Chapter XVIII
The Functions of Negotiation of Meaning in Text Based CMC

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ABSTRACT

This chapter aims at describing the patterns of negotiation of meaning functions in text-based synchronous computer-mediated communication by using computer-mediated discourse analysis. Two research questions were sought in this study: (a) what types of negotiation of meaning emerge in text-based synchronous CMC environments, and (b) is there any difference between native speakers (NSs) and non-native speakers (NNSs) of English in terms of negotiations of meaning functions in this environment. The emerged functions of meaning negotiation were presented, and when comparing the NS with NNSs, the most frequently used negotiation of meaning functions were found to be different, but the least frequently used ones were found to be similar. The findings of this study might give insights to researchers, educators, and teachers of English Language when designing instruction in terms of patterns of negotiation of meaning functions in text-based synchronous computer-mediated communication.

INTRODUCTION

With the substantial developments in computer and communication technologies, educators and researchers are challenged in integrating these tools into the learning and teaching processes. The invention of the Internet paved the way for educators and researchers to create virtual communities of learners in virtual meeting spaces.

The idea of creating new environments is grounded on the theory of social constructivism. According to social constructivism theory, learners should take part in different contexts; they should interact with different people around

them to apply what they have learned at school (Doolittle, 1999; Salter, 2000, Johnson, 2001). Moreover, learners construct their knowledge by combining their prior knowledge with new information, according to the social constructivists. In other words, it can be claimed that when learners enter a different context, they combine the knowledge which they received at school and at home with that which they come across in this new context. The Internet provides these contexts, these environments, for the learners. When an individual connects to the Internet, he or she has the chance to meet someone by means of computer-mediated communication tools.

Computer-Mediated Communication

Computer-mediated communication (CMC) is any form of communication between two or more individuals who interact and/or influence each other via separate computers through the Internet or a network connection, using social software. The computer is the medium for the communication, and people around the world communicate with each other regardless of the time and place. Kiesler, Zubrow, and Moses (1985) mentioned the importance of the computer as a medium of communication 20 years ago and stated that it would become a very important development in communication as follows:

Just as the telephone and the automobile did, modern computing technologies seem likely to have major effects on patterns of social contact. People are using computer networks for communicating through electronic mail, computer bulletin boards, asynchronous computer conferencing, instantaneous document facsimile production, and online simultaneous conversations. Computers used for communication will be a significant technological development over the coming decades, and it seems sensible to study the underlying psychological and social implications of this development. (Kiesler et al., 1985, pp. 78-79)

As Olaniran (1996) states, computer-mediated communication has gained more popularity among organizations to promote group communication through available communication tools, such as electronic mail, voicemail, and videoconferencing. Moreover, Olaniran (1996) goes further to add that teleconferencing, which enables synchronous communication, is an increasingly demanded feature by organizations.

Until recently, researchers have been interested in the outcome of this interaction as to whether the interaction leads to learning or not. Among the most frequently raised questions are to find out the results of instruction using computers and the Internet as language learners interact in new contexts with new events, objects, and people. According to Chappelle (2004, p. 595), there is an emerging need to understand the context of interaction, which may or may not lead to learning. Therefore, she adds, there is a need for "'ethnographic and discourse-analytic methods' with an emphasis on the broader context in which the learning takes place…" to find the patterns on the Net. Chappelle (2004) goes further to urge researchers to analyze the context of these environments in order to provide teachers with a better understanding of their learners.

Research about the linguistic perspective of the Internet environments includes different aspects of the languages such as speech acts (Crystal, 2001; Oliver, 2002), negotiation of meaning (Warschauer, 1998; Sotillo, 2000; Rapaport, 2003; Bitchener, 2004; Jepson, 2005, Patterson & Trabaldo, 2006), and question types (Leahy, 2001; Schweinhorst, 2004).

The content of the CMC environments in both synchronous and asynchronous areas has also been a major focus of research (i.e., Stevens & Altun, 2002; Mercer, Littleton, & Wegerif, 2004). Researchers explored what the learners were talking about, and they attempted to categorize the outcomes of these CMC environments in terms of their content. The other dimension of the research related to CMC is comparing the interaction

styles in face-to-face settings and in the Internet environments (i.e., Warschauer, 1996; Olaniran, 1996; Sassenberg, Boos, & Rabung, 2005; An & Frick, 2006).

Negotiation of Meaning

Pica (1994, cited in Toyoda & Harrison, 2002, p. 82) describes negotiation of meaning as "the modification and restructuring of interaction that occurs when learners and their interlocutors anticipate, perceive, or experience difficulties in message comprehensibility." To elaborate on this quotation, it can be said that during interaction, the sender and the receiver of the message may have some difficulties in understanding each other because of their social background, their age, their prior knowledge, even of their gender, and in these situations either side of the communication will use some utterances to repair, elaborate, and clarify themselves.

The research on negotiation of meaning has mostly focused on the description of the conversations, both in online and face-to-face settings, as well as finding an answer to the question of how and how often these repair moves occur in a typical conversation (Warschauer, 1998; Leahy, 2001; Oliver, 2002; Schwienhorst, 2004). These studies provide a detailed picture of the characteristics of interaction with some challenges to explore further.

Therefore, this chapter is an attempt to contribute the understanding of negotiation of meaning in a text-based synchronous computer-mediated communication environment. There were two research questions asked in this study:

1. What types of negotiation of meaning exist? In other words, what are the main types and the frequencies of negotiation of meaning functions?
2. Is there any difference between native speakers (NSs) and non-native speakers (NNSs) of English in using the negotiation of meaning functions?

METHODS

The method of this study is computer-mediated discourse analysis (CMDA), which was first coined by Herring in 1995 (see Herring, 2001). Herring (2004) asserts that linguists are becoming interested in "language structure, meaning, and use, how these vary according to context, how they are learned, and how they change over time" as the Internet provides new online platforms, new varieties of discourse, and media for communication.

These new environments required new methods for analyzing discourse, as Herring (2004) stated: "Scholars of computer-mediated behavior need methods for analyzing discourse, alongside traditional social science methods such as experiments, interviews, surveys, and ethnographic observation." Hence, CMDA is considered one of the linguistic discourse analyses methods from three perspectives. Firstly, it deals with the discourse patterns that are produced consciously or unconsciously; the main aim of discourse analysis is to find out these unseen patterns in discourse. Secondly, "discourse involves speaker choices" (Herring, 2004), for example, participants choose not to type or use emoticons in CMC environments. It is not predetermined activity by the participants, and they occur simultaneously. The last point is that discourse is shaped by the features of technology, computer-mediated communication and it is one of the dimensions researchers are interested in, whether the medium changes the communication or not.

In this study, the non-native participants interacted with native speakers in an online platform to negotiate on their meaning-making as a discourse in a given context. This analysis approach is applied to identify how discourse patterns emerge in participants' negotiations of function in synchronous (simultaneous) text-based computer-mediated communication.

This study also investigates the frequency of the occurrences in participants' functions of nego-

tiation of meaning. According to Herring (2004), CMDA can be applied to four domains or levels of language—structure, meaning, interaction, and social behavior—and the interaction level includes turn-taking, topic development, and other means of negotiating interactive exchanges. Therefore, the frequency of occurrences were gathered and analyzed by using CMDA.

Participants

There are two groups of participants—native speakers of English and non-native speakers of English. The first group was composed of 30 undergraduate students from the Department of Foreign Languages Education, Abant Izzet Baysal University, and the second group was composed of eight native speakers invited to the sessions to interact with the non-native speakers of English.

Native Speakers of English

One group of participants in this study includes native speakers from the Webheads In Action (WIA) group. WIA is an online community composed of 515 members. This particular group was chosen because, first, the researcher is a part of this community and familiar to their activities. Second, WIA forms a community of practice in which members of this group use various synchronous and asynchronous Web tools for learning and teaching EFL/ESL; reflect on ways of applying those tools to their teaching, either online or face to face; interact through e-mail, text chat, voice chat, voice e-mail, forums, and distribution lists, among others; create Web pages, surveys, online worksheets, interactive exercises and rubrics related to their own contexts; and use Weblogs as a means for reflective writing.

In order to invite volunteer participants to join this study, an e-mail message was sent to the group e-mail list. Ten members from WIA accepted to join the study; however, eight of them were actually present throughout the sessions. The number of NS participants ranged from one to four for each session.

In the e-mail sent to the group, the procedure of the data collection was described in detail, except for the issue of what was going to be observed—negotiation of meaning. It could have affected the findings if it had been mentioned that the negotiation of meaning structures during the chat sessions were going to be observed. The time schedule, the aim of this study, the stories to talk about, the place, and the data collection procedure were described in detail.

Non-Native Speakers of English

Thirty students enrolled in sessions were all third-year students at the Department of Foreign Languages Education at Abant Izzet Baysal University, in Bolu, Turkey. The reason for choosing third-year students is the fact that they were taking the "Short Story Analysis and Teaching" course. Due to the nature of the course, the students were to read and analyze certain numbers of short stories. As part of their coursework, they were requested to read and reflect upon the readings, where discussions and negotiation are a natural part of the classroom talk.

The students were divided into four groups, and each group was composed of a number of students ranging from 5-10. The reason for dividing these students is the fact that the whole class for a chat session would be too crowded, and if there were more than 10 people approximately in a chat room, it may easily have led to chaos, since it would become difficult to follow the conversation flow.

Materials

Two kinds of materials were used in discussion sessions of this study. They were reading materials and semi-structured questions, which were prepared with a purpose of guiding the discussion sessions.

Reading Materials

The reading materials assigned for the discussions were *The Gift of Magi* by O. Henry and *The Necklace* by Guy de Maupassant. Both of these stories were discussed face-to-face in a classroom setting in the "Short Story Analysis and Teaching" course with students. There are some reasons for choosing these stories. The first is that since they had read it beforehand, the students were familiar with these stories. The second reason is that the length of these stories is not too long and it was thought to be feasible to read by the native speakers. The last reason is the themes, which included love, marriage, and being envious of friends, which are also open to discussions and talk for students of that age.

Semi-Structured Questions

Semi-structured questions were prepared beforehand for collecting data. The purpose of these questions was to initiate the topics for discussions. These questions were directed by the researcher, and then the participants carried the discussions on using these questions as a starting point. In addition to semi-structured questions, participants were free to ask questions during the sessions. In cases of pauses or delays in conversations, some follow-up questions were prepared; however, no such instance was observed.

Procedure

Data was collected by means of discussion sessions at Tapped In. The data was organized and prepared to be coded. Finally, Cohen's Kappa was calculated to ensure inter-coder reliability.

Data Collection

Data collection procedure was composed of two parts: discussion sessions and data file organization. Firstly, discussion sessions were held and then the transcribed text-based conversations were organized. These steps are told in detail below.

Discussion Sessions

At the beginning of the study, the design involved inviting both native and non-native speakers of English. For this purpose, the participants were invited to join the discussions at their convenience All the participants were familiar with this environment, so training on the features of Tapped In and how to use Tapped In was not needed at this moment.

The members of the WIA group were interested in these sessions. Some of the members could not join because of the time zone they were in. In spite of this fact, eight of them were able to join discussion sessions throughout the data collection process. In each session, at least two or more native speakers and ranging from 5-10 non-native speakers were present. One of the researchers joined the discussion sessions as a topic initiator. He had pre-prepared semi-structured questions in case there would be a need to probe the flow of the conversation. In the sessions, no probes were needed, and his participation was limited to the initialization of the conversations.

The two short stories were uploaded to the virtual office of the researcher as a Word document and made available two weeks ahead of time. In addition to these files, an announcement—which was the same as the letter sent to the WIA Yahoo group—was also pasted on the researcher's virtual office at Tapped In. All participants had read the stories before participating in chat sessions. In the first four sessions, *The Gift of Magi* was discussed, and in the next four sessions, the topic was *The Necklace*.

In order to provide ample opportunity for student participation, there were eight sessions. There were 30 students enrolled in the "Short Story Analysis and Teaching" course. Each student participated in two sessions. Students chose the time they could join. The characters, plots,

settings in the stories, and how these stories could be used in an English Language teaching setting were the topics discussed in the sessions.

There were no connection problems with the students, and all of them could join the sessions except one student who experienced a technical problem. With some help, her computer was adjusted to enable her to join the sessions.

Data File Organization

After the sessions ended, the transcribed chat logs were sent to all participants automatically, which is a built-in feature of Tapped In. These messages were in HTML format in the e-mail so they were copied and pasted to a word processing document. Each session was numbered consecutively. The data was organized this way to facilitate the analysis. The chat logs included preparation and ending parts. Therefore, they were omitted and the discussion parts were taken for the analysis. In other words, data were grouped to see the characteristics of the data. This grouping is shown in Table 1.

Then, the turns were marked as NS and NNS since one of the research questions of this study was related to exploring the differences between NSs and NNSs of English. Finally, the collected data were entered into Qualitative Research Data Analysis Computer Software, Hyper Research 2.6.1. Firstly, the codes were determined and the codes were applied to the chat logs. If any diversity between the previous taxonomies and the collected data was observed, it was also added to the list.

Data Analysis

The data was analyzed by means of computer-mediated discourse analysis. The novelty of environments and platforms on the Internet necessitate the new methods and approaches to discourse analysis and a new term, CMDA, which came on the scene in 1995 (Herring, 2001). By means of this approach, CMC environments were analyzed to better understand the discourse within these environments.

Coding Procedure

During the discourse analysis process, coding was started by using a predetermined taxonomy developed and adapted by Trabaldo and Patterson (2006), who compiled this taxonomy for negotiation of meaning from various sources, including Sotillo's (2000), Oliver's (2002), Jepson's (2005),

Table 1. Detailed information about the data

Session Number	Number of Turns		Analyzed Data		Number of Turns		Total Number of Turns
	Analyzed	Ignored	Turn Line	End at	Native	Non-Native	
1	470	411	362	831	80	390	881
2	761	350	203	963	79	682	1,111
3	619	87	54	672	146	473	706
4	476	216	158	633	49	427	692
5	452	118	66	517	156	296	570
6	615	133	81	695	66	549	748
7	524	52	21	544	150	374	576
8	547	208	165	711	46	501	755
Total	**4,464**	**1,575**	-----	----	**772**	**3692**	**6,039**

Table 2. The taxonomy prepared by Patterson and Trabaldo (2006)

Negotiation of Meaning Functions
Confirmation check
Clarification request
Vocabulary request
Comprehension check
Reply confirmation
Reply clarification/definition
Reply vocabulary
Reply comprehension
Elaboration
Correction/self-correction

and Patterson's (2000) taxonomies. This taxonomy is presented in Table 2.

Once the data were coded based on this taxonomy, some diversities and un-matching discourse utterances were observed. These utterances, then, were coded according to the emerging functions in discourse.

Intercoder Reliability

Discourse analysis yielded a new taxonomy to explain the functions of negotiation emerging from the utterances. Two outside colleagues were asked to re-code the data based on this coding taxonomy (see Appendix A for categories, explanations, and sample utterances). In order to ensure the reliability of coding, Cohen's Kappa was calculated for inter-coder reliability over 127 randomly selected function samples, and 470 turns out of 665 functions and 4,464 turns. The coders were asked to code these data according to the given taxonomy. The results showed that the Kappa value is .75. According to Landis and Koch (1977), Kappa values greater than .75 indicate excellent agreement. Cohen's Kappa values indicated that the two coders used 77% of the 127 codes in exactly the same way across all 470 turns.

FINDINGS

Two research questions are asked in this study. One of them is related to the types and frequencies of negotiation of meaning functions, and the second one is related to the differences and similarities between native speakers of English and non-native speakers of English in terms of negotiation of meaning. In this section, the findings will be presented accordingly.

Types and Frequencies of Negotiation of Meaning Functions

The number of turns in the entire data is found to be 4,464, and the number of turns related to negotiation of meaning is 665. Among these utterances, 12 types of negotiation of meaning were observed. In addition, the data revealed that 14.90% of the turns were found to be related to negotiation of meaning functions. As compared to Trabaldo and Patterson's (2006) taxonomy, two categories titled as comprehension check and reply comprehension were not observed in the data. Table 3 displays the utterances with percentages in the overall data.

The frequencies of the negotiation of meaning utterances and their degrees of occurrences were determined as part of the first research question. The percentages of the negotiation of meaning are for clarification requests, 12.18; comprehension check, 0; confirmation, 13.99; confirmation check, 10.83; correction, 4.36; elaboration, 5.11; elaboration request, 12.03; reply clarification, 10.83; reply comprehension, 0; reply confirmation, 16.39; reply elaboration, 12.48; reply vocabulary, 0.90; vocabulary check, 0.30; and vocabulary request, 0.60. In total, 665 utterances are categorized as negotiation of meaning types.

As a result of the data analysis, reply confirmation was seen as the most frequent type of negotiation of meaning with a percentage of 16.39. Confirmation is the second most frequent one. This shows that confirmation and reply confirma-

Table 3. The frequencies and percentages of the negotiation of meaning functions

Utterance	Sample Utterances	Number of Utterances	%*	%**
Clarification request	*...deserving what?*	81	12.18	1.81
Comprehension check	*Here, UFO stands for unidentified flying objects, do you understand?*	0	0	0.00
Confirmation	*good poin...*	93	13.98	2.08
Confirmation check	*...they were willing to sacrifice for each other?*	72	10.82	1.61
Correction	*Not meka, make*	29	4.36	0.65
Elaboration	*not only Mathilde but also her husband...*	34	5.11	0.76
Elaboration request	*How?*	80	12.03	1.79
Reply clarification	*ten years of life in difficulties ?*	72	10.82	1.61
Reply comprehension	*Yes, I see*	0	0	0.00
Reply confirmation	*Yes*	109	16.39	2.44
Reply elaboration	*She replaced it without telling the true story to her friend*	83	12.48	1.86
Reply vocabulary	*–and in english?* *–a lier dosnt live forever your lies catch up with you*	6	0.9	0.13
Vocabulary check	*invaluable? What does it mean?*	2	0.3	0.04
Vocabulary request	*translate please*	4	0.6	0.09
Total		**665**	**100**	**14.90**

* Percentage of utterances

** Percentage of the entire data

tion are the two most preferred utterances by the participants. Finally, the third most frequently used type is elaboration request. Reply elaboration utterances are followed by elaboration requests, and the percentages of these are very close to each other: 12.48 and 12.03, respectively.

The least frequently used types are comprehension check and reply comprehension. They are not observed in the data of this study. Since there are no comprehension check or reply comprehension utterances, the other least frequently used

categories are given here as the least frequently used ones. They are the types of negotiation of meaning related to vocabulary.

The percentages for the categories related to vocabulary are 0.30 for vocabulary check, 0.60 for vocabulary request, and 0.90 for reply vocabulary. The least seen category after these vocabulary related categories is the correction.

To sum up, the most frequently used categories are about confirmation—reply confirmation and confirmation—and the less frequently used

categories are related to vocabulary—vocabulary check, reply vocabulary, and vocabulary request. Moreover, comprehension check and reply comprehension are not applied at all.

The Difference Between Native Speakers and Non-Native Speakers of English in Terms of Negotiation of Meaning Functions

When the data of NSs of English are examined, the most frequently employed categories are clarification request, confirmation check, and elaboration request, with percentages of 17.82, 16.67, and 16.09, respectively. The least frequently used categories are vocabulary check, reply vocabulary, and vocabulary request, with percentages of 0, 0.58, and 1.15, respectively. Comprehension check and reply comprehension are not observed in native speakers' utterances.

When NNSs' utterances are examined, it can be observed that the most frequently used categories are reply confirmation, confirmation, and reply elaboration, whereas the least frequently used ones are vocabulary request, vocabulary check, and reply vocabulary. Comprehension check and reply comprehension are not observed in non-native speakers' utterances either.

The difference between these two groups of participants is that they are similar in the least frequently used three categories, and these categories are all related to vocabulary. However, when the most frequently used three categories are taken into consideration, it can be seen that they are totally different. NSs of English use clarification request, confirmation check, and elaboration request the most. NNSs of English use reply confirmation, confirmation, and reply elaboration most frequently.

To sum up, NSs and NNSs show parallel patterns in their use of functions of negotiation of meaning, with the least frequently used functions regardless of their being NSs and NNSs; however, NSs and NNSs differ in their patterns with the

most frequently used functions regardless of their being NSs and NNSs.

DISCUSSION

This study yielded 12 types of functions in negotiation of meaning, which are clarification request, confirmation, confirmation check, correction, elaboration, reply clarification, reply confirmation, reply vocabulary, vocabulary request, elaboration request, reply elaboration, and vocabulary check.

In the literature, some researchers (Leahy, 2001; Oliver, 2002; Schweinhorst, 2004; Jepson, 2005; Patterson & Trabaldo, 2006) attempted to categorize the negotiation of meaning functions. The taxonomy in Patterson and Trabaldo's study was adapted in order to form taxonomy for this study. In this study, comprehension checks and reply comprehension utterances were not observed; instead, three emerging utterances—elaboration request, reply elaboration, and vocabulary check—were added to generate the taxonomy.

The first research question was related to the frequencies of the functions of negotiation of meaning and particularly the ones used most and least often. When these numbers are compared with the research in literature, only in Patterson and Trabaldo's (2006) study is the number of the functions related to negotiation of meaning compared to the entire data, but they take the words as criteria. However, in this study the number of turns was taken into consideration.

Patterson and Trabaldo (2006) calculated the ratio of negotiation functions per 100 words by counting the numbers. In this study, the number of the turns was taken into consideration. The percentage of the negotiation of meaning per 100 words is 2.28. Their study was a comparison of chat to e-mail messages. As a result of that study, they found the ratio of negotiation of meaning per 100 words in e-mail messages as 0.51. This means that there were twice as many negotiation functions in chat.

The most frequently used function of negotiation of meaning is found to be related to confirmation. This finding indicates that confirmation and reply confirmation are the two most frequently used functions for NNSs of English, who can be said to have attentively participated in conversations. Moreover, these utterances included very short statements such as "Yes," "No," "That's right," and "Good point"; and if the NNSs of English were hesitating to form a full sentence, they tended to confirm the previous statement or reply confirmation check utterances.

The less used functions of negotiation of meaning are all related to vocabulary, that is, vocabulary checks, vocabulary requests, and reply vocabulary. The reasons for this result can be explained by the fact that the stories had been discussed in the classroom beforehand. Therefore, NNSs would have been familiar with the vocabulary. The other reason can be that they had the chance to check online dictionaries while they were talking. This option can further be explored in other studies.

Apart from vocabulary, the other least frequently used function was correction. Correction was related to spelling mistakes. If participants believed that a spelling mistake would cause a misunderstanding, they corrected their mistake.

Otherwise, they ignored the spelling mistake while they were talking. Spelling mistakes have been reported in the literature as one of the functions (see Sotillo, 2000; Jepson, 2005; Patterson & Trabaldo, 2006).

To sum up, there are some parallel and emerging findings in the results of this study and the existing research in literature. The functions used most frequently included confirmation and clarification requests. This result is consistent with literature. As for the least frequently used functions, these included vocabulary and comprehension. Jepson (2005) claimed that comprehension checks are rare in NNSs in electronic conversation, and the results of this study support this claim. Table 4 summarizes the findings related to the negotiation of meaning in a comparative matrix.

The second research question of this study was related to the difference between NSs and NNSs of English in terms of their using negotiation of meaning in synchronous CMC. The analysis of the data showed that there are some similarities and differences between these two groups. The difference was about the most frequently used functions of negotiation of meaning. In NSs' data, it was observed that the most frequently used functions were clarification request, confirma-

Table 4. Comparison of the results of this study with the research on negotiation of meaning

	This Study	Sotillo (2000)	Jepson (2005)	Patterson and Trabaldo (2006)
The most frequently used	• Reply Confirmation • Confirmation • Elaboration	• Comprehension Questions • Requests for Explanation and Clarification	• Clarification Requests	• Confirmation Check • Elicit Clarification • State Elaboration
The least frequently used	• Vocabulary Check • Vocabulary Request • Reply Vocabulary	• Not Mentioned	• Comprehension Checks • Questions • Self-Correction Repair Moves	• Not Mentioned

tion check, and elaboration request. However, the most frequently used functions in NNSs' data were reply confirmation, confirmation, and reply elaboration. Confirmation and reply confirmation utterances are short answers, showing that participants are aware of the discussion. Instead of forming a full sentence, NNSs would rather confirm the previous statements with short utterances like "Yes," "No," and "You are right." As a result, these kinds of utterances were seen mostly in NNSs' data.

The most frequently used function used by NSs was clarification request, and this result is consistent with the literature (Sotillo, 2000; Jepson, 2005). According to Patterson and Trabaldo (2006), clarification request is the prominent function in electronic conversation. The most frequently used utterances by NNSs of English were related to confirmation, and this result was also consistent with the literature. Patterson and Trabaldo (2006) stated that confirmation check is the most frequently used category.

As for the similarities between NSs and NNSs, the least frequently used function was related to vocabulary. In both groups, comprehension check and reply comprehension were not observed, and the least frequently used functions were all about the vocabulary. In NSs' data, they were vocabulary check, reply vocabulary, and vocabulary request, with percentages of 0, 0.58, and 1.15, respectively. In NNSs' data they were vocabulary check, vocabulary request, and reply vocabulary, with percentages of 0.41, 0.41, and 1.01, respectively.

In the literature Sotillo (2000) and Jepson (2005) did not make a list of least frequently used functions, but Patterson and Trabaldo (2006) made a list, and the results of this study were consistent with theirs. The last three categories in their study were comprehension check, elicit vocabulary, and reply vocabulary. Comprehension check was a category that was not observed in both groups. This group was the least frequently used category in their study, and the other two least frequently

used categories were related to vocabulary, which is the same with the results of this study.

To sum up, the differences between two groups of participants were about the most frequently used functions of negotiation of meaning. The results were mostly consistent with the literature, but they are not similar with each other. The same holds true for the similarities and results of the least frequently used functions.

RECOMMENDATIONS

The Internet is a new challenge for exploration for researchers in the field of education in general, and foreign language education in particular. Therefore, patterns should be determined in order to create environments that provide students with authentic materials and new learning environments to improve themselves. The effectiveness of these environments will also be an area of research for researchers.

Teachers may direct their students to use the Internet for their language development in the target language. Before directing them to these places, they should be aware of the characteristics of these environments. Therefore, the findings of this study might provide a pattern taxonomy for a text-based synchronous CMC environment. In their courses, teachers should then place importance on how to ask for clarification, elaboration, and confirmation, and how to clarify, elaborate, or confirm a statement. If students knew the types and contextual use of these functions, they would be building on their scaffolding within their zone of proximal development for their language learning process.

As for further research, there are still some issues to be studied and explored. First of all, there are voice-chat environments and video-chat environments as well, where negotiation of meaning occurs. After determining the patterns in those environments, the results can be compared with the results of this study to see the differences

and similarities across different media. As for the participants of this study, these two groups can be separated, and they discuss a topic in an online environment and then they discuss together. At the end the results can be compared once more and this will show how they affect each other. They negotiate about the vocabulary, grammar, and topic. This was not determined in or beyond the scope of the study. Bitchener (2004) studied this dimension, but the participants were NNSs of English. NSs can participate as well, and the results can be compared. It should also be noted that the difference in size between the NSs and NNSs might have an effect on the result. With equal size in participants, the use of negotiation of meaning could be explored in depth. Moreover, the same study can be conducted both in a classroom setting and in an online environment in order to reveal the effects of gestures and bodily movements on the types of negotiation of meaning.

Finally, the proficiency levels of the non-native participants could be taken into account when doing comparative studies. In this study, the participants were advanced learners of English. The results can show a difference when the participants are at an elementary or intermediate level of proficiency.

CONCLUSION

The results of this study revealed that there is a variety of functions for negotiating meaning. Some of them were prominent, such as clarification request, confirmation, and confirmation check, and some of them were not seen or too rare, such as comprehension check, reply comprehension, vocabulary check, and reply vocabulary. The most frequently used functions of negotiation of meaning changed according to the participants' being NSs or NNSs. In the NSs' data, the most frequently used one was clarification request, but in NNSs it was confirmation, whereas the least frequently used ones were parallel to each other

and related to vocabulary. If the participants' being NS or NNS was ignored, the results were influenced by NNSs' data, and reply confirmation was the most frequently used one in general.

Another result was that there was no function related to comprehension in both groups. This result was consistent with the results of studies in literature (Jepson, 2005; Patterson & Trabaldo, 2006). This was explained by Jepson as "perhaps comprehension checks and questions are primarily pedagogical by nature (Long & Sato, 1983), and are thus scarce in NNS electronic conversation."

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KEY TERMS

Asynchronous CMC: In this type of CMC, the users are not necessarily online at the same time. E-mails, message boards, and blogs are examples of asynchronous CMC.

Computer-Assisted Language Learning (CALL): Using the Internet, software programs and computers for language teaching.

Computer-Mediated Communication (CMC): Communication in which computers are used as a tool.

Computer-Mediated Discourse Analysis (CMDA): An approach to discourse analysis to find out the discourse patterns of the computer-mediated communication; it is a new genre and different from the previous communication styles. The technological developments led to the emergence of this new approach to discourse analysis.

Native Speakers (NSs): In this study, it is used as native speakers of English.

Negotiation of Meaning: Defined by Pica (1994) and cited in Toyoda and Harrison (2002) as modification and reconstruction of interaction that occurs when learners and their interlocutors anticipate, perceive, or experience difficulties in message comprehensibility.

Non-Native Speakers (NNSs): In this study, it is used as speakers of English as a second language.

Synchronous CMC: A part of CMC in which the users are online at the same time. In order to communicate with each other, users should be available on the Internet. Chat and instant messaging programs are examples of synchronous CMC.

APPENDIX A

Functions of Negotiations of Meaning: Explanations and Examples

Table A1.

Function	Explanation	Example
Clarification request	Requesting clarification for an ambiguous statement, which may cause misunderstanding.	NNS7: then she deserved it? NNS29: yes NNS24: ***deserving what?*** (7th Session; 67-74)
Comprehension check	Asking if the other person understood what was said or written, and generally expecting that he or she has understood.	Speaker A: ***Here, UFO stands for unidentified flying objects, do you understand?*** Speaker B: Yes, I see.

Table A1. continued

Confirmation	Confirming the previous statement although there is no confirmation request.	NNS3: but some sacrifice may be needed NS5: *good point Cisem* NNS17: *I agree with Cisem* (1st Session; 413-415)
Confirmation check	Asking for confirmation of a previously made statement to be sure he or she has understood correctly.	NS6: *…they were willing to sacrifice for each other?* NNS3: just for him, yes NNS10: yes Maggi (1st Session; 599-603)
Correction	Correcting an error made by another speaker or self-correction of one's own error.	NNS2: he bought new clothes for his wife to meka her happy NNS32: the money for the dress? NNS2: *make* (5th Session; 125-127)
Elaboration	Elaborating the meaning of a previous statement no matter whether the previous statement belongs to him or her.	NS6: Mathilde paid that price NNS30: *not only Mathilde but also her husband* NNS2: *and also her husband even if he was not responsible* (5th Session; 308-310)
Elaboration request	Requesting elaboration if he or she does not have an idea about the speaker's utterance, and requesting extra information.	NS6: did she lie? NS7: She wasn't honest about the necklace NS6: *how?* NS7: She replaced it without telling the true story to her friend (7th Session; 46-49)
Reply clarification	Clarifying his or her previous statement as a result of request (clarification request).	NNS7: then she deserved it? NNS29: yes NNS24: deserving what? NNS4: but these lies didn't give harm to her friend NS7: 10 years of hard work might be a little harsh NNS24: but it gave to her husband! NS7: exactly! NNS7: *ten years of life in difficulties* (7th Session; 67-74)
Reply comprehension	Replying to comprehension check or indicating that the statement was understood.	Speaker A: Here, UFO stands for unidentified flying objects, do you understand? Speaker B: *Yes, I see.*
Reply confirmation	Confirming a statement when someone requests confirmation with expressions like "yes," "OK," "you are right."	NS6: They were willing to sacrifice for each other? NNS3: just for him NNS30: of course not the only way Rabia NNS3: *yes* NNS10: *yes maggi* (1st Session; 599-603)

Table A1. continued

Reply elaboration	Elaborating his or her own statement to make it clear as a result of request (elaboration request).	NS6: did she lie? NS7: She wasn't honest about the necklace NS6: how? NS7: ***She replaced it without telling the true story to her friend*** (7th Session; 46-49)
Reply vocabulary	Giving a meaning of a word or phrase as a result of request (vocabulary request).	NNS28: I want to remind you a Turkish proverb NNS4: ? NNS28: "yalancının mumu yatsıya kadar yanar" NNS24 smiles NS7: and in english? ;) NNS27: yes, is there a volunteer to trans-late? NNS4: ***a lier dosnt live forever*** NNS4: i think NNS4 smiles NNS24: ***the end for a lier is not so far!*** NNS28: ***people will understand that you are lying at the end*** NS7: ***your lies catch up with you.*** (7th Session; 513-529)
Vocabulary check	Checking whether the other participants know the meaning of vocabulary or not.	NNS27: ***invaluable?*** NNS27: ***what does it mean?*** NNS19: cheap? NNS22: not precious isn't it? (6th Session; 381-385)
Vocabulary request	Requesting a vocabulary word or phrase in the TL.	NNS28: I want to remind you a Turkish proverb NNS4: ? NS7: sure, what's the Turkish proverb? NNS28: "yalancının mumu yatsıya kadar yanar" NNS24 smiles NS7: ***and in english? ;)*** NNS4 smiles NS6: ***translate please*** (7th Session; 513-520)