DISCOURSE FUNCTIONS AND VOCABULARY USE IN ENGLISH LANGUAGE LEARNERS' SYNCHRONOUS COMPUTER-MEDIATED COMMUNICATION

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ABSTRACT

This study explores the discourse generated by English as a foreign language (EFL) learners using synchronous computer-mediated communication (CMC) as an approach to help English language learners to create social interaction in the classroom. It investigates the impact of synchronous CMC mode on the quantity of total words, lexical range and discourse functions of EFL learners' writing from different genders (males vs. females). Thirty-two intermediate EFL students discussed four topics in four CMC sessions. The findings reveal that gender plays a major role in shaping the quantity of discourse (total words), lexical range (variety), and linguistic output (i.e., the quantity and type of discourse functions) the participants' generated using synchronous CMC mode.

Generally, the female participants produced more words, complex lexical range and output discourse functions than males in CMC setting. In addition, the study showed that the participants produced discourse functions shaped by the particularities of local social arrangements. Users found opportunities in the virtual world of CMC which enable them to blind their identities, so people in subordinate conditions such as females in certain conservative societies, EFL learners, and shy students may find CMC useful for fostering their communicative competence.

Keywords: **Computer-mediated communication (CMC), discourse functions, lexical range, synchronous CMC, Gender.**

INTRODUCTION

As many educational institutions still use inappropriate methods for teaching English as a Foreign Language (EFL), disappointing results are often reported (AbuSeileek, 2007, 2012). This elicits looking for ways that are more likely to promote learning EFL. One way is to use the computer-assisted language learning (CALL), which includes different techniques, more specifically computer-mediated-communication (CMC). Using CMC requires teachers to have a high level of interpersonal skills to solve problems and overcome difficulties. The major goal of CMC is to help learners to be involved in interactive language learning activities. Vandergriff (2006) has highlighted the fact that the CMC environment affects the communicative interaction between language learners and allows them to play a greater role in managing the discourse. It also helps learners to provide each other with feedback at the level of lexis, grammar or orthography and increase their linguistic input and output (Kitade, 2000; Yilmaz & Granena, 2010; Yilmaz, 2011; Yilmaz & Yuksel, 2011).

Due to the lack of contact between learners and native speakers, learning English as a foreign language has become a challenge for many learners and educators in EFL contexts. Therefore, as Ware (2008: 43) remarks, "online communication tools have been taken up eagerly by the foreign language teaching community" to help learners develop communicative competence. Cassel & Stone (2005) also maintain that there is a need for a toolkit that allows the student to implement a working embodied dialogue system, as a way to experiment with models of discourse, dialogue, collaborative conversation, and interaction. Online communication tools have been helpful for learners in the EFL contexts and beyond. As Kitade (2008) states, "CMC enables language learners to actively engage in interactions with a wider range of interlocutors because the interactions are both place-independent and time-independent" (p. 64). Jeon-Ellis, Debski & Wigglesworth (2005) point out that the major goal of CMC is to provide language learners with a tool to facilitate communicative activities where they are engaged in meaningful linguistic interactions.

This study focuses on analyzing the quantity of discourse and lexical range generated by EFL learners in synchronous CMC, i.e., audio-graphic conferencing per the gender variable due to the lack of research in this area in the Jordanian sociocultural setting.

Sociolinguistic Setting

There are certain sociocultural factors that may shape the linguistic behavior of the XXX EFL learners. The country has made a large investment in importing and localizing technology. Over the last two decades, many technological tools have been introduced in the country. Mobile phones with multiple electronic services are now used by the majority of people.

The number of mobile subscribers is more than 100 % (Chartsbin, 2012), which has affected people' communication pattern. In addition, most people have television satellites at home, enabling them to come in virtual contact with and to have more access to other cultures. Moreover, Internet connections are available for a large majority of the population, making it possible for them to contact people from different cultures using synchronous CMC modes and have access to global sources of knowledge. Furthermore, the government adopted laws granting more rights for women. Jordanian women nowadays enjoy legal equality in movement, health care, education, political participation, and employment (Husseini, 2010).

Males and females now have equal access to undergraduate education. The number of female students at all levels of education has risen so markedly that the majority of the students in private and public educational establishments are females. In the majority of universities and higher education colleges, males and females study together.

In the last decade of the last century, the XXX Women University was founded, and it received only female students. However, it was forced to enroll both male and female students in the last decade and to change its name into XXX University because the concept was not successful. Moreover, since most of the workers in the public sector are females, this makes them a valued component of the work force, playing a major role in developing in the country. Al-Jehani (1995) asserts that the character of XXX woman has become gradually independent. She has developed her own identity and personality and now identifies herself through her education, job and achievement, rather than only through her husband and children.

This study was conducted in the Department of English Language and Literature of the College of Arts at XXX University in the XXX Region of XXX. The mission of this department is to equip students with language skills and to broaden cross-cultural understanding. In order to achieve these goals, the college has started using *NetOP* software, a virtual class system, to support educational activities in different settings and for communication skills training.

LITERATURE REVIEW

This study explores gender and communicative competence in second or foreign language in CMC environment under two major headings (a) communicative competence in CMC and (b) foreign language learning, gender and discourse functions.

Communicative competence in CMC

The present study is the first to examine two aspects of communicative competence in synchronous CMC mode in an EFL context first identified in the model proposed by Canale & Swain (1980). The theory focuses mainly on verbal communication skills and the implementation of a communicative approach in language learning. Their model focuses on increasing learners' motivation to learn, and developing their flexibility in handling functions and interactions. The two aspects of the communicative competence first presented by Canale & Swain (1980) include grammatical competence, and sociolinguistic competence. According to Canale & Swain (1980), grammatical competence helps learners how to determine and express accurately the literal meaning of utterances. Sociolinguistic competence is a major factor in interpreting utterances for social meaning.

Several studies have analyzed lexical range/variety (as a part of grammatical competence). Fitz (2006), for example, found that the discourse generated in written electronic conferences displayed greater lexical range and more discourse demonstrating interactive competence than face-to-face discussions. There was also statistically significant effect for increased lexical range in written electronic conferences. His finding also shows that students practiced and used more vocabulary related to the topics during written electronic conferences. Moreover, research reveals that there is a tendency toward more equal participation in asynchronous online interaction, and students tend to use language which is lexically and syntactically more formal and complex in electronic discussion than they do in face-to-face discussion, thus demonstrating another possible advantage of CMC (see, Warschauer, 1996). Other studies examined the linguistic complexity and lexical diversity of L2 output produced during synchronous CMC. Chat output that exhibits evidence of online planning in the form of post-production monitoring displays significantly greater linguistic complexity and lexical diversity than chat output that does not exhibit similar evidence of online planning (Sauro & Smith, 2010).

Finally, Perez (2003) investigated language productivity in foreign language learner output obtained via two different modes of CMC (asynchronous and synchronous). Results showed that a higher number of words were produced in the synchronous CMC mode, i.e., audio-graphic conferencing.

The second aspect which the present study focuses on is sociolinguistic competence (i.e., discourse functions) in synchronous CMC which may affect the discourse functions generated by participants.

Sotillo (2000) investigated the effect of CMC modes on the quality and quantity of different discourse functions such as topic initiation, requests, agreement, and apology. She observed that teaching tools and techniques have a significant effect on the quality and quantity of the discourse produced. According to Fitz (2006: 67), "The discourse in written electronic conferences displayed greater lexical range, and students in these conferences produced more discourse demonstrating interactive competence". Other studies have examined the use of opening and closing sequences, patterns of topic assignment, and maintenance by participants in computer-mediated interactions. For instance, Abrams (2008) suggested that computer-mediated learner-to-learner interaction offers L2 learners opportunities for active control of topic selection and management and provides rich opportunities for learners to recognize and adapt to diverse interactional patterns through collaboration among the interactants. CMC is also found to be able to promote substantial learner-to-learner language practice to help students use more diverse discourse functions than in face-to-face interactions, and to make their exchanges more authentic and discursively richer (Chun, 1994).

In addition, Darhower (2002) explored the effect of CMC social interactive features including intersubjectivity, off-task discussion, greetings and leave-takings, identity, exploration and role play, humor and sarcasm, and use of the L1 (English). He added, "Through these communicative behaviors, learners appropriated the chat room environment, transforming it into a learner-centered discourse community governed by communicative autonomy and the use of language and discourse functions that go beyond those encountered in the typical L2 classroom" (p. 249). According to Kern (1995), CMC helps learners to produce more sentences and a much greater variety of discourse functions when working in CMC environment.

Finally, although CMC mode has been used in language teaching and learning since the 1990s, Chapelle (1997) suggests that researchers need to address critical questions concerning the kind or quality of language learners produce in CALL activities, a major goal addressed in this study.

Foreign Language Learning, Gender and Discourse Functions

Several studies have shown that there are linguistic differences between males and females (Hiramoto, 2010; Tomasi1 & Volkow, 2011). There is good evidence suggesting that men and women tend to use language for different purposes, which affects their linguistic output, including discourse functions.

For example, Cameron (2009) concludes that the laboratory-based work of neuro- and psycholinguists investigating male–female differences and the research conducted originally by socio- or applied linguists and linguistic anthropologists reveal that the two sexes differ in their typical modes of verbal interaction.

Shehadeh (1999) also demonstrates that men and women tend to use conversation for different purposes with men taking advantage of the conversation in a way that allows them to promote their performance and production abilities while women utilize conversation to obtain a greater amount of comprehension input.

Furthermore, many studies have revealed that both men and women use different discourse functions. Cameron (2009) reports that men favor more competitive speech styles and genres while women are more cooperative, empathetic and nurturing.

She adds, "Boys acquire a competitive, status-oriented communication style: they learn to argue, boast, criticize, give, and receive orders. Meanwhile, girls acquire a more co-operative and supportive style; they learn to agree, praise, empathize, make suggestions and resolve disputes" (p. 179). However, other researchers have made different observations. For example, Goodwin (2006) notices that girls argued about the games' rules while discussions and engaged in regular boasting about their skills, their possessions and the relative wealth of their families. They also issued orders to one another and to boys. Moreover, language has evolved to facilitate social interaction and serve different social purposes. Light, Nesbitt, Light, & Burns (2000) find that males who shifted the discourse style from contributions that are more formal to testing the boundary comments, dominated the discussion. According to Shehadeh (1999), males tend to dominate conversations, interrupt and give more words that are complimentary to their female interlocutors. Guiller & Durndell (2007) also report that males were more likely than females to use authoritative language and to respond negatively in interactions. On the other hand, females were more likely than males to explicitly agree and support others and to make more personal and emotional contributions.

Using different methods, techniques and curriculum content may influence the discourse functions produced by males and females. As Barnett & Rivers (2008) report, curriculum content and teaching methods should be tailored to suit differences between boys and girls. Other studies (Shehadeh, 1999) propose that EFL teachers should be equipped with a syllabus and methodologies to engineer situations that create equal opportunities for both males and females in all aspects of classroom interaction.

Moreover, there are linguistic differences between males and females in CMC settings. CMC may affect the discourse functions generated by male and female participants. For example, males dominate online interaction by making longer and more frequent postings than females (see Herring, 1994; Richardson & French, 2000; Sierpe, 2000). Acikalin (2008) also reports that users can avoid seeing each other's faces or hearing each other's voices, and there are no visual or auditory clues to indicate speaker's gender using some CMC applications. Male style is based on argumentativeness while females prefer cooperativeness (see Belenky, Clinchy, Goldberger, & Tarule, 1997; Guiller & Durndell, 2007). Other studies (Herring, 1994; Guiller & Durndell, 2007) report that the minority gender group accommodated to the style of the majority in CMC discussions. Spender (1995) also found that women are more subjected to emotional abuse than that received offline, and that they are targets for abuse and harassment from their male counterparts, so they, according to Winegar (2002) preferred to conceal their identities through seeking refuge by adopting masculine identities.

According to Herring (1996), CMC failed to neutralize gender distinctions, and yet Bromley (1995) concluded that CMC is a gender-neutral space. The present study seeks to contribute to investigations into two aspects of communicative competences in synchronous CMC mode in the context of EFL learning. The area of gender differences in CALL use is under-reported. Consequently, a need exists for a study measuring the impact of CMC on the quantity of the discourse and lexical range, the discourse functions generated by EFL learners from different genders.

METHODOLOGY

Research Questions

This study analyzes the quantity of linguistic discourse generated by EFL learners using synchronous CMC and offers generic support for active learning processes by answering the following three research questions:

- **To what extent does gender influence the quantity of discourse (total words) in synchronous CMC of EFL learners?**
- **Will discourse produced by males and females be lexically complex in synchronous CMC of EFL learners?**
- **Do males or females generate more discourse (i.e., the quantity and type of discourse functions) in online CMC discussions?**

Participants

Thirty-two undergraduate students from an intact class of a sociolinguistics course participated in this study.

The participants, whose English language competence was intermediate level, came from the Department of English, College of Arts at XXX University.

They met for an hour and a half twice-weekly. Their average age was 20.3 years (age range 19-22 years).

All of them were XXX and XXX learners of English, and none of them had been to the United States, the United Kingdom or Canada.

All students used an online discussion board to communicate with their classmates and others. At school, they studied English for twelve years. Everyone has used a computer before with an average of twelve years of usage experience. Their mean score in the secondary general English exam was 72.53 %.

Their mean score GPA was 2.63/4 (good). The department placement test showed that there were no significant differences at the *p. <.05* level in the mean scores of the proficiency of the two groups: males (*Number*=16, *Mean*=69.91 *Standard Deviation*=2.32) and females (*Number*=16, *Mean*=70.87, *Standard Deviation*=1.98), which shows that both groups (males and females) are balanced for overall language proficiency performance before the experiment.

Tasks

This study proposes that online CMC can be helpful for EFL learners to generate discourse as it provides an environment helpful for interaction. Students took several web-based writing tasks and activities.

They are based on using *NetOP* which is equipped with several tools for communication such as the chat facility.

Students used the chat activity for conducting synchronous communication where the text interaction sessions were saved and retrieved for later viewing. Students were required to discuss four tasks in four sessions. They were of general nature and related to students' life.

They aimed to improve the participants' linguistic competence and performance. The present study is based on analyzing the linguistic output produced by students in these tasks.

They included the following:

- **Television: What are the advantages/disadvantages of TV? What is the effect of TV on sociocultural values of the society? What is your favorite program? Why?**
- **Car Accidents: Causes, effects, suggested solutions, etc.; describe a car accident you saw;**
- **Student problems (exams, schedule, transport, fiends, courses, instructors, etc.);**
- **Internet: What are the advantages and disadvantages? What is the effect of the Internet on you? What is your favorite site? Why?**

Procedure

All students were enrolled in an intact class, and they were taught by the same instructor. They had the same textbook and performed the same writing tasks (four 90-minute tasks) on the learning environment and the same length of instruction (four sessions). The proficiency test along with a survey of personal information (gender (males vs. females), age, nationality, years of studying English, average, number of years using a computer, and amount of time spent living in a native-speaking English country) were administered before the experiment started. Students in each treatment condition (males and females) were assigned randomly to four groups of four students each. Each male group was also assigned randomly to discuss each of the writing tasks with a female group using the virtual classroom of *NetOP*.

In each discussion topic, each male group was assigned to work with a different female group to discuss the topic, so each discussion group contained 8 students (4 males and 4 females). They were informed that they were participating in a research project and they consented to participate. They were told their grades would not be affected by their participation in the CMC discussions. They were blinded about the identities of each other in order to reduce anxiety resulting from face-to-face cooperative debate.

The researchers set the scene for the activity by sending students a file which included the discussion topic. Then participants in each group started text discussions. Each participant was required to discuss all tasks with other group members, answer all subtask questions, discuss them with the group members, and answer their questions.

Data Collection and Analysis

The number of words in each contribution was calculated by the *Word Count* facility in *Microsoft Word* 2010 program. The transcripts were also checked for spelling by two raters (applied linguists) and computer-spell check to identify lexical range (unique words). They corrected mistakes in spelling, and converted conversational words into formal written forms with the help of the computer. Repeated words and any references to students' names were eliminated by the two raters. These steps were adopted because the lexical range analysis would be flawed by the inclusion of these words. The misspelled words and proper names might have been recognized as unique types of words. Several discourse functions (categories of behavior in CMC communication discussions) were targeted in this study.

Table: 1
List of Discourse Functions and Definition (modified from Sotillo, 2000)

Discourse Function	Definition	Unedited Example
Greetings	**Opening move in discussion**	***- Hello everybody.***
Topic initiation	**Suggesting a topic in synchronous CMC discussions.**	***- Let's talk about car accidents*** ***- What do you think of students problems at the university?***
Imperatives	**Expressing commands**	***- Don't say that.***
Questions	**Asking a question to get information**	***- What the disadvantages of internet are?***
Assertion	**Statement expressing affirmation**	***- Certainly, I think TV is good.***
Off topic	**Changing the topic under discussion**	***- A: What do you think of internet?*** ***B: Let's talk about favorite program.***
Requesting personal information	**Requesting contact information such as mobile number or email for the purpose of personal contact after the lesson.**	***- I want take your mobile #?*** ***- Send me please ur email? I need contacting you.***
Humor	**Speech act of amusing**	***- You are not crazy.***
Topic continuation	**Keeping the conversation going**	***- What is next?***
Warning	**Expressing caution**	***- Male-females talk is not allowed taboooo.*** ***- Students should work hard to solve problems.***
Compliment and admiration	**Giving frequent complimentary and admiration tokens to what interlocutors say**	***- Oh, great Sara.*** ***- I believe internet be both good and bad tools.*** ***- Wonderful idea, Hasan.***
Apology	**Speech act including regret**	***- I'm very sorry.***

		- I disagree with all. Television not helpful students in study.
Protesting and disagreement	**Disagreement and protesting about the topic and ideas discussed because they are against the person's beliefs, values or ideas.**	***- The discussion topic is not not good. Internet is ok. You need use Internet to help contacting.***
Challenging	**Speech act including challenge**	***- Blocking any internet sites impossible.***
Controversial	**Makes controversial statement**	***- Intenet always good.***
Empathic	**Expressing understanding of others' feelings**	***- He is in a critical situation.***
Polite forms	**Using polite expressions**	***- Thanx for these information.***
Supporting statements	**Using a statement which supports a previous point of view**	***- That's right. Not all programs are good.***
Emotional abuse	**Passionate mistreatment by a person usually male for another person usually female**	***- I love all beautiful girls.***

The discourse functions were examined following Sotillo (2000). However, due to sociocultural differences, they were also considered by the two raters and the participants who added/deleted some discourse functions that males and females may produce differently.

They then discussed differences until consensus was reached. Each of them analyzed the transcripts, and the inter-rater reliability was found to be .94 which meets statistical standards. However, the data were combined and categorized according to the variable of the study, i.e., gender. Finally, ANOVA and *t* tests were run, with the number of words, lexical range and discourse functions as the dependent variables, and gender as the independent variable.

RESULTS

Total Words

The first question sought to determine if there were statistically significant differences between male and female groups in the total words generated using synchronous CMC.

To calculate the total words produced in CMC contributed by students, the *t* test was run on the totals as illustrated in Table: 2.

Table: 2
Comparison of Total Words by Gender

Week	Total Words	
	Males	Females
1	1411	1563
2	1437	1584
3	1547	1634
4	1563	1727
Mean	1489.50	1627.00
SD*	76.65	73.02

*** SD=Standard Deviation**

The figures in Table: 2 on the total words revealed statistically significant differences between males and females in favour of the latter in total words (t=-2.60, $p < 0.05$). This suggests that the females group produced and practiced more discourse than males using CMC. The table also shows that students consistently tended to produce more words in synchronous CMC for week 4 compared to week 1.

Lexical Range

The second question focused on whether gender influences lexical range in synchronous CMC of EFL learners. To determine if males or females tended to generate a greater lexical range, the means and standard deviations for gender were calculated as indicated in Table: 3.

Table: 3
Comparison of Lexical Range by Gender

Week	Total Words	
	Males	Females
1	270	302
2	278	312
3	289	334
4	291	347
Mean	282.00	323.75
SD*	9.83	20.47

*** SD=Standard Deviation**

Based on the table, there were statistically significant findings for gender in favour of females in lexical range (t=-3.68, p<0.05). This finding suggests that females produced lexically more complex discourse, or generated a more significantly lexical range than that produced by males using synchronous CMC. In addition, both male and female groups of students consistently produced a more complex range in week 4 compared to week 1 using CMC.

Discourse Functions

The third question sought to determine differences based on gender regarding the discourse functions. Means and standard deviations for the two groups were calculated as shown in Table: 4.

Table: 4
Comparison of Discourse Functions by Gender

Function	Males		Females		*F*
	Mean	SD**	Mean	SD**	
Greetings	3.6	3.12	4.90	2.9	9.98*
Topic initiation	4.06	2.46	5.67	2.68	4.18*
Imperatives	2.01	2.23	3.21	1.56	2.67*
Questions	4.23	3.54	7.03	4.60	3.12*
Assertion	3.81	3.72	2.40	3.08	4.70*
Off topic	6.45	4.11	4.21	2.56	2.43*
Requesting personal information	7.98	2.92	4.56	3.86	8.77*
Humor	4.52	3.45	3.23	3.13	4.48*
Topic continuation	2.34	2.32	2.65	1.78	1.21
Warning	2.42	2.34	1.59	1.38	.77
Compliment and admiration	7.09	4.39	4.97	4.43	8.92*
Apology	2.24	2.47	3.68	2.61	1.53*
Protesting and disagreement	1.69	2.78	1.31	1.42	1.17
Challenging	1.23	1.57	2.01	1.79	.97
Controversial	1.78	1.49	2.45	2.36	.64
Empathic	3.11	2.45	4.41	2.45	7.01*
Polite forms	3.59	2.77	5.23	2.68	8.45*
Supporting statements	2.58	1.78	4.56	3.12	4.79*
Emotional abuse	0.19	1.13	0.21	1.00	.65
Total	3.42	2.69	3.59	2.60	2.30*

*** The results are significant at the *p. < .05* level.**

Based on the findings in Table: 4, there were no significant differences between males and females in the total mean of each group in the synchronous CMC. This seems to indicate that there were no significant effect between the males group and females group for the general total of discourse functions in CMC environment. However, results showed that there were significant statistical differences between males and females in favour of males at the *p* < .05 level in certain discourse functions, suggesting that learners produced discourse functions that differ by gender using CMC. On the other hand, females obtained higher significant means than males in certain discourse functions. This means that the females group produced these functions more than males using CMC (see Table: 4). Many functions received higher means than the general total for gender by both males and females.

This indicates that the participants produced these discourse functions more significantly than other discourse functions using CMC. However, some discourse functions obtained quite much lower means than the total mean, suggesting that both males and females produced a large amount of these discourse functions using CMC. Moreover, there were no statistically significant differences between males and females in other discourse functions produced in CMC environment; Table: 4. Table: 4 also revealed that females received higher significant means than males in certain functions. However, females obtained the lowest means in certain discourse functions.

On the other hand, males were quite different from females in producing other discourse functions as they received the highest means in certain discourse functions. However, they got quite low means in other discourse functions. As such, males

produced a large amount of these discourse functions in the computer-mediated context; see Table 4.

DISCUSSION

Based on the findings in Table: 2 and Table: 3, the mean scores of the female group were significantly higher than that of the students in the male group in the total words and lexical range. In other words, the analysis showed that females produced more words and complex lexical range than males using CMC. In spite of the fact that students in both groups have the same opportunity to participate in the discussion, the study revealed that synchronous CMC might create opportunities for females to demonstrate these aspects of sociolinguistic competence in English more than males. This was an unexpected finding and against the results reported by many studies. For instance, some studies (e.g., Herring, 1994; Richardson & French, 2000; Sierpe, 2000) reported that males dominate online interaction by producing more words than females. However, the findings of the present study could be attributed to three reasons. First, males and females produced new sociolinguistic patterns with their distinctive discourse functions using CMC. CMC appeared to have enabled the female participants conceal their real names in CMC context, which might have motivated them to participate more in the discussion. Acikalin (2008) reported that there are no visual or auditory clues to indicate speaker's identity in the world of CMC, and users do not see each other's faces or hear each other's voices.

Second, Escalera (2009) reported that there was a significant relationship between gender and activity context, and between activity context and the discourse functions it demands, and the conversational activity in which a student engages selects for certain discourse marker functions and not others. The activity context of the present study was a formal CMC classroom setting where students' were given nicknames. Considering that women may be subjected to emotional abuse in online settings (Spender, 1995), and targets for abuse and harassment from males (Winegar, 2002), this situation might have created unique opportunities to assist people in subordinate conditions such as females in conservative societies like the sample of this study to express their opinions and contribute more in electronic discussions. Bruce, Peyton, & Batson (1993) asserted that CMC offers greater participation by people in subordinate positions, like women, minorities, shy students, and the physically challenged.

Therefore, the anonymous nature of synchronous CMC might provide excellent opportunities to encourage females to contribute more in the electronic discussions.

Finally, sociolinguistic patterns including gender linguistic differences may differ from a community to another.Cameron (2009) observed that sex/gender-linked sociolinguistic patterns vary both across cultures and within them, and can change significantly over time. He added, "Most researchers also agree in rejecting the 'essentialist' assumption that there are characteristics (whether biologically based or socially produced) which all men or all women axiomatically share ... [and] similarities and differences between men and women can be related to the particularities of local social arrangements (for instance, people's occupations, social networks, power relations, levels of literacy, rates of exogamy, beliefs about identity, etc." (p. 7).

Although all students have the same chance to participate in the discussions, the female group obtained the highest mean in the output discourse functions using CMC,

including greeting their conversational partners, initiating topics, asking questions, apologizing, being empathic, using polite forms, and supporting statements.

This appears to suggest that females produced discourse functions mainly characterized by cooperativeness with their interlocutors in CMC environment. Probably, there is a chance for females to interact with males and express their opinions using the virtual system. However, males generated comparatively lower means than females in challenging, controversial, emotional abuse, and using imperatives using CMC. This is against what is reported by many studies that female style is based only on cooperativeness while males may prefer a more independent and argumentative (see Belenky, Clinchy, Goldberger, & Tarule, 1997; Guiller & Durndell, 2007).

In the Department of English where the study was conducted, males are minority while females are majority. Probably, males accommodated to the style of females. Herring (1994) and Guiller & Durndell (2007) lend support to this finding as they reported that the minority gender group accommodated to the style of the majority using CMC. In this situation, females might feel they are more privileged than their male counterparts, and so they led the CMC discussions and expressed their opinions in front of males. In addition, the context where the study was conducted was a formal CMC classroom, an atmosphere that might reduce females' cooperativeness and males' argumentativeness.

Therefore, one of the implications of this study is related to considering context of formality and participants' status when experimental studies are conducted. It has also been found that few students (both males and females) produced comparatively high means in expressing protesting and disagreement discourse function. Below are illustrative examples. When asked to explain their withdrawal from the CMC discussion, they replied (their own performance in synchronous CMC):

- **"Sultana: *I cant speak with boys. Not good."***
- **"Adel: *No No No for boy-girl speaking together."***
- **"Suzan: [Females'] *Interacting with males is not moral."***
- **"Ali: *No for male-female talking together. We should keep our values."***

Apparently, this group is against conducting the discussion between males and females although they agreed to participate in the study. It seems that these learners of English resorted to the conventions of their own culture when performing in the discussion in CMC context; they generated discourse reflecting their sociocultural values.

It appears here that the language output students generated and the discourse produced in the virtual world was shaped by the particularities of their local social situations. An important issue to be taken into consideration is related to the experimental conditions of the study. That is, one of the pedagogical implications of this study might be studying the experimental conditions of the study by instructors carefully, including understanding the participants' sociocultural backgrounds. Despite the fact that all experimental conditions between the two groups that participated in the study were similar, the study was conducted under the supervision of the instructor, and all the students had agreed to participate in the study, still some of them do not like conducting the discussions between males and females.

On the other hand, males outperformed females in expressing compliment and admiration as they produced more admiration and complimentary expressions using CMC as indicated in the following unedited examples:

- **"Muna: *People cant live with out internet."***
- **"Khaled: *Great idea."***
- **"Aseel: *TV is dobl edged weapon - good and bad."***
- **"Waleed: *Very nice, Aseeeeeeeeeeeeeeeeeeel'*,**
- **"Kholood: "*Interent is tool. Good for good students; bad for bad one."***
- **"Osama: Kholood *- you have amazing and fantastic ideas"***

This finding is in agreement with Shehadeh (1999) who showed that in most male/female interactions, males tend to give more frequent complimentary and admiration tokens to what their female interlocutors type. In addition, both males and females obtained very low means in emotional abuse discourse function, suggesting that neither of the study groups (males and females) abused the other emotionally using CMC. These results are not in line with Spender (1995) that in online settings women are targeted for abuse and harassment from their male participants; Herring (1996) even asserted that CMC failed to neutralize gender distinctions. This finding could be attributed to the formal CMC context.

Similarly, males significantly outperformed their female counterparts in producing discourse functions that may be considered undesirable in this formal CMC context such as requesting personal information and off topic. Below is an illustrate example:

"Lana: *Interneyt can both good and not good. Use it to studying, use it to coomunicate native speakers. So it is good. Use it to seeing films violence, bad mails, etc, then it is bad.*

"Hasan: *Lana. You have wonderful views about the internet. I am very hapy to exchange ideas with you. Can I take your email to discussing the matter?"*

It is unusual to see in face-to-face interaction male requesting contact information publicly from a female or vice versa in formal classroom context due to the prevailing sociocultural values. Thus, it seems that this may be a reflection of Western sociocultural values brought by various modern mass media such as the Internet and its applications including CMC.

This result seems to be in line with Al-Jehani's (1995) finding that XXX people, especially the new generation, have come in touch with other cultures, especially the Western culture, and acquired some of their norms, which affected the underlying pattern of communicative behavior.

Users played social patterns, including students' participating with nicknames in the virtual world of CMC environment, which helped in producing discourse functions different from the discourse output generated in the face-to-face setting in the real world. It, therefore, can be concluded that users can find good opportunities in using CMC which may affect the type of the discourse functions. However, this finding disagrees with Bromley (1995) that CMC is a gender-neutral space, and Herring (1996) that CMC is an equalizer of social relations, and the assumption of gender neutrality in CMC is never initially questioned.

Finally, it can be concluded that EFL learners (both males and females) produced certain discourse functions (e.g., compliment and admiration, requesting personal

information and questions) more than others (e.g., challenging, warning, imperatives, protesting and disagreement, emotional abuse, and apology) using CMC.

Therefore, instructors may exploit CMC mode to enhance linguistic interaction and contact between different groups of learners to produce certain discourse functions. Using CMC, students may produce discourse functions with various purposes. Brandon & Hollingshead (1999) reported that due to using the recent technological modules and innovations, the learning outcomes and the generated linguistic output are affected by the software utilized.

This finding is compatible with the results reported by other studies such as producing different discourse features (Sotillo, 2000) and affecting the quality of feedback differently (Ho & Savignon, 2007).

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

It can be concluded that different factors and conditions where the learning takes place such as gender and opportunities of interaction affect the quantity and type of discourse students produced.

This implies that understanding the sociocultural background is necessary to understand and analyze the linguistic behavior, and the experimental conditions should take into consideration the participants' sociocultural background. EFL learners (both males and females) produced certain discourse functions using CMC. This may motivate other studies related to the effect of CMC modes on discourse functions. For example, a study may examine how males and females may produce discourse functions using synchronous and asynchronous CMC. In the world of CMC, users may not see each other's faces, hear each other's voices, or embarrass when they make mistakes. Their identities should be blinded which may help them express their opinions and attitudes, and so demonstrate their certain aspects of sociolinguistic competence. Another implication may be related to the experimental conditions of the study. That is, the findings show that EFL learners expressed their opinions and attitudes in formal, educational CMC context, so it should be well arranged and put under the observance of the instructor. There are some limitations concerning the findings of this study. First, participants in this study came from the Department of English in the College of Arts with intermediate level of linguistic competence.

The study also lasted only for a short time. In addition, the investigation design consisted of two treatment groups (a male and a female) which studied exclusively in the computerized language laboratory using synchronous CMC.

Therefore, the findings cannot be generalized beyond similar samples. Most of the students in the Department of English Language and Literature were females though the sample consisted of balanced proportion of males and females, which might have affected the results though the experimental conditions were equal.

In addition, the study was conducted in a formal classroom context. Moreover,
this is an analytical study of a certain sociolinguistic phenomenon– ender-related discourse functions. However, these limitations could serve to initiate other types of sociolinguistic studies, experimental or descriptive, for longer periods on bigger or different samples, and investigate the effect of a developed attitude questionnaire about people's linguistic behavior under different sociocultural behaviors in CMC

environment. The study is limited to certain discourse functions because it is quite difficult to analyze all functions. This may motivate other studies about other discourse functions using CMC.

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