



A Study on the Effects of Computer Mediated Interaction in Learners' Linguistic Output

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Abstract

Multimodal online tools promote communication, collaboration, and exposure to comprehensible input at anytime, anywhere. These opportunities offered by technology have been used to understand, describe and compare the nature and outputs of face-to-face communication and synchronous and asynchronous computer mediated communication (CMC). The present study investigates the linguistic characteristics of learners' output in terms of interlanguage (syntactic complexity and lexical range) and interactional elements (negotiation of meaning and recasts). Chosen in accordance with convenience sampling, the participants of the study were seven graduate level (MA) students in an English language teaching (ELT) program of a large state university in Turkey, which is among the top five most preferred programs. The participants possess professional teaching experience in foreign language teaching varying from 3 months to 5 years. The participants carried out online discussions through WhatsApp without giving time and date limitation. Discussion topics for which expert opinion was taken were determined in line with their research interest. After the discussions, semi-structured interviews were held through WhatsApp to understand how they describe CMC discussion – as spoken or written – and depending on this conceptualization, whether their output differentiates in terms of interlanguage (syntactic complexity and lexical range) and interactional (negotiation of meaning and recasts) elements. For interlanguage elements, lexical range and syntactic complexity were analyzed by using T-unit analysis and type-token ratio respectively. Negotiation strategies (clarification requests, comprehension and confirmation checks, repairs, self- and other-repetitions), and recasts were analyzed quantitatively and qualitatively for interactional aspect. Chat transcripts were analyzed and interactional patterns were identified. Lastly, interviews were analyzed through a content analysis methodology. It was found that there were no consistent patterns related to syntactic complexity and lexical range of language output depending on the perceived modality of the communication. The participants who used the tool asynchronously in a not interactive way outperformed the other participants in terms of producing syntactically complex and lexically rich language. Regarding the importance of CMC in English language learning, especially in an expanding-circle country like Turkey, it can be used to promote learner output and communication in-and outside-the-class. As accessible and familiar tools, instant messengers can be used to promote learner output.

Keywords: Synchronous text-based computer mediated interaction, syntactic complexity, lexical range, negotiation of meaning, second language acquisition.

1. Introduction

Interactionist approach to SLA explains the learning process with input, output, and feedback (Gass, Behney, & Plonsky, 2014; Mackey & Gass, 2007) [1, 2]. During interaction among learners, communication breakdowns may be encountered and these communication breakdowns should be solved through negotiation of meaning. The approach posits that the communication breakdowns are compensated through negotiation of meaning. In CALL-SLA interface, interactionist approach has mostly been studied using CMC (Bower & Kawaguchi, 2011; Fuente, 2003; Smith, 2003) [3, 4, 5]. Improving the interlanguage of second language (L2) learners, collaborative online discussion provide opportunities for meaningful interactions outside-the-classroom, especially in the foreign language contexts. It also enables L2 learners to notice the lacking points in their IL, to focus on form and meaning during L2 production, and to produce modified output (Swain, 1985) [6].

All the new forms of communication and input raise the issue of the effects of communication mode and modality on linguistic output of the L2 learners. Taking the importance of learner output in second language acquisition (Swain, 1995) [7] into account, learners' output is aimed to be investigated in terms of linguistic complexity through online discussions. Moreover, the contribution of technological advancement to promotion of interaction in language merits scholar attention. Especially in foreign

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language contexts, the use of outside-the-classroom tools and the results of research studies have great importance to SLA.

The present study examines interactional and interlanguage elements of learner output using instant messenger WhatsApp. This study also seeks the answer of whether type – spoken or written – of the communication predicts the use of interlanguage and interactional elements. Research questions are;

1. What are the linguistic characteristics of L2 learners' CMC discussion output?
 - a. What are the interlanguage (syntactic complexity and lexical range) characteristics of the L2 learners' CMC discussion output?
 - b. What are the interactional (negotiation of meaning and recasts) characteristics of the L2 learners' CMC discussion output?
2. Do L2 learners describe CMC discussion as closer to spoken or written language?
 - a. Are there any differences between L2 learners' output in terms of interlanguage (syntactic complexity and lexical range) and interactional (negotiation of meaning and recasts) elements?

2. Methodology

2.1 Subjects

Chosen in accordance with convenience sampling, the participants of the study were seven graduate level (MA) students in an English language teaching (ELT) program of a large state university in Turkey, which is among the top five most preferred programs. The participants possess professional teaching experience in foreign language teaching varying from 3 months to 5 years. The subjects of this study were divided into three groups; two of which were groups of two (Group A and B) and one of which was a group of three (Group C).

2.2 Tasks and Procedure

The subjects were expected to carry out discussions through an online instant messaging tool, WhatsApp. Main reasons of choosing WhatsApp as the tool are accessibility and familiarity (Eurydice, 2013) [8]. WhatsApp, as a tool with 1 billion users around the world which means one out of seven use it (WhatsApp, 2016) [9], may be accepted as a familiar tool to many people. What is more, it is a free tool which makes it accessible to everybody who has Internet connection.

For piloting, WhatsApp discussions were carried out with two groups. In the groups, there were two subjects and all, except for one, were PhD level students. One of the groups used the tool as a synchronous CMC tool and used a closer to spoken form of communication. The other group used it in an asynchronous way and adopted a closer to written form of communication. Lexical range and syntactic complexity of the learner output differed in accordance with the mode of communication. The participants carried out online discussions through WhatsApp without giving time and date limitation. Discussion topics for which expert opinion was taken were determined in line with their research interest. After the discussions, semi-structured interviews were held through WhatsApp to understand how they describe CMC discussion – as spoken or written – and depending on this conceptualization, whether their output differentiates in terms of interlanguage (syntactic complexity and lexical range) and interactional (negotiation of meaning and recasts) elements.

2.3 Data Analysis

For interlanguage elements, lexical range and syntactic complexity were analyzed by using T-unit analysis and type-token ratio respectively. Negotiation strategies (clarification requests, comprehension and confirmation checks, repairs, self- and other-repetitions), and recasts were analyzed quantitatively and qualitatively for interactional aspect. Chat transcripts were analyzed and interactional patterns were identified. Lastly, interviews were analyzed through a content analysis methodology.

3. Findings and Discussion

3.1 Results of interlanguage and interactional analysis

All of the chat transcripts were analyzed quantitatively for syntactic complexity and lexical range, and qualitatively for negotiation of meaning. In Table 2, findings related to syntactic complexity and lexical range of the subjects' output can be found. It should be noted that group C didn't use the tool interactively in a synchronous way, rather they reflected on the discussion topic in turn asynchronously. In Group B, the group members carried out two discussions and the results displayed the total production in two discussions.



Table 1. *Chat Analysis*

Groups	Subjects	Number of Words	Number of T-Units	T-Unit Length	Number of Unique Words	Type-Token Ratio
Group A	1	472	78	6.05	266	.56
	2	459	71	6.46	304	.66
	Group A	931	149	6.24	570	.61
Group B	3	731	61	11.98	395	.54
	4	581	42	13.83	330	.57
	Group B	1312	103	12.74	725	.55
Group C	5	227	19	25.22	179	.79
	6	202	15	13.46	138	.68
	7	173	7	24.71	108	.62
	Group C	602	41	14.68	425	.71

In interactional analysis, only two groups (A and B) were analyzed. Due to the fact that there was no interaction, group C was excluded from interactional analysis. In Group A, negotiation strategies were used for seven times, while in Group B, they were used for five times. It can be seen from Table 3 that the subjects didn't ever use comprehension questions and recasts. Confirmation checks were the most frequently used negotiation of meaning. For once, Subject 3 and 4 used self-repair and Subject 1 used repetition. (Examples can be seen below*)

Table 2. *Interactional Analysis*

Group	Subject	Clarifications	Comprehension	Confirmation	Recasts	Repetition	Repair
A	1	2	0	2	0	1	0
	2	1	0	1	0	0	0
B	3	0	0	0	0	0	1
	4	1	0	2	0	0	1

*S4: So you had difficulties just like our novice teacher Ayşe?

S3: Yes. It was the most difficult period in my university years. (Confirmation)

*S4: You mean curriculum only focuses some skills or learning goals, and ignores everything else?

S3: No, actually what I meant was that it lacks meaningful and coherent units... (Clarification)

*S1: What is the biggest influence then?

S2: Stakeholders (Clarification)

3.2 Results of interview

3.2.1 Practicality of the Tool

All of the subjects expressed that the tool was familiar to them, and general description of the tool was "practical and easy to use". This finding matches with the aim of its being chosen for the study (Eurydice, 2013) [8].

3.2.2 Usability of the Tool

Three of the subjects found the use of WhatsApp for discussion conducive to promoting learner output. Two of them stated that it eliminated the social pressure of face-to-face interaction and provided a more relaxed environment for interaction. Although the participants explained the positive effects of using the tool, they mentioned some of their concerns related to the usability of the tool depending on the group members and the task (S1). Task type is quite important in CMC studies (Bower & Kawaguchi, 2011; Fuente, 2003; Yanguas, 2012; Yılmaz, 2012) [3, 4, 10, 11] and it is very important to use tasks to promote syntactically complex and lexically rich output (Sauro & Smith,



2010) [12]. In this study, the task was quite appropriate to promote syntactically complex and lexically rich output, but the nature of the tool, being instant, challenged the subjects. In Sauro & Smith (2010)'s study, the task was not appropriate to yield the aimed data, but the tool was appropriate [12]. In the present study, reverse was observed; unlike task, tool didn't allow the subjects to freely express themselves due to its instant nature.

3.2.3 Modality of Communication

Four subjects described the communication as written and two subjects (S1, S7) described as hybrid form of communication. Only one participant (S4) described it as spoken communication. One of the participants described the communication as *"it is like written communication dressed up confidence"*. Moreover, for the subjects who described it as a form of written interaction had no consistent language output in terms of lexical range and syntactic complexity. In terms of interactional elements, among the subjects who described it as a form of hybrid interaction, only one was analyzed (S1), because, in the group of the other subject (S7), there was no interaction. For S1 and S4 who was the only one described it as a form of spoken interaction, it can be argued that more frequent use of negotiation strategies was observed compared to the other subjects who described the communication as written. In the present study, no consistent pattern was observed according to the perceptions of the subjects on the modality of the communication and the language they produced. The findings of the present study are not in line with Savaş (2011)'s study in which an inclination to use more complex and rich language by the ones who conceptualized the communication as written than the one who conceptualized the communication as spoken was found [13].

3.2.4 Attitude toward the Discussion

Two subjects expressed negative attitude toward the online discussion and four subjects expressed positive attitude. One subject described her experience as interesting and stated that *"I cannot say that I like it, but it can be liked"*. One stated that *"writing inhibits introversion"*. Some emphasized their concerns about inconsistency between the nature of the discussion and tool. In many studies, participants were found to have positive attitude toward CMC based discussion (Savaş, 2011; Yanguas, 2012; Warschauer, 1996) [13, 10, 14].

3.2.5 Repairs before Sending the Messages

Some subjects mentioned their problems about turn-taking, and said that they have to delete what they had written and write new messages. One of the subjects (S3) said that before sending the message *"I checked punctuation, spelling, grammar, and cohesive devices, everything I teach in writing classes"*. One (S4) said that she made a lot of changes before sending the messages, and added that *"I used dictionary, because I couldn't remember some words. I read many times before sending the messages"*. One (S2) said that she read the messages before sending, but she emphasized that she did this all the time, not just in the discussion. Some made many changes, some made slight changes, but all of them read the messages for some times before sending to avoid ambiguity.

4. Conclusion

The present study researched the learners' output in terms of interlanguage (lexical range and syntactic complexity) and interactional (clarification requests, comprehension and confirmation checks, repairs, self- and other-repetitions) elements, and whether there is a difference in their output depending on their conceptualization of communication modality. The participants who used the tool asynchronously in a not interactive way outperformed the other participants in terms of producing syntactically complex and lexically rich language. However, there is no consistent pattern of language output characterized by the modality of the communication.

Tool selection can be stated as a limitation to the study. For extensive discussions which aim to yield syntactically complex and lexically rich language output, another synchronous tool like forums or discussion boards can be used.

SCMC discussions in various ways can be used for language instruction. Regarding the importance of CMC in English language learning, especially in an expanding-circle country like Turkey, it can be used to promote learner output and communication in-and outside-the-class. As accessible and familiar tools, instant messengers can be used to promote learner output.

References

- [1] Gass, S., Behney, J., & Plonsky, L. (2014). *Second Language Acquisition: An Introductory Course*. New York: Routledge.
- [2] Mackey, A., & Gass, S. M. (2007). *Research Methods in Second Language Acquisition: A Practical Guide*. Sussex: Blackwell Publishing.
- [3] Bower, J., & Kawaguchi, S. (2011). Negotiation of meaning and corrective feedback in Japanese/English eTandem. *Language Learning & Technology*, 15(1), 41–71. Retrieved from <http://llt.msu.edu/issues/february2011/bowerkawaguchi.pdf>
- [4] Fuente, M. J. (2003) Is SLA Interactionist Theory Relevant to CALL? A Study on the Effects of Computer-Mediated Interaction in L2 Vocabulary Acquisition. *Computer Assisted Language Learning*, 16(1), 47-81.
- [5] Smith, B. (2003). Computer-mediated negotiated interaction: An expanded model. *Modern Language Journal*, 87(1), 38–57.
- [6] Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), *Input in second language acquisition* (pp. 235–253). Rowley, MA: Newbury House.
- [7] Swain, M. (1995). Three functions of output in second language learning. In G. Cook & B. Seidlhofer (Eds.), *Principles and practice in applied linguistics: Studies in honour of H. G. Widdowson* (pp. 125–144). Oxford: Oxford University Press.
- [8] Eurydice (2013). Key data on learning and innovation through ICT at school in Europe 2011. Retrieved from http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/129en.pdf
- [9] Whatsapp (2016). About. Retrieved from <https://www.whatsapp.com/about/>
- [10] Yanguas, I. (2012). Task-based oral computer-mediated communication and L2 vocabulary acquisition. *CALICO Journal*, 29(3), 507-531
- [11] Yilmaz, Y. (2012). The relative effects of explicit correction and recasts on two target structures via two communication modes. *Language Learning*, 62(4), 1134-1169.
- [12] Sauro, S., & Smith, B. (2010). Investigating L2 performance in text chat. *Applied Linguistics*, 31(4), 554-577.
- [13] Savas, P. (2011). A case study of contextual and individual factors that shape linguistic variation in synchronous text-based computer-mediated communication. *Journal of Pragmatics*, 43(1), 298-313.
- [14] Warschauer, M. (1996). Comparing face-to-face and electronic discussion in the second language classroom. *CALICO journal*, 7-26.