for students' attitudes toward the internet in learning English in Saudi Arabia

As shown in Table 2, it shows that, to some extent, students of EFL in Saudi Arabia hold a positive attitude toward Internet technology. The mean obtained (3.6) and standard deviation (8.82) support such results. This indicates that students are aware of the significance of the role played by the Internet in learning English. The results revealed were also supported by interviews conducted by the researcher.

Table 2
*Frequency distributions, mean scores, and standard deviations
related to Saudi EFL attitudes toward the internet*

Scale	F	Mean	Standard Deviation
Saudi EFL Students' Attitudes toward the Internet	100	3.6	8.82

The result obtained in this study is consistent with results revealed in previous research. In his study related to attitudes of students toward the Internet, Aytekin (2004) found that a majority of students expressed a high level of positive attitudes toward the Internet in their learning level. Tikinarsl (2008), in his study connected with students' attitudes toward the Internet and implications for online learning in Turkey, disclosed that students expressed positive attitudes toward the Internet; however, students with more experience online were found to hold a higher positive attitude toward the technology. Similarly, in their study at a university in Malaysia, researchers Hong and colleagues (2003) found students had positive attitudes toward using the Internet as a learning technology. According to the researchers, "Students viewed the learning environment as supportive of using the Internet for learning. Students with better basic Internet skills and who view the learning environment as promoting the use of the Internet favored using the Internet for learning" (p. 45). Such a finding was reinforced by other researchers, including Rehman et al. (2010). Their study, "Students' Attitude towards the Uses of the Internet in Pakistan" showed the same outcome. Students felt positively toward the Internet as a learning tool. The researchers went further to disclose that students feel comfortable in using the Internet as a significant learning tool and a source of information.

Furthermore, Bertea (2009), in her study related to measuring students' attitudes toward e-learning, found that students had positive attitudes toward the Internet as one of e-learning's facilities. The level expressed was influenced by some variables associated with students' attitudes. More positive attitudes were also found in Aydin's (2007) study related to attitudes of EFL Learners toward the Internet. His study revealed that EFL learners displayed positive attitudes toward the Internet. However, the researcher commented on his finding that positive attitudes might contribute to foreign language learning through the Internet on the condition that a certain number of essential problems and drawbacks are cleared up beforehand. Additionally, the same positive reaction was also found in Wu and Tsai's research conducted in 2006 on university students' Internet attitudes and self-efficiency in Taiwan. Among other findings, their research found that although positive attitudes were revealed, male students had a higher level of positive attitude than did females. Further, the study explored that the attitudes themselves can be a key factor for predicting the tendency toward the Internet. It is their view that "students' attitudes toward the Internet could be viewed as one of the important indicators for predicting their Internet self-efficacy" (p. 441).

In Saudi Arabia, there has not been much study conducted on measuring students' attitudes toward the Internet; however, a number of studies have been conducted on attitudes of teachers rather than students. The only study found to explore students' attitudes toward the Internet was the one by Al-Salem (2005) related to the Internet's impact on Saudi Arabian EFL female self-image and social attitudes. The study found that positive attitudes were revealed, feeling that the Internet has influenced the young women. Beyond that, the subjects indicated that their Internet experiences have extended their knowledge, particularly for writing skills. Additionally, the findings reported that the Internet as a technology in learning was a rich source, providing flexible access to information to help students learn more about what surrounds them.

To conclude, we would say the majority of students worldwide agree that the Internet has an influence on learning any issue, which creates, in one way or another, positive attitudes rather than negative ones.

Results related to variables associated with attitudes

As far the variables associated with attitudes toward the Internet, this study found that none of the variables in the survey are significantly correlated with the overall level of students' attitudes toward the Internet (see Table 2). These variables were age, experience of using the Internet, number of hours students spend on the Internet, familiarity with the Internet, nature of school they attended (public or private), and having the Internet education. These results are in contrast with previous studies conducted both internationally and domestically (Al-Mekhlafi, 2004; Aydn, 2001; Gorman, 2003; Rehman et al., 2010; Selwyn 1999; Selwyn et al., 2000; Slate et al., 2002; Usun, 2003). Such a negative contribution casts a light that students' attitudes toward the Internet in Saudi Arabia are not related to their demographic factors—an issue that leads some to consider that this could be due to cultural justifications. That is, students in Saudi Arabia might have seen that their demographic factors were not of significance in terms of their attitudes toward the Internet. This justification, based on the result obtained, does not match the general feeling among researchers: Most have shown that demographic variables should have some kind of impact on the general attitudes toward use and implantation of technology, in general, and the Internet, in particular. I have no other justifications in this regard, as the result was beyond the researcher's expectations.

Table 3

Mean scores, standard deviations, P. value and significance level related to variables associated with attitudes toward the internet

Variables	P. Value	Significance
Age	-.132	.193
Type of School	-.069	.497
Familiarity with the Internet	.035	.733
Experience in using the Internet	.004	.970
Education students received on the Internet	.044	.664
Hours students spend using the Internet	-.089	.379

Note: Correlation is significant at the 0.05 level (2-tailed).

Discussions

The findings of this study are that the overall students' attitudes among EFL students attending English classes in Saudi Arabia were found, to some extent, positive. Such findings lead the current researcher to say that students were fully aware of the significant role of the Internet in learning. This is something expected in light of the fact that the Internet is a fast-growing technology and a way of communication, exchanging ideas, retrieving information, a source of learning, and a way of easily reaching knowledge. The results obtained were in line with the studies conducted previously in the same arena. This result surely reveals how important the Internet is in education, in general, and learning foreign languages, in particular. Today, the Internet is growing in the field of education, and the Internet as a technology tool plays an essential, influential role in the learning process. This fact cannot be denied, particularly among

professionals. The Internet's role improves the performance and achievement of students, not only in one skill but in all language skills.

Thus, it is no surprise at all that we find students holding positive attitudes toward the use of the Internet. This holds true for any basic learner, irrespective of being EFL. Studies have clearly realized that the Internet is a rich source of information as a tool not in use until the last couple of decades. No one can deny the fact that without the Internet, it is difficult to retrieve quick information. This is why the Internet became a tool that eases the process of research as well as playing a role in opening the window for students in the culture of the foreign languages, such as English. On this point, Kulekcd (2009) elaborated that the Internet is a good source for acquiring the culture of the target language, namely English.

One might argue that even if a student has a good background in the Internet, this would not guarantee that his performance will be sound. This claim could be correct; however, overall, a moderate level of Internet use still has an influence on students' performance. Apart from what we have highlighted above, in the Arab world—including Saudi Arabia—there is still a lack of Internet use in the educational sector, despite the fact that the Internet, in one way or another, is connected in a large proportion of educational institutions in the country. In addition, there is still a lack of an appropriate use of the technology itself. Worse than this is the slow connection speeds we observe in Saudi Arabia compared to the West, where the Internet is truly high speed.

Other findings were that none of the variables associated with the learners' attitudes were revealed. This result, in turn, showed that these characteristics of the learners do not contribute significantly to students' attitudes toward the Internet. This leaves a question as to why demographic factors do not have any weight on the overall level of attitudes toward the Internet among students in Saudi Arabia. The only possible explanation for this could be the cultural factor or the absence of students' awareness of the importance of variables associated with attitudes. Both justifications are acceptable, but the researcher cannot go further to find any other possibilities.

Conclusions and implications

Although a good scale of positive attitudes toward the Internet among EFL learners attending English classes in Saudi Arabia were held, the rationale is that using the Internet in the field of teaching and learning English in Saudi Arabia is still not up to expectations and has not yet found a strong foothold. We should not blame the figures standing behind this, as it might take longer time for a full implementation, particularly in a conservative country such as Saudi Arabia where a pre-arrangement for installing the Internet is required. Based on this, learners of EFL should be given more opportunity to use the Internet during class sessions. Thus, introducing basic Internet tools to students is highly advised in the early stages of education. The Ministry of Education should provide a good infrastructure for use of the Internet in all schools. Further, most of the courses should be taught through use of the Internet.

Based on this, more time allocated for this technology is highly advised. Hand in hand, there should be equal distribution of the Internet facility kingdom-wide for all schools. It is not fair to allocate more access to this technology in one area. More importantly, teachers themselves should be fully aware of the use of the Internet before teaching their students through the Internet. A lack in this regard could lead to negative implementation of the technology itself. Thus, teachers should be ready for the implementation of the Internet in language instruction on a large scale.

Additionally, the Internet should be available to each student with a high level of performance so they can have quick utilization in retrieving source information. The Minister of Education has no defense for this, as the financial budget allocated is more than enough to provide the best quality of Internet in all schools.

Apart from this, both teachers and students should be updated with the last versions of Internet software and training. This can be done through more opportunities to attend training sessions on the Internet. Being in a very conservative country such as Saudi Arabia, the apprehension of Internet use among students should be begun at early levels of education. This can be overcome in the form of developing more awareness of the value of the Internet. In turn, this will motivate and encourage students to use the Internet, not only in classrooms but also outside. This offers the advantage of allowing students to broaden their knowledge in the Internet and not be wary of such technologies.

Contributions

Because we need technology in each aspect of our life these days, particularly in education, officials responsible for education in Saudi Arabia should work seriously to provide the Internet for students, not only at intermediate or advanced level of education but also those in the early levels of education. This is a strong message that we hope to hear clearly from officials. Since Saudi Arabia is one of the Gulf States, students' facility on the Internet should not be less than the Internet facility for their counterparts in the GCC. It is not fair to find a small country in the Gulf area, with less financial budget, having good access to the Internet compared to Saudi Arabia, where its financial status is the strongest among all the countries in the region. Thus, if the officials are made aware of this, high-speed Internet should be offered to students, as we still witness a slow performance in this regard. Notwithstanding, we recommend broadening the Internet facility among students; however, the country should not have free Internet access or with no limitations or controls, due to cultural issues. This should be taken seriously, as open access to the Internet would definitely open the door for indulging in negative aspects of the Internet. The country should arrange, through Internet providers and educational institutions, a plan for Internet awareness and controls so that they fully understand appropriate implementation of this technology.

Suggestions for further research

Because there is a lack of research in exploring students' attitudes toward the Internet in Saudi Arabia, (most research was directed to teachers' attitudes), this study suggests the following:

1. More research to measure attitudes in the regard of EFL students at different levels so results can be compared with the current data.
2. More research is advised to measure the attitudes of students *other* than EFL so their attitudes can be compared with the level of EFL learners.
3. Research is needed to explore students' attitudes toward the Internet in private schools. This will allow comparison with results obtained for their counterparts in public schools.
4. Research is needed to explore any difference in attitudes between male and female students toward the Internet in Saudi Arabia.
5. A study is needed to investigate why Saudi Arabia—despite its strong financial budget—has not yet comprehensively implemented the Internet in all educational facilities.
6. A study is needed to know the causes of Internet misuse among students in Saudi Arabia.

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Editor's Note: This paper is a comprehensive exploration of email as a pedagogical instrument for teaching and learning, and for language learning in particular. It is a significant contribution for the many ways in which the Internet can be used to build motivation, engagement, interaction and collaboration between learners and between learners and teachers.

Computer-Mediated Communication:
e-mail literacy and language learning

Seyyed Behrooz Hosseini

Iran

Abstract

In recent years, technology has gained increasing attention, not only as a means of communication, but as an invaluable asset facilitating language learning and teaching. Pedagogical benefits of communicative technologies and the Internet have been extensively researched and a plethora of contributive results have been reported. The goal of this study was to review the effectiveness of computer technologies, and in particular e-mail, on language learning and teaching found in some previous research. Furthermore, this study gives an account of computer-mediated communication (CMC), its modes, and relevant definitions.

Keywords: computer-mediated communication, asynchronous CMC, synchronous CMC, the Internet, e-mail, chat, critical thinking, problem solving.

Introduction

The development of the computer and the widespread use of the Internet has turned CMC into a very important communication medium that has been used widely and effectively for a variety of purposes including interpersonal communication, information transfer, and pedagogy. The integration of technology into educational environments can be expected to have a myriad of positive effects on language learning and teaching. It has been proved that Internet-based communication has a significant motivational effect on the students (Meunier, 1996; Warschauer, 1996) resulting in the improvement of their communication skills both orally and in the written form. According to Quan-Hasse, Cothrel, and Wellman (2005), computer technologies have enabled learners to communicate ideas, information, and their feelings without any limit on time and space. Similarly, Zhao (2006) refers to the application of the Internet and states that the Internet is the first major medium of communication that allows people to establish new social contacts outside the face-to-face context as well as to maintain existing ties formed in corporeal contexts. According to Fey (1998) and Boone (2001), technology-based language learning has revolutionized the world of education and made it possible to transcend boundaries of classroom walls and to learn in new ways. Therefore, there is a need to further explore the advantages and potential effectiveness that this media has to offer in pedagogical environments.

Computer-Mediated Communication

According to Nguyen (2008), "CMC has been extensively researched from various disciplinary and methodological perspectives. This form of communication, using a broad scope of processes and tools, facilitates information design and delivery, and human-human and human-machine interactions with structural, cognitive and socio-cognitive implications" (p. 23). In order to gain insight into the nature of CMC, various definitions have been proposed from a wide range of perspectives. The term CMC was first coined and introduced by Hiltz and Turoff (1978) while experimenting on computer conferencing on the Internet. They viewed CMC as a medium for

creating, perceiving, transmitting, decoding, and encoding messages. This definition has been endorsed by various researchers. Barnes (2002) defines CMC as a wide range of technologies that pave the way for human interaction and sharing of information through interconnected networks of computers including e-mail, discussion groups, newsgroups, and real-time chat. December (1997) also states that CMC is a process of human communication via computers, involving people, situated in particular contexts, engaging in processes to shape media for a variety of purposes. Similarly, according to Warschauer (2001), CMC or "on-line communication refers to reading, writing and communication via networked computers" (p. 207).

However, over the past years, along with the fast-changing CMC technologies themselves, the definitions have changed to reflect the current view on language learning, i.e., process-oriented processes.

In general, CMC can be viewed both as intermediary tools and as a communication process. When viewed as tools, CMC is examined from technological aspects that provide the medium for communication. Other aspects are revealed when CMC is perceived as a communication process, which includes the message, the sender, and the receiver. It is therefore human factors with their sociocultural, historical, and pedagogical background that play significant roles during the interaction process through electronic media.

Synchronous and asynchronous CMC

It is conventional to divide CMC into two modes including synchronous (SCMC) and asynchronous (ACMC) (Luppicini, 2007; Pfaffman, 2008). Accordingly, Warschauer (2001) defines different modes of CMC as:

a. Synchronous computer-mediated communication, whereby people communicate in real time via chat or discussion software, with all participants at their computers at the same time;
b. Asynchronous computer-mediated communication, whereby people communicate in a delayed fashion by computer, e.g. by e-mail; and
c. The reading and writing of on-line documents via the internet. (p. 207)

SCMC discussions allow learners to communicate in face-to-face (FtF) contexts (Lee, 2001), and at the same time provides them with the opportunity to monitor their language use (Sykes, 2005). On the other hand, ACMC provides mediated media of communication which allows learners to deliberate, review, revise or even cancel the stream of communication before sending the information to the recipient (Heisler & Crabill, 2006). This valuable property of ACMC helps learners learn how to reflect on the content they are going to convey and be critical of what they have in mind before communicating it to others. Therefore, asynchronous technologies can deeply involve learners in the processes of critical thinking (Lee, 2004) and problem solving (Jonassen & Kwon, 2001) by demanding more focused and purposeful communication.

Pedagogical implications of SCMC and ACMC technologies have been extensively researched and positive results have been reported. With regard to ACMC, Warschauer (1995) emphasizes the role of e-mail and says that e-mail is one of the most important applications regarding the Internet. Sotillo (2000) also maintains that because of the delayed nature of e-mail, learners have more opportunities to produce syntactically complex language resulting in a significant improvement in their writing accuracy.

Regarding SCMC, reported evidence suggests that real-time, conversational exchange via text may indirectly develop L2 speaking ability (Abrams, 2003; Beauvois, 1997; Payne & Whitney, 2002). Researchers have also compared SCMC and FtF discussion on a number of dimensions, including the investigation of the effectiveness of SCMC as a preliminary activity for FtF

discussions. These studies have been cross-sectional in nature, frequently comparing the quantity and nature of linguistic output during one chat session as compared with FtF discussion. Findings from these studies endorse the effectiveness of SCMC both over FtF discussions and in promoting FtF.

According to Nguyen (2008), "Another widely-accepted classification of CMC is whether it is text-based or audio/video-based" (p. 27). Text-based CMC reflects the current view in educational environments and "has been the subject of research in many disciplines from general education to language studies" (p. 27). Nguyen (2008, p. 27) summarizes this concept in the following figure:
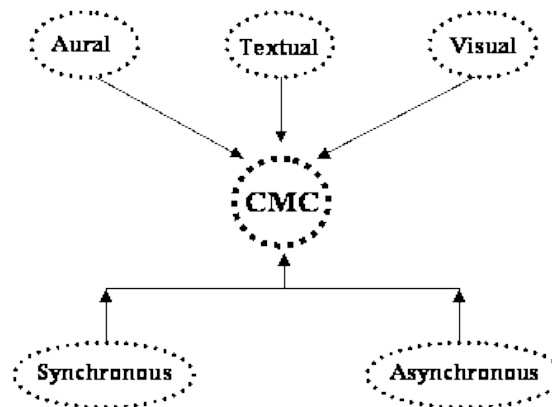

Figure 1. Modes of CMC

Nonetheless, information technology in general and CMC in particular have been developing so rapidly that they not only encompass educational contexts but have taken one step further to include Wikis, Blogs, Podcasting and Gaming. Blogs and Wikis can be used either synchronously or asynchronously depending on participants' preferences, objectives, pedagogical, and cultural and sociocultural traits.

In summary, alongside ACMC which has already gained its place in both daily communication and educational environments, "using SCMC for learning and practicing a target language now seems like the most natural thing in the world" (O'Rourke, 2008, p. 227). SCMC and ACMC with their peculiar characteristics, complement each other (Honeycutt, 2001). Nguyen (2008) refers to Ingram and Hathorn (2004) and states that "while synchronous discussions may be best suited for brainstorming and quickly sharing ideas during interaction, asynchronous exchanges allow more time for considered opinions and are more effective for deeper discussion of ideas" (p. 28). Therefore, a combination of synchronous and asynchronous technologies seems to be necessary to promote the kind of engagement and depth required in collaborative learning. In line with the current communicative, socio-cognitive trends in education, both synchronous and asynchronous CMC offer numerous opportunities for language learners in collaborative learning and are now a significant ground for investigation in applied linguistics.

E-mail: constituents and features

Electronic mail was originated at Massachusetts Institute of Technology in the early 1960s. According to Hafner and Lyon (1996), the first electronic mail was sent in 1972 in the United States. Since then, e-mail has found its ground in many areas including business, academia, etc. Nowadays it is widely used to facilitate communication and information transfer among people all over the world at a click of a button.

A typical e-mail message consists of the following constituents:

- *TO*, contains the e-mail addresses of the recipients.
- *CC*, short for Carbon Copy, includes e-mail addresses of the people who receive a copy of the message.
- *BCC*, short for Blind Carbon Copy, includes the e-mail addresses of other recipients who receive copies, but their names and addresses are hidden from the other recipients.
- *Subject* includes the main topic of the message.
- *Attachment* includes the names of files attached to the email.
- *Emoticons* express the facial expression and intrinsic feelings of the sender in the form of an icon.
- *Format* offers various options on how to structure the message.
- *Body* contains the message itself.

The following figure illustrates different sections of an e-mail.

Figure 2. E-mail Sections

The following table summarizes general features of e-mail proposed by Lee (2002, p. 5).

Table 1
General features of e-mail

	e-mail
Synchronicity	Asynchronous (delayed replies)
Length limit	No restriction
Structure of message	In paragraphs, close to a handwritten letter
Structure of interactions	One-to-one, one-to-many
Presence of participants	Only sender's presence is required
Social context	Official, academic, administrative, educational..etc
Formality	Formal and informal
Content	Information exchange with specific subject
Major users	ALL

E-mail and Language Improvement

According to Baron (1998), e-mail is the most popular communication technology medium, and along with CMC are of great interest to linguists researchers. E-mail also diminishes the distance between speakers from different backgrounds, as well as providing easier access for intercultural interaction (Baron, 2000).

Levy (1997) views e-mail as one of the most effective and practical means of language learning and teaching in an online educational context. Additionally, as stated by Kim (2008), "Email has been used in a variety of instructional contexts. Obvious benefits of email include efficiency, convenience, and cost" (p. 189) which further facilitate communicative purposes.

Similarly, Kim (2008) refers to the applicability of e-mail in different contexts and states that "email is widely used in everyday life as well as in teaching and learning contexts, for example, online classes, face-to-face classrooms, and in hybrid learning environments. In fact, use of email technology has been studied in a variety of contexts" (p. 188). Kim (2008) also cites various studies substantiating the efficacy of e-mail communication in maintaining close teacher-student relationship (e.g., De Montes & Gonzales, 2000), stimulating contemplation abilities among learners (e.g., Van Der Meij & Boersma, 2002), inspiring active engagement in the learning process (e.g., Clingerman & Bernard, 2004), developing students' writing abilities (Brown & Dexter, 2002), and improving "reflective and critical thinking" (Overbaugh, 2002, p.119) among learners. Kim (2008) has summarized some findings regarding pedagogical benefits of using e-mail as following:

- Enabling immediate, frequent support for individual needs; learner-centered context; individualized instruction; exchange of resources and information (Cascio & Gasker, 2001; Cifuentes & Shih, 2001; Cook-Sather & Mawr, 2007; Davenport, 2006; Grünberg & Armellini, 2004).

- Fostering psychological comfort; intimacy; expression of personal ideas, opinions, and emotions; informal conversations; social content exchanges; interpersonal context (Clingerman & Bernard, 2004; Davenport, 2006; Harris & Jones, 1999; Poole, 2000).

- Building interpersonal skills; collegiality; awareness of others' attitudes; insights into others' perspectives; close relationship (Brown & Dexter, 2002; Clingerman & Bernard, 2004; Cook-Sather & Mawr, 2007; De Montes & Gonzales, 2000; Grünberg & Armellini, 2004; Overbaugh, 2002).

- Developing thoughtfulness; cognitive task structuring; careful analysis; critical thinking; reflection; planning (Boxie, 2004; Cook-Sather & Mawr, 2007; Overbaugh, 2002; Van Der Meij & Boersma, 2002).

- Encouraging interest; enthusiasm; motivation; self-esteem; self-confidence; change in personal values; active participation (Boxie, 2004; Cascio & Gasker, 2001; Clingerman & Bernard, 2004; Davenport, 2006; Overbaugh, 2002).

- Permitting authentic but convenient context; gap reduction between knowledge and practice; real-world anxiety decrease (Cook-Sather & Mawr, 2007; Davenport, 2006; Poole, 2000). (p.191)

Sproull and Kiesler (1991) refer to the superiority of e-mail communication over FtF interaction and mention that shy and introverted people can greatly benefit from information exchange via e-mail because "ephemerality and plain text in electronic mail reduce the fear of appearing foolish in front of others. By removing reminders of a possibly critical audience, electronic mail induces people to be more open". This advantage, in turn, diminishes "social differences apparent in face-to-face communication" (p. 42-43). Kitade (2000) also refers to the advantages of e-mail

communication and states that due to the "absence of authority" in computer mediated communication, it provides more reticent learners with more opportunities to participate in interpersonal interactions "due to a lack of intimidating non-verbal cues" (p. 147). Additionally, Hoffman (1996) refers to the advantages of asynchronous technologies over FtF communication and stated that the ''anonymous quality of network communication can be face-saving as well, relieving learners of the inhibitions associated with face-to-face communication and allowing them to express themselves more freely'' (p. 55).

Text-based CMC, by nature, engages learners in exchanging written messages in the target language which results in superior written skills. According to Shang (2007), "Apart from the advantage of reducing student anxiety, numerous studies have demonstrated that email is the most useful tool employed in class to improve students' writing skills over and above their listening, speaking, and reading skills" (p. 81). Additionally, Hoffman (1996) refers to the effectiveness of e-mail in enhancing learners' written communicative skills and says:

> Electronic mail provided students with more timely, more complete, and more usable information about their writing and assignments than written comments on work returned to them. They also found, on occasion, that email feedback was more face-saving and less stressful than face-to-face communication. (p. 65)

As argued by Fotos (2004), "e-mail provides opportunities for … meaning based discourse to occur regardless of the distance of the interlocutor" (p. 111). Fotos also maintains that some studies have also shown that e-mail has certain characteristics of both oral and written communication (e.g., Crystal, 2001; Murray, 1995, 2000). Fotos refers to Murray's (1995) study and mentions that "research suggests that e-mail generally uses a simplified speech-like register and simple vocabulary In terms of grammar, sentences may be quite speech like, and subjects and verb parts are sometimes omitted". Additionally, "In e-mail, simplicity doesn't indicate low levels of language proficiency but is rather a feature of the genre" (p. 114). Fotos mentions numerous studies on the pedagogical uses and benefits of e-mail (e.g., Kern, 1996; Warschauer, 1995a; Pennington, 2004) and suggests that "e-mail exchanges not only enabled L2 students to control their own learning and interaction but also to spend more time on the learning task and become better writers because they had an authentic audience and a communicative purpose for writing" (p. 116).

As stated in Fotos (2004), numerous studies have also substantiated the potential benefits of e-mail communication in enabling learners to "develop their thoughts and ideas", "learn about different cultures", and "improve their English proficiency, giving them feelings of accomplishment and enjoyment" (p. 116). As stated in Absalom and Marden (2004), in the last decade the use of email communication has been successfully integrated into the teaching of languages at university level (Chapelle, 2001; Warschauer & Kern, 2000). This has profoundly altered the dynamics of interaction creating a learning environment which can be described as interactive and collaborative as well as student- rather than teacher-oriented (Leahy, 2001; Porcelli & Dolci, 1999; Spina, 1998; Warschauer, 1996). Through the use of e-mail interaction, an increasing number of scholars argue that students can exercise and acquire the target language in authentic, motivating contexts which offer real communicative perspectives (e.g., Beauvois & Eledge, 1995; Fedderholt, 2001; Porcelli & Dolci, 1999; Warschauer, 1996).

Stockwell (2003) also refers to some previous studies on the benefits of e-mail and states that "These include increases in motivation due to interaction with a real audience, reduction in stress through anonymity, opportunities for authentic communication, increased participation and development of learner autonomy" (p. 38).

According to Absalom and Marden (2004), "it is also possible that students feel more comfortable interacting in CMC because there is no fear of bad pronunciation" (p. 406). The

notion of alleviating the need to have "above standard" pronunciation in text-based CMC has also been accounted for by Roed (2003). Another advantage of e-mail is that it allows learners to review and ponder on the previous messages resulting in developing more deliberate communication than FtF communication (Absalom & Marden, 2004).

Shang (2007) refers to the scarcity of the investigation "regarding linguistic characteristics" of foreign language writing and states one study conducted by Li (2000) investigating "the linguistic characteristics of 132 emails of ESL students in tasks that differed in terms of purpose, audience interaction, and task structure. Statistical results showed that in email tasks, students tended to produce syntactically and lexically more complex texts" (p. 82).

In order to incorporate e-mailing as an invaluable educational asset into language classes, various factors should be taken into consideration. According to Shang (2007), "it is important to look into the linguistic characteristics of students' email writing, and examine the relation between the number of email exchanges and the students' writing performance, so as to effectively integrate such an approach into the EFL curriculum" (p. 83).

Despite the aforementioned studies and the beneficial results reported on the advantages of integrating e-mail into educational environments, Kim (2008) refers to Burgstahler and Cronheim (2001) and argues that up to now "these studies have not provided sufficient information about how to design and develop email to exploit cognitive and noncognitive" (p. 191) facets of language learning.

In conclusion, language specialists and teachers need to educate themselves more about the pedagogical uses of communication technologies and in particular e-mail and much more effort must be made to transcend boundaries of the classroom and gradually abandon traditional views towards language learning and teaching in order to facilitate the integration of communicative technologies into language learning contexts. Therefore, more investigation is merited as to how to implement and exploit the full potential of e-mail exchanges as a fundamental means of communication regarding electronic media in language learning environments.

Conclusion

With reference to the aforementioned studies and significant contributions of computer technology to education and language learning, it stands to reason that CMC and in particular e-mail exchanges definitely assist language learners to experience new ways of learning and discover the intrinsic value of technology in enabling them not only to advance their academic achievements but to minimize negative effects of various psychological factors such as shyness, reticence, fear of being laughed at, lack of sense of belonging, worry, etc. On the other hand, they help learners improve their self-esteem and confidence, communicative and social skills, sense of belonging, participation, etc. Despite the fact that an increasing number of researchers have so far conducted numerous studies investigating the effectiveness of computer technologies on different aspects of language learning, there is still plenty of room to further experiment with these still evolving and promising media with regard to language development. Therefore, this study was undertaken with the hope of familiarizing interested researchers with numerous advantages of this pristine searching ground and encouraging them to further investigate pedagogical contributions of computer technologies in language education.

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Teaching Presence in a Virtual Language Learning Environment

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Iran

Abstract

This study aimed to investigate the extent to which teaching presence, one of the elements of the Community of Inquiry (CoI) framework, exists in two virtual language teaching centers of Iran. The participants of the study consisted of 107 students attending college virtually at Bachelor of Science (B.Sc.) level. A questionnaire was developed by the researchers on the basis of the indicators of teaching element of the CoI framework. The analysis of the questionnaire data showed that (a) considering the categories of teaching presence, the *facilitating discourse* category appeared more frequently than others in virtual centers of this study, and (b) indicators of *acknowledging contribution*, *time parameter*, *sharing personal meaning*, and *encouraging and reinforcing contribution* were hierarchically frequent.

Keywords: COI, Community of Inquiry, teaching presence, cognitive presence, social presence, design and organization, facilitating discourse, direct instruction.

Introduction

"The future of education is e-learning and a vision based on a deep understanding of its potential" (Garrison & Anderson, 2003. p. 118). E-learning is transforming teaching and learning in higher education and in times of fundamental change, successful transformation depends not only on strategic development but also on the sound theoretical and conceptual bases. A number of universities and virtual centers in Iran are making substantial investments in e-learning, and there is a continuing growth in the enrollment of such courses in those institutions. However, due to the lack of strategic direction and coherent approaches, there is little benefit or fundamental change. This study is a descriptive research on the framework suggested by Garrison, Anderson, and Archer (2000). It aims to investigate the extent to which the indicators and categories of teaching presence as one of the elements of the CoI framework exist in virtual environment of two Iranian universities from the perspective of virtual students. It is important to note that this study is the first investigating this element of the CoI model with regard to Iranian virtual students' perspectives. In addition, it tries to help answer calls for developing a conceptually grounded basis for examining the processes of virtual language learning.

Literature survey

The literature mainly consists of CoI framework, the teaching presence (i.e., one of the elements of this framework), and the categories of teaching presence which are discussed below.

Community of inquiry

Garrison, Anderson, and Archer (2000) developed a model of a Community of Inquiry (CoI), which combines cognitive presence, teaching presence, and social presence. Garrison (2009) defined social presence as "the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities". Garrison, Anderson, and Archer (2001), having considered cognitive presence as the heart of an educational experience, argued

that cognitive presence is "the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry" (p. 11). Teaching presence, according to Anderson, Rourke, Garrison, and Archer (2001), is also defined as "the design, facilitation, and direction of cognitive and social process for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (p. 5).

The CoI framework reflects the dynamic nature of higher-order learning and has shown to be useful in guiding research and practice in online higher education (Garrison & Arbaugh, 2007). It is grounded in a broad base of research in teaching and learning in higher education (Garrison & Anderson, 2003). The premise of this framework is that higher-order learning is best supported in a community of learners engaged in critical reflection and discourse. The philosophical foundation of the CoI framework, as suggested by Garrison and Archer (2000), is collaborative constructivism, and theoretically it is grounded in the research on deep and meaningful approaches to learning.

The CoI framework, since its initial formulation, has been adopted by educators worldwide. However, it was adapted to meet the needs of educational context. The CoI model has been the most frequently cited theoretical model used to explain online educational experiences, with extensive research having been undertaken around each of the individual presences (Arbaugh, 2007; Garrison & Arbaugh, 2007) and the CoI framework as a whole (Arbaugh et al., 2008). Garrison, Anderson, and Archer (2000) characterized CoI framework, and methods for measuring each of the three elements of this framework were suggested (Anderson, Rourke, Garrison & Archer, 2001; Garrison, Anderson, & Archer, 2001; Rourke, Anderson, Garrison, & Archer, 2001). Further, Rourke et al. (2001) described various methodological issues related to the framework itself.

The validity of the CoI framework and its conceptualizations of the individual elements were examined. For instance, Arbaugh et al. (2008) argued that the instrument that attempts to operationalize Garrison, Anderson, and Archer's (2000) CoI framework is a valid, reliable, and efficient measure of the dimensions of social presence and cognitive presence, thereby providing additional support for the validity of the CoI as a framework for constructing effective online learning environments. Bangert (2009) also provided empirical evidence to support the validity of the CoI model survey.

Teaching presence

To establish and maintain a CoI requires a thoughtful, focused, and attentive teaching presence. As Anderson, Rourke, Garrison, and Archer (2001) suggested, Teaching presence is "the design, facilitation, and direction of cognitive and social process for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (p. 5). As can be deduced from this definition, teaching presence brings all the elements of CoI together in a balanced and functional relationship congruent with the intended outcomes, needs, and capabilities of the learners. Teaching presence can be argued to be a mechanism for bridging the transactional distance between learner and instructor commonly associated with distance education (Moore, 1973, 1983).

Collison, Elbaum, Haavind, and Tinker (2000) described different roles online facilitators can play, advocating 'the guide on the side' style of facilitation for developing a learning community. The voices that a facilitator should utilize when communicating online are: generative guide, conceptual facilitator, reflective guide, personal muse and mediator or role play (Collison et al., 2000). At times the teacher may be a guide on the side (i.e., facilitator), or a sage on the stage (i.e., a direct instructor) – and, at other times, a convergence between the role of an active moderator. All these roles require teaching presence with an educational goal in mind.

Teaching presence consists of three major categories: Design and organization, Facilitating discourse, and Direct instruction. Table 1 shows the indicators of each category.

Table 1
Categories and Indicators of Teaching Presence

Categories	Indicators
Design & organization	Setting curriculum and methods, Designing methods, Establishing time parameters, Utilizing medium effectively, Establishing netiquette, Making macro-level comments about course content
Facilitating discourse	Sharing personal meaning, Identifying areas of agreement/disagreement, Seeking to reach consensus/understanding, Setting climate for learning, Drawing in participants, Prompting discussion, Assessing the efficacy of the process, Encouraging, acknowledging, or reinforcing student contribution
Direct instruction	Focusing discussion on specific issues, Press content/questions, Summarize the discussion, Diagnose misconceptions, Inject knowledge from diverse sources, Responding to technical concerns

Teaching presence has been investigated by a number of researchers (e.g., Burgess, Slate, Rojas-LeBouef, & LaPrairie, 2010; Dringus, Snyder, & Terrell, 2010; Garrison, Cleveland-Innes, & Fung, 2010; Ke, 2010; Shea, Sau Li, & Pickett, 2006; Torras & Mayardomo, 2011; Traphagan, et al., 2010). For instance, Shea et al. (2006) aimed to investigate variations in online learners' sense of classroom community as it was relevant to perceived levels of instructors' teaching presence. To this end, 1067 learners responded to a survey seeking to understand their sense of community in classroom-based and online environments, as assessed by Rovai's Classroom Community Index. They were also asked to rate their instructors' use of three categories of teaching element based on a developed survey entitled "Teaching Presence Scale". The results showed a clear connection between perceived teaching presence and students' sense of learning community. The respondents tended to report higher levels of learning and community. In addition, they reported that the instructors exhibited effective instructional design and organization and directed facilitation of discourse.

Dringus et al. (2010), in a pilot study, investigated if instructors' use of mini audio presentations (MAPs) in online discussions can be considered as an effective facilitation method. A two-part survey, distributed among 34 students, was used to examine the students' perspective towards MAPs as a way to enhance teaching presence, immediacy, and students' participation and satisfaction in the study. The first part consists of the statements from the facilitating discourse subscale of Shea et al.'s (2006) Teaching Presence Scale items. The other part was related to verbal immediacy adapted from Arbaugh (2001) and Gorham (1988). Sixteen students responded to the survey. The results showed a moderate to high agreement with all items on the survey. The findings revealed that the use of audio appeared to facilitate discourse, enhance teaching presence, and sustain dialogue in online discussion forums.

In another study, Burgess et al. (2010) made use of the CoI's Multi-user Virtual Environment Education Evaluation Tool (MUVEEET), and the CoI survey in the multi-user virtual environment (MUVE) and second life. The objectives of the study were (a) to investigate the extent to which graduate level instructional technology students experienced three elements of CoI framework inclass activities held in SL, and (b) to examine the students' perception regarding the experience of the three elements within SL. Participants of the study who were at

graduate level (N=10) were purposefully selected. The observational and perceptual data were gathered from their responses to two instruments: MUVEEET and the CoI Survey. This study suggested the efficacy of assessing social, teaching, and cognitive presences within a MUVE. With regard to teaching presence, the frequency of observations of design and organization, facilitating discourse, direct instruction, logistical focus, side channel control, and teacher representation was 14, which fell in the medium range. The findings revealed that the instructors should support SL instruction by using the CoI framework's survey and/or the MUVEEET for assessment of CoI existence.

Torras and Mayardomo (2011) investigated the relationship between the techno-pedagogical design of an electronic portfolio (Transfolio), the teaching presence focused on the use of the tool and the student regulation processes in the two postgraduate courses. A mixed methodology including a naturalistic observation, content analysis, and comparative statistics was used in this study. Concerning self-regulation and teaching presence, Group 1 received assistance based on techno-pedagogical design while Group 2 received support provided by techno-pedagogical design along with the support of the instructor on the use of the resource. The results of the study indicated that in designing eportfolios, techno-pedagogical considerations should be taken into account. Further, emphasis should be placed upon the importance of teacher–student dialogue in the use of the tool and the learning content. It was also suggested that the teacher must allocate a certain amount of time to make the students familiar with the tool before embarking on the learning activity.

Methods

The participants of this study were 107 Iranian students at Iran University of Science and Technology and Khajeh Nasir Toosi University of Technology. The participants were at a B.Sc. level majoring in "Computer Engineering" (17 participants), "Information Technology" (44 participants), and "Industrial Engineering" (46 participants). In order to carry out the study, students participated in a web-based closed survey. The survey was designed based on the information obtained from reviewing teaching presence of Garrison et al.'s (2000) CoI Model (see appendix A). It was conducted to find out the existence of teaching element, categories, and indicators of this element in virtual centers of this study. The survey consisted of 16 questions with Yes/No responses. To establish the content validity of the questionnaire, the survey was classified based on the indicators and categories of teaching presence (see appendix A).

The final English version of the questionnaire was translated into Persian using a back translation method to assure its validity. A PhD holder in TEFL, three virtual English language instructors, and eight virtual students assessed the content of the translated version of the questionnaire. They were asked to check the questionnaire for possible problems and ambiguities. Necessary changes were made based on the feedback received, and the revised questionnaire was also checked for possible difficulties and obscurities. Two follow-ups, a letter and a copy of the Persian version of the questionnaire were sent via email to 107 virtual students. The researchers clearly explained the purpose of this research to respondents and informed them that to answer the questions, they needed to consider their English language classes in virtual environment. The collected data were analyzed. In other words, the frequencies and percentage of each indicator were determined. Additionally, the descriptive statistics of the categories of teaching presence were calculated.

Results

As described previously, the questionnaire consisted of 16 questions which were written based on the indicators of teaching presence of CoI model. Cronbach's Alpha test was used to estimate the consistency of participants' responses to the questionnaire. The results showed a reliability

coefficient of 0.82 which indicated that the responses to the teaching items in the CoI were consistent enough. The descriptive statistics of the indicators of teaching presence is as follows.

Table 2
Frequency, Percentage, and Rank of the Indicators of Teaching Presence

Indicators	Agreement			Disagreement		
	f	*p*	*Rank*	*f*	*p*	*Rank*
Utilizing medium	66	61.7	8	41 38.3		9
Setting curriculum and method	31	29.0	15	76	71.0	2
Establishing netiquette	44	41.1	12	63	58.9	5
Identifying agreement/disagreement	34	31.8	14	73	68.2	3
Time parameters	75	70.1	2	32	29.9	15
Acknowledging contribution	77	72.0	1	30	28.0	16
Setting climate for learning	63	58.9	9	44	41.1	8
Sharing personal meaning	72	67.3	3	35	32.7	14
Encouraging & reinforcing contribution	70	65.4	4	37	34.6	13
Diverse sources	48	44.9	11	59	55.1	6
Summarize	29	27.1	16	78	72.9	1
Technical concerns	36	33.6	13	71	66.4	4
Diagnose misconceptions	52	48.6	10	55	51.4	7
Press content	69	64.5	5	38	35.5	12
Setting curriculum and method	67	62.6	7	40	37.4	10
Designing methods	68	63.6	6	39	36.4	11

As shown in Table 1, Acknowledging contribution, Time parameter, Sharing personal meaning, and Encouraging and reinforcing contribution indicators received the most positive replies, while Summarize, Setting curriculum and method, Identifying agreement and disagreement, and Technical concerns indicators received the least amount of positive replies respectively. The frequency distribution of the indicators of teaching element is presented in Figure1.
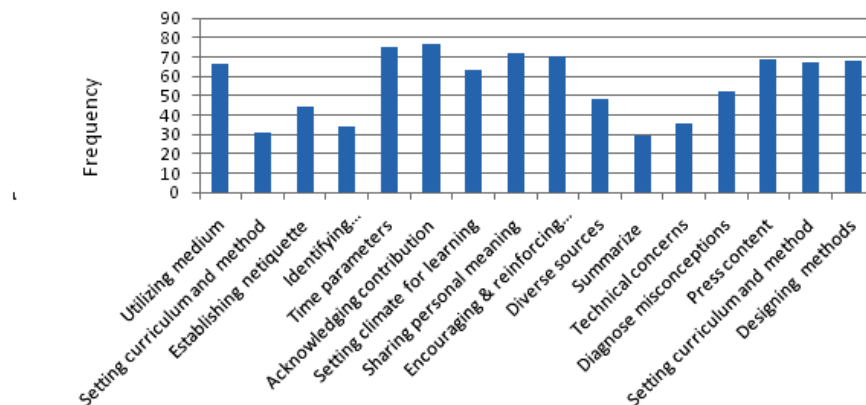

Figure1. **Frequency distribution of indicators of teaching presence.**

As figure 1 demonstrates, the Acknowledging contribution indicator received the highest frequency (f =77) while the lowest frequency belonged to Summarize indicator (f =29). The means comparison of the categories of teaching presence is illustrated in Figure 2.
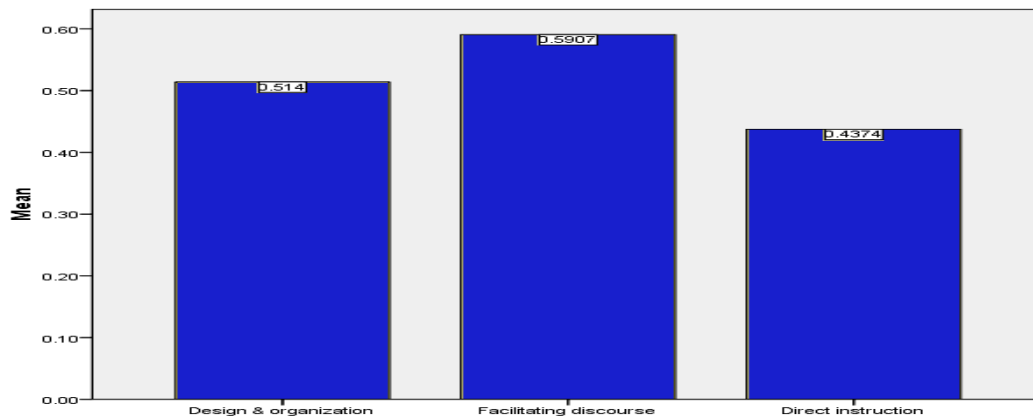

Figure 2. Means comparison between categories of teaching presence.

As Figure 2 demonstrates, the Facilitating discourse category appeared more frequently than others and received the highest mean (M =0.59) while Direct instruction category accounted for a small proportion of the overall positive replies of the students to teaching presence items and received the lowest mean (M =0.43).

Discussion

Design and organization

In this study, Setting curriculum and method and Designing methods indicators received the small amount of positive replies. It might be due to the fact that learners did not have the freedom to choose when and what to study; instructors plan how virtual interactions should take place, and how management and direction of such interactions should be carried out to ensure learning outcomes. They did not give any freedom to learners to choose the content, the pace, and sequences of the learning materials, and the classes were totally teacher-centered. In order to clarify the rules and guidelines of virtual engagement, the instructors set up some boundaries on the learners' interactions. For instance, the learners were asked not to interrupt when the instructors were explaining a grammatical point, or when a reading section was being taught.

As Shea, Frederickson, Pickett, and Pelz (2003) argued, the Instructional design and organization category does not only focus on presession management, but on ongoing monitoring and management of the virtual structure of the environment. TEFL instructors of this research, on the other hand, provided materials of the following sessions or the Power Point presentations and lecture notes from the beginning onto the course site.

Establishing time parameters indicator received more positive replies. This might be attributed to the fact that from the first session, the instructors communicated important date/time frames for learning activities at the beginning of the course to help the learners have an organized program to study during the semester. For instance, the learners were informed that they needed to complete the assignments and submit them via email to their instructors during the specified time.

It is believed that all virtual teachers should be equally adept at using the medium appropriately. However, this indicator did not receive more positive responses from respondents. This could have resulted from the fact that the virtual instructors did not receive specific instruction with regard to teaching in virtual centers and that they had different levels of computer and information knowledge.

Establishing netiquette indicator received a low mean value. This might be due to the limited time the instructors had to help their students understand and practice the kinds of behaviors acceptable in a virtual learning environment.

Facilitating discourse

Regarding Encouragement and reinforcing student contribution indicator, the instructors of this study encouraged collaboration and group work. However, as some learners taking the classes worked full-time and some had limited web access from home, it made it difficult for instructors to establish an organized virtual community and have virtual team projects.

As Arbaugh and Benbunan-Finch (2005) suggest, the ideal size of online classes is between 25 and 30 students. However, the virtual classes in this study differed substantially from the norm, and there were even some classes held with 1000 learners. As a result, the attendance of a huge number of learners made it almost impossible for instructors to specify group works. Sharing personal meaning indicator was relatively frequent in classes of this research in that the learners could share their personal meanings though the primary focus was on materials presentation through a predetermined syllabus.

The findings of this study with regard to Facilitating discourse category were in contrast with those of Anderson et al.'s (2001) study in that they suggested that Facilitating discourse requires the instructors to review and comment upon student comments and questions raised by them, to make observations to move discussions in a desired direction, to keep an efficient discussion, and to draw out inactive students.

Direct instruction

In this study, the indicators of Direct instruction category accounted for a small proportion of the positive replies in that Instructors, when deciding on the sources of virtual classes, did not teach from diverse textbooks, articles, and/or internet-based materials. Rather, they taught predetermined and old materials mostly based on Grammar Translation Method. It might be due to the limited specified time and the e-learning principles of the universities in which they taught. Regarding students' technical concerns, the instructors did their best to solve the learners' problems. However, there were some specific technical problems that instructors could not solve; for instance, when students did not have the audio or image of the virtual class. Additionally, due to the great number of students in the class, the instructors did not have enough time to diagnose misconceptions and provide proper solutions. In addition, even though the instructors could reinforce key learning points by summarizing the discussion, this was not the activity performed by English language instructors. It could be assumed that the lack of time spent on this activity was the reason for the low mean of this indicator.

With regard to categories of teaching presence, the findings of this study are in line with those of Burgess et al.'s (2010) study in that the design and organization, facilitating discourse, and Direct instruction categories were not fully observed in the online environment and like this research, the frequency of the existence of the categories of teaching element fell in the medium.

Conclusions

Based on the results of this study, it can be argued that although the mean scores of some indicators are high, there are some indicators more specific to e-learning community (i.e., summarizing, technical concerns, identifying agreement/disagreement, setting curriculum and method, and establishing netiquette) which received less positive replies from the participants of this study. In addition, direct instruction and design and organization categories received the mean scores around M= 0.5. Accordingly, we can conclude that the teaching presence does not fully exist in the virtual centers of this study.

Such research may contribute to an important and necessary transformation in the theoretical and empirical foundations of virtual learning system. Generally speaking, this study has implications for syllabus designers, materials developers, virtual instructors, online learning researchers, and virtual centers and institutions. For instance, in virtual classrooms, the materials presented are of great importance. Therefore, the materials should be selected and presented in such a way that learners' improvement is fully achieved. Further, syllabus designers and materials developers should develop specific materials and textbooks for virtual learners, and this study may aid to present a conceptually grounded and empirically sound basis for developing appropriate materials for virtual learners. Additionally, all virtual educators, especially TEFL virtual educators, can benefit from the results of this study. They could try to incorporate the indicators of the teaching element of the CoI model into the method of their teaching. Virtual centers and institutes can also benefit from the results of this study; they can try to incorporate the elements of CoI framework into the educational system they offer.

There are some limitations to this research, however. For instance, to be able to more accurately generalize the results, it would be necessary to increase the sample size and test the framework more extensively. Additionally, it is worth mentioning that all the data were gathered from two virtual centers. Other researchers could try to test the research inquiry at various virtual centers and institutions, especially in diverse cultural contexts.

It is believed that there is abundant potential for research in the CoI framework. This study investigated the virtual learners' perceptions of the teaching element of CoI model in Iran. There is a need to carry out the same study with taking into account the virtual instructors' attitudes towards this element. This study was based on the teaching element of the CoI framework. Other studies can be carried out investigating social and cognitive elements. Finally, this study made use of teaching element for investigating English language classes of virtual learners. It could be of value if other studies examine this element in other courses in online educational systems.

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Appendix A

The English Version of the Questionnaire

A.1. Design and Organization Category

Utilizing medium

1. Does your instructor utilize the medium effectively?

Setting curriculum and method

2. Do you have the freedom to choose the learning materials?

Establishing netiquette

3. Does your instructor help you understand and practice the kinds of behavior acceptable in the virtual learning environment?

Identifying agreement/disagreement

4. Is your instructor helpful in identifying areas of agreement and disagreement on course topics?

Time parameters

5. Does your instructor clearly communicate important date/time frames for the learning activities?

Setting curriculum and method

6. Does your instructor clearly communicate important course goals at the beginning of each semester?

Designing methods

7. Does the instructor provide you with clear instructions on how to participate in the course learning activities?

A. 2. Facilitating discourse Category

Acknowledging contribution

8. Does your instructor acknowledge your contribution in the class activities?

Setting climate for learning

9. Does your instructor set the climate for learning?

Sharing personal meaning

10. Could students share their personal meanings in the class?

Encouraging and reinforcing collaboration

11. Does your instructor encourage and reinforce student contributions and discussion?

A. 3. Direct instruction Category

Diverse sources

12. Does your instructor present knowledge from diverse sources?

Summarize

13. Does your instructor summarize the discussion at the end of the class?

Technical concerns

14. Does your instructor respond to your technical concerns?

Diagnose misconceptions

15. Does your instructor diagnose misconceptions?

Press content

16. Have the learning materials been selected appropriately to help you learn effectively?

Appendix B The Persian Version of the Questionnaire

1ـ آیا استاد شما در استفاده از تسلط کافی تکنولوژ ی دارد ؟

2ـ آیا در انتخاب مطالب درسی آزادی عمل دارید؟

3ـ آیا استاد تان در زمینه نحوه رفتار متناسب با سیستم آموزش مجازی به شما آگاهی های لازم را داده است؟

4ـ آیا استاد تان نقش موثری در شناسایی نقاط قوت و ضعف فرایند یاد گیری شما دارد؟

5ـ آیا استاد تان در آغاز ترم تاریخ امتحانات و فعالیت های مهم کلاسی را ارائه می کند؟

6ـ آیا استاد تان از دانشجویان به دلیل شرکت در فعالیت های کلاسی قدردانی و تشکر می کند؟

7ـآیا استاد شما فضای مناسبی برای یاد گیری ایجاد می کند؟

8ـآیا امکان ارائه نظرات شخصی در کلاس برای دانشجویان فراهم است ؟

9ـ آیا استاد تان به تشویق و تقویت دانشجویان در شرکت در فعالیت ها و بحث های کلاسی می پردازد؟

10ـ آیا استاد شما مطالب درسی را از منابع مختلفی ارائه می کند؟

11ـ آیا خلاصه ای از مطالب درسی در پایان کلاس توسط استادتان ارائه می شود؟

12ـ آیا استاد به مسائل فنی شما دراستفاده از تکنولوژی پاسخ می دهد؟

13ـ آیا استاد در کلاس به تشخیص سوء برداشت ها ی شما می پردازد؟

14ـ آیا برای یادگیری موثر شما مطالب درسی به طور مطلوب انتخاب شده است ؟

15ـ آیا استاد تان در ابتدای ترم اهداف مهم درس را مطرح می کند؟

16ـ آیا استاد شما در ارتباط با نحوه انجام فعالیت های کلاسی اطلاعات لازم را فراهم می کند؟

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Editor's Note: This study provides useful guidelines on development of instruction in specific subject matter areas while simultaneously developing literacy and skills in the English language.

Relative impact of sheltered instruction on academic literacy and language development in Iranian ESP classroom context

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Abstract

The current study was an effort to implement sheltered instruction in the context of an Iranian *English for Specific Purposes* (ESP) classroom to compare its relative impact on academic literacy and language development. To do this, eighty six (86) university students of Islamic Azad University (Ilkhci Branch), who majored accounting, math, architecture and computer, were randomly assigned to experimental and control groups. The results of the study confirmed the efficiency of sheltered instruction. The experimental group outperformed the control group both in terms of language proficiency and academic literacy.

Keywords: sheltered instruction, academic literacy, language development, English for Specific Purposes (ES), ESP classroom.

Introduction

As a teacher of adults learning English, this question always occupied my mind: how is it possible to engage adult learners that have so many concerns about family, jobs, money, transportation; fatigue; and negative past experiences with education, that might inhibit their full engagement in class? The term engagement might be viewed as an ambitious and ideal result when all of the internal and external requirements for learner success are provided. Engagement can be defined practically and in the recent years there have been valuable efforts to theoretically define and practically exert it. One definition of student engagement distinguishes between procedural engagement and substantial engagement (Munns, 2004). A procedurally engaged student is one who follows traditional rules of behavior. He or she is quiet, looking at the teacher, has the book turned to the correct page, and may even help the teacher collect the homework. A substantially engaged student is one who not only attends to the built-in procedures of instruction but also interacts with the content of the lesson in a deep and thoughtful manner. In other words substantially engaged learners have the will, ability and persistence to participate in and carry out work in class (Beder, Tomkins, Medina, Riccioni, and Deng, 2006; Schalge and Soga, 2008). This level of participation and involvement might be expected only by making a clear link between learners' native language and culture and a genuine socio-emotional connection or relationship between the student and teacher (Cummins, 2001).

Equally important for engagement of English language learners is the teacher's delivery of instruction and how this teaching embraces the learner's need to learn language and content at the same time (Walqui, 2000). Such a goal has been the main challenge for language educators for the last three decades which might be achieved by *integration of language and content* (ILC) teaching and learning (Short, 2005). Models for ILC teaching and learning evolved from the communicative language approach as educators realized that the latter did not provide all the skills and vocabulary students needed to be successful in academic, mainstream classes once they exited a second language (e.g., ESL) program. Positive features from the communicative approach, such as inclusion of meaningful activities, a focus on learner needs, and promotion of student interaction, were incorporated. Programs that use ILC include content-based ESL, sheltered instruction, total and partial foreign language immersion, two-way immersion,

developmental bilingual education, early foreign language programs (e.g., content-based FLES). Among these programs, sheltered instruction and content-based instruction may be viewed as two ends of a continuum for integrated language and content teaching and learning. One focuses more on proficiency in the new language; the other, comprehension of grade-level subject curricula. So the implementation of these two approaches may vary with regard two objectives curriculum, teachers' goals or learners' needs.

Regarding the existing gap in Iranian L2 classroom context for research that tackles the aforementioned subject, the current study is an effort to implement sheltered instruction in Iranian ESP (English for Specific Purposes) classroom context to find a way for promoting students' engagement for ESP courses, especially for those who seem uninterested in such classes. As a secondary goal, this study aims to compare the relative impact of sheltered instruction on academic literacy and language development.

Literature review

Engagement background

Almost all language teachers dream for golden moments in a language classroom, when there is a real personal engagement from the learners' side with accompanying increase in confidence and fluency - moments when learners pick up odd and useful phrases and vocabulary items from their new language experience – or when may find the answer to some grammatical problem that has been worrying them for some time. How can we engage learners' interest so deeply to create such golden moments?

Numerous educational theories include a focus on learner engagement, tackling the issue of engagement from different perspectives. In Dewey's (1938) notion of experiential learning, learners are actively involved in the learning process; that is, they learn by doing. Freire (1970) insisted that learners' lives and issues must always be the content of literacy instruction. Vygotsky's (1978) notion of the zone of proximal development posited that when teachers structure learning opportunities at the appropriate level and with the right support, students become engaged in learning. Wenger (1998) described situated learning as an apprenticeship process that takes place within a community. Novice learners (in his case, teachers) learn by observing others, being coached and nurtured by more expert peers, and practicing what they have learned in a supportive environment. Young (2002) stated that "the more personally relevant the experience the more likely the student's minds and emotions will be engaged." A related work by Wenger (2006) describes communities of practice or "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly."

An alternative approach for tackling the issue of engagement is to promote learner involvement by connecting instruction to learners' experiences and needs. Condelli, Wrigley, and Yoon (2009) and Schwarzer (2009) express the need for teachers to engage learners by bringing the outside into the classroom. Adult learners use English when they watch TV; listen to music; participate in conversations with their children; and read signs, menus, memos, mail, email, recipes, newspapers, and magazines at home, work, and in the community. These materials can be used to facilitate learning in the classroom. Purcell-Gates, Degener, Jacobson, and Soler (2002) also found that adults were more likely to engage in literacy activities outside the classroom, such as reading the newspaper, using a bus schedule, and writing a letter to someone, when authentic texts were included in class. (See Jacobson, Degener, & Purcell-Gates, 2003, for practical teaching ideas on using a wide variety of authentic materials in instruction.) Weinstein (2002) recommended using teachers' and learners' stories as texts for classroom instruction, including for language-specific focus on grammatical structures and vocabulary.

Finally, researchers have studied the relationship between collaboration among learners and learners' engagement. A study of Japanese students in a noncredit ESL program in Canada found that students involved in collaborative peer-to-peer work received higher test scores than those working in pairs in which one partner dominated and the other did not participate equally (Watanabe & Swain, 2007). In a similar study Smith, Harris, and Reder (2005) found that when students collaborated in pairs on specific tasks, their tendency for adapting the activities they wanted and needed to learn increased significantly (Harris, 2005).

However developing an approach which integrates and exploits the aforementioned techniques efficiently is a demanding task. Sheltered instruction might be an example of such approaches with fairly acceptable results in its short history.

Sheltered instruction

The early motives for sheltered instruction must be sought in the growing diversity of American student s from different cultural, ethnical and native language background in the last two or three decades (Echevarria & Short, 2004). Given such variability in students' backgrounds, they often needed different pathways for academic success. To meet this challenge, fundamental shifts were necessary in teacher development, program design, curricula, materials, and in instructional and assessment practices. This was accomplished by sheltered instruction which promotes, in particular, strategies for improved teacher development and instructional practice. Sheltered instruction is the product of several research studies conducted by the authors since the early 1990s. Because language processes, such as listening, speaking, reading, and writing, develop interdependently (Genesee, Lindholm-Leary, Saunders, & Christian., 2006; August & Shanahan, 2006), sheltered instruction lessons incorporate activities that integrate those skills. So this model is a framework for teachers to present curricular content concepts to English language learners (ELLs) through strategies and techniques that promote their engagement by making information comprehensible to the students. This is done by integrating language and content. The goal is to teach content to ELLs through a developmental language approach. While doing so, teachers develop student academic language skills across the domains of reading, writing, listening, and speaking. The model combines features recommended for high quality instruction for all students, such as cooperative learning and reading comprehension strategies (Genesee et al., 2006) with specific features for second language learners, such as language objectives, oral language practice, and academic vocabulary development.

Components of sheltered instruction

Sheltered instruction is one example of a set of instructional strategies that are designed to support the needs of English Language Learners (ELLs). As many of these strategies encourage the use of visuals, they are also helpful for special education students, and particularly for bilingual special education students. Short and Echevarria (1999) outline three components of exemplary lessons that utilize sheltered instruction strategies: preparation, instruction, and review/evaluation. In the preparation phase, teachers develop both language and content objectives in order to help ELLs learn age-appropriate content at the same time that they improve their skills in English proficiency. In order to scaffold student understanding, teachers identify supplementary materials, like graphs and models, and content adaptations that will help ELLs understand the content the teacher is attempting to convey. During instruction, teachers utilize a number of strategies in order to make the content of the lesson comprehensible for ELLs.

First, teachers activate students' prior knowledge about the topic and link the new concepts to student's background and experience.

Second, teachers scaffold their instruction in a number of different ways. These scaffolding techniques involve simplifying language, providing support in the native language, modifying texts, repeating key points, frequent checks for understanding, explicitly teaching vocabulary,

and using a number of visual supports like real objects, words or pictures on the board or on an overhead projector, multimedia technology, graphic organizers, tables, graphs, timelines, maps, pictures, gestures, and demonstrations.

Third, teachers provide students with manipulatives and hands-on activities in order to help them understand the content.

Fourth, teachers create frequent opportunities for interactions between students and between the teacher and the students in order to engage the students with a discussion of the content of the course at the same time that the students are improving their language proficiency skills. In this way, ELLs practice new language in a meaningful way. These opportunities for interaction allow ELLs to improve their English proficiency as they negotiate meaning through social interaction with their peers.

At the end of each lesson, teachers review key vocabulary and key content concepts with their students in order to reinforce the objectives of the lesson. Students are then assessed on both the language and content objectives from the lesson.

Learning language and content are seamlessly interwoven in sheltered instruction and this means that the students receive help in developing academic English while they are learning grade-level content material. Students are provided extra support by including instructional techniques that make learning comprehensible to students. Although the model began as an observational tool called the SIOP (Sheltered Instruction Observation Protocol), through the efforts of Echevarria, Vogt, and Short collaborating with middle school teachers, it evolved into a framework that includes eight major components and 30 features that guide lesson plan development and instructional delivery. The eight components which include preparation, building background, comprehensible input, strategies, interaction, practice and application, lesson delivery, review and assessment are described accurately in Echevarria, Vogt,and Short (2000).

Implementing sheltered instruction

Sheltered content instruction is instruction that includes approaches, strategies and methodology that makes the content of the lesson more comprehensible to students who are not yet proficient in English (LEP). Sheltered content classes are characterized by active engagement by LEP students. Such classrooms are characterized by lesson plans that include language objectives that address the linguistic requirements of the content to be taught (e.g. content vocabulary) and content objectives. Incorporating language objectives in the sheltered content lessons has been challenging for most of the teachers who want to implement it (Echevarria & Short, 1999). Some content specialists do not easily recognize language learning opportunities. If anything, they concentrate on vocabulary development ESL specialists incorporate language much more readily. Teachers who are struggling to learn content they need to teach may lose track of language learning opportunities (Echevarria, 1998). Integrating language and content is a complicated process that must be clearly understood to develop meaningful language objectives that fit lesson content (Echevarria, Vogt & Short 2008). Besides the obvious inclusion of key vocabulary or grammar points, teachers must add language skills, like reading comprehension strategies or process writing. Moreover, ways to increase oral interaction opportunities that allows students to use language for functional purposes, such as negotiating meaning, justifying opinions, and making hypotheses, must be created and implemented in sheltered instruction.

Sheltered instruction and learners' progress

The purpose of this study is to determine if a relationship exists between the Sheltered Instruction and academic achievement for ELL university students and secondly to compare it with their language mastery. Literature revealed multiple studies focused on sheltered instruction at the elementary and high school level; however, studies of EFL university students are rare. The

model of SI provides teachers a framework for teaching content (Echevarria, 2005). It encourages the use of effective strategies to teach ELLs the mandated curriculum.

Research supports vocabulary development for ELLs as well as all learners. When coupled with additional successful strategies, such as peer collaboration in an authentic manner, the ELL is more successful and the language and content are acquired much faster (Echevarria et al., 2008;Doker, 2010; Pray, 2009). The reality is that the strategies promoted by the SI model are excellent for building content knowledge, comprehension, and thinking skills of all learners (Echevarria, 2005; Harr, 2008; Marino, 2009). Echevarria and Short (2004) studied the SIOP model, and report their research based on an 8-year project. They found that implementation of the Sheltered Instruction Observation Protocol (SIOP) program resulted in higher achievement, improved attendance, and fewer drop outs. According to Marino (2009), students taught by teachers trained in the SIOP model performed better on both English Language Proficiency exams and state assessments than students taught by teachers not trained in the SIOP model.

According to Echevarria, Richards-Tutor, Chinn, and Ratleff (2011), a direct relationship exists between the implementation stage of SIOP and student academic performance. Implementation fidelity for the SIOP model is an important measure to have in place in order to have a positive impact on student performance. The SIOP model protocol allows teachers to identify their level of implementation according to the descriptors and plan for improvements for individual growth in reaching ELLs (Echevarria, 2011). In Iranian L2 classroom context works dealing with scaffolding are rare and in the recent years effort have been made to examine the impact of sheltered instruction techniques like scaffolding and interaction on learners' progress which resulted in positive outcomes (Maftoon and Ghafoori, 2009; Bassiri, 2011, 2012; Pishghadam and Ghardiri, 2011).

Methods

To accomplish the current study 86 university students of Islamic Azad University (Ilkhci Branch), who majored accounting, math, architecture and computer, were randomly assigned to experimental and control groups. The experimental groups received the treatment (sheltered instruction) , while the control groups receiving the ordinary training during a university semester. The material s for the current study are ESP course books for accounting, math, architecture and computer published by SAMT Publication (The Organization for Composing Islamic Azad University Textbooks in Iran) and the adapted version of the aforementioned books for SI. Media for conducting the research such as TV sets, overhead projectors, whiteboard, and computer were also exploited. The tests used for the study are Oxford language proficiency test and the teacher made ESP tests whose validity has been examined beforehand.

To conduct the study participants were randomly assigned to experimental and control groups. It's worth noting that the homogeneity of experimental and control groups were also reassessed by learners' previous average scores on general English and academic subjects. Learners in the experimental groups voluntarily participated in the study while the control group received the ordinary training. The duration of the research was approximately four month. Table 1 shows the number of students in each group.

Table1.
Number of students in each majoring field and group

Majoring field / Group	accounting	math	architecture	computer
Experimental	12	10	13	10
Control	10	8	11	12

Results

The current study was an effort to implement sheltered instruction in Iranian ESP classroom contexts to find ways to promote students' engagement in ESP courses. As the secondary goal this study aimed at comparing the relative impact of sheltered instruction on academic literacy and language development. Eighty-six (86) university students of Islamic Azad University (Ilkhci Branch), who majored accounting, math, architecture and computer, were randomly assigned to experimental and control groups. The experimental groups received the treatment, while the control groups receiving the ordinary training during a university semester. At the end of semester their achievement in terms of language proficiency and academic literacy were tested. For statistical analysis, multivariate analysis of variance was conducted to examine the effect of treatment (sheltered instruction) on academic literacy and language development as it is clearly shown in tables 2 and 3, the experimental group outperformed the control group both in terms of language proficiency and academic literacy. With language proficiency the experimental group outperformed the experimental group with the significance of (p=.036) while the value for academic literacy was even more significant (p=.001). However the Sig. values .749 and .354 (respectively for academic achievement and proficiency) reveals that the interaction effect between treatment and majoring field of study is not statistically significant.

Table 2
Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	proficiency	35.289[a]	7	5.041	1.450	.198
	academic	54.234[b]	7	7.748	2.927	.009
Intercept	proficiency	17727.350	1	17727.350	5.099E3	.000
	academic	17249.502	1	17249.502	6.516E3	.000
sheltered	proficiency	15.898	1	15.898	4.573	.036
	academic	29.623	1	29.623	11.190	.001
major	proficiency	15.684	3	5.228	1.504	.220
	academic	14.116	3	4.705	1.777	.158
sheltered * major	proficiency	4.236	3	1.412	.406	.749
	academic	8.738	3	2.913	1.100	.354
Error	proficiency	271.177	78	3.477		
	academic	206.485	78	2.647		
Total	proficiency	18686.438	86			
	academic	18031.812	86			
Corrected Total	proficiency	306.466	85			
	academic	260.719	85			

a. R Squared = .115 (Adjusted R Squared = .036)

b. R Squared = .208 (Adjusted R Squared = .137)

Table 3
Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.990	3.860E3[a]	2.000	77.000	.000
	Wilks' Lambda	.010	3.860E3[a]	2.000	77.000	.000
	Hotelling's Trace	100.255	3.860E3[a]	2.000	77.000	.000
	Roy's Largest Root	100.255	3.860E3[a]	2.000	77.000	.000
sheltered	Pillai's Trace	.128	5.673[a]	2.000	77.000	.005
	Wilks' Lambda	.872	5.673[a]	2.000	77.000	.005
	Hotelling's Trace	.147	5.673[a]	2.000	77.000	.005
	Roy's Largest Root	.147	5.673[a]	2.000	77.000	.005
major	Pillai's Trace	.114	1.572	6.000	156.000	.159
	Wilks' Lambda	.889	1.553[a]	6.000	154.000	.165
	Hotelling's Trace	.121	1.533	6.000	152.000	.171
	Roy's Largest Root	.069	1.781[b]	3.000	78.000	.158
sheltered * major	Pillai's Trace	.057	.762	6.000	156.000	.601
	Wilks' Lambda	.944	.755[a]	6.000	154.000	.606
	Hotelling's Trace	.059	.748	6.000	152.000	.612
	Roy's Largest Root	.045	1.169[b]	3.000	78.000	.327

a. Exact statistic
b. The statistic is an upper bound on F that yields a lower bound on the significance level
c. Design: Intercept + sheltered + major + sheltered * major

Conclusion

Sheltered instruction provides an opportunity for language teachers to integrate language and content in an efficient way through connecting language learning experience to learners' needs and interests, and teaching them with more efficient techniques like interaction, peer work and scaffolding. In this way, sheltered instruction promotes both language proficiency and academic literacy (Echevarria et al., 2008). This issue was challenged in the current study in the context of Iranian L2 classrooms and results confirmed its efficiency.

There were some shortcomings in this study that must be noted. First, the students in the experimental group were mostly volunteers. Although their average scores in the pretest were very close to the experimental group, their motivation might be higher due to their voluntary participation. Second, adapting course textbooks for sheltered instruction requires an expert panel, but due to limitations it was done by the researcher alone. Finally, a larger number of students might have more accurate results. Future studies in Iranian L2 classrooms should benefit from these findings and avoid these shortcomings.

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