Correlation and frequency of use of the Netspeak elements in asynchronous discussion within the same generation of students in the 1st and in the 7th semester

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Abstract: - Spread of new communication technology is producing long term effects not only on important aspects of communication, but also on languages. Netspeak elements are very common among young people even in formal ways of communication. In this paper the authors tend to discover whether the ratio of those elements is growing or falling by increasing the level of students' education. The authors analyze the presence of Netspeak elements (such as emoticons, acronyms and abbreviations, salutation, complementary closing and nonstandard use of punctuation, slang, prolonged graphemes, omission of diacritics and the use of words in English) in asynchronous discussions within the ICT (Information and Communication Technologies) course taught in 1st semester and within the MIS (Management Information Systems) taught in 7th semester at Zagreb School of Economics and Management. The methodology the authors use is the analysis of the posts in asynchronous discussion within the 1st and 7th semester using Pearson product moment coefficient of correlation, One Sample Statistics and Paired Samples Statistics. The results confirmed the hypothesis that the freshmen are more subjected to Netspeak even in formal discussions than the senior students, especially when it comes to the emoticons.

Key Words: asynchronous discussion, Netspeak elements, spoken language, e-learning, Information and Communication Technologies

1 Introduction

1.1 New language form – „Netspeak"
New breed of communication is evolving due to the plasticity of the language. Netspeak is a new language of information communication found on Internet in a form of chat, text messages and msn [1] and have become a language variety in its own right, exhibiting specific regularities in different aspect of language use. The analysis Crystal provides shows that "new" linguistic phenomena very often escape traditional linguistic notions and categories. [2] It changes the rules of written Croatian language by introducing new forms and using the old forms in new expressive ways. The changes are the result of limitation of the communication technology as well as pragmatic factors determining the type of communication. [3] It reflects the return to the speech and the imagery in the electronic media being described

as the third media revolution [4]. It's very rapid, direct and almost spoken. Netspeak attracts with its simplicity and creativity in shaping the message. Very popular especially among young people penetrates even though into the formal ways of communication.

In a paper „Correlation between Netspeak elements and asynchronous discussion" [5] the authors have analyzed various elements of Netspeak used by students in closed discussions between students and between students and professors (student-student, student-professor).

1.2 Asynchronous online discussions
Asynchronous Discussion makes a very important part of any e-learning system. [6]-[10] In their research Steimberg & etc. analyze three different groups of participants in online discussions. [11] Those are active participants who write posts and participate actively in discussions, passive participants who read posts, but do

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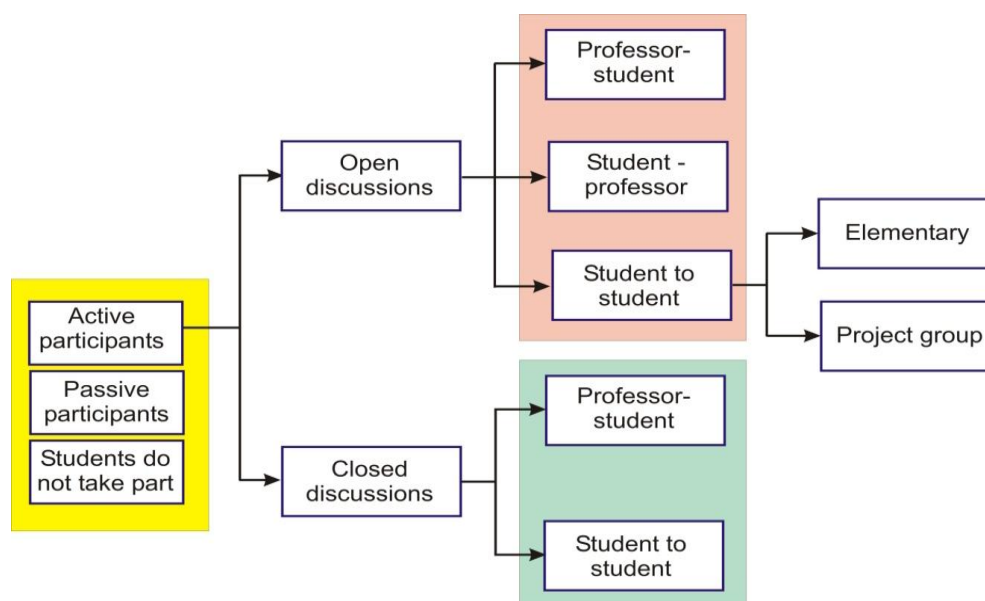Poropat Darrer, Tihana Djuras

Figure 1 Discussion types

not reply, and finally the third group that do not participate in the discussion at all. LMS systems (Learning Management System) [12, 13] usually have the options of tracking and registering the active and passive participation in the discussions. Because the topic of this paper is the use of Netspeak elements in asynchronous discussion the authors analyze only the active participants.

Figure 1 shows the discussion types that are used among the course ICT and MIS at Zagreb School of Economics and Management [14, 15].

According to Aleksic-Maslac etc. [16] active participants within the e-learning course might take part in open and closed discussions. Open discussions allow permanent communication between students, between students and professor, professor and students. They can discuss either over class material or topics outside the teaching subject. Closed discussions are related to the teaching materials, and can be either professor-student or student-student. Discussion student-student might be *elementary*, the one in which one student is a moderator and the others participate actively, as well as *project group* in which the students communicate with each other divided into smaller virtual classrooms. [14]

There is a certain correlation between using Netspeak elements in professor-student discussion and the one between students. It means that the student using the Netspeak elements in an informal discussion with another student will be using more often the same elements either in a professor-student discussion. Thereat students use more often the Netspeak elements in an informal, student-student discussion. [17] The studies show the same perception of the students. Students claim oftener use of Netspeak elements in an

informal rather than in formal discussion. The senior students state the lower use of Netspeak elements than the freshmen. [18]

2 Netspeak elements in closed discussion

2.1 Introduction
The research over the use of the Netspeak elements has been conducted at Zagreb School of Economics and Management (ZSEM), the leading higher educational institution in Croatia in a systematic use of e-learning. [19] ZSEM was founded in 2002. This fact enabled the staff to apply the best world contemporary teaching methods and e-learning practice from the very beginning. E-learning has been systematically used and same LMS is obligatory for all students and lecturers.[20] In order to evaluate the quality of designed courses there were developed 11 standards divided into three groups; static, dynamic and administrator ones. [21]-[23] At ZSEM, today there are over 1400 students enrolled in undergraduate programs and graduate MBA programs as well as over 150 e-learning designed courses.

Online discussions make an important part of dynamic standards. Regarding that fact the authors analyze the use of Netspeak elements within the two courses having the highest results in the online discussions dynamic standards. Those are as follows:
1. Information and Communication Technologies (ICT) – taught in 1st semester [24, 25]
2. Management Information System (MIS) – taught in 7th semester [14].

2.2 Online activities

The Table 1 shows the compared activities within the same generation of students analyzed in various online elements of e-learning system in the 1st semester within the ICT course (school year 2007/2008) and in the 7th semester within the course MIS (school year 2010/2011).

Online element	ICT		MIS	
	Average	%	Average	%
Homepage	205,89	16,48	134,42	16,17
Organizer Page	107,64	8,61	63,51	7,64
Assignment			12,29	1,48
Online quizzes	40,39	3,23	20,46	2,46
Calendar	64,22	5,14	28,00	3,37
Mail	7,27	0,58	7,48	0,90
Other	63,21	5,06	80,87	9,73
Discussions	760,97	60,90	480,75	58,25
Total	1249,59	100	827,78	100

Table 1 Online Activities Distribution

Each student during the course has accessed the e-learning designed ICT course 1250 times average, and 828 times the MIS course. The difference between the two courses is obvious and appear because of the different content of their Syllabi as well as because there is much more students enrolled in 1st semester. Although, it is interesting that in both of the cases approximately 60% of the whole activity is based on discussions (Figure 2). It proves that the online discussions take a very important part in the advanced e-learning courses such as ICT and MIS.
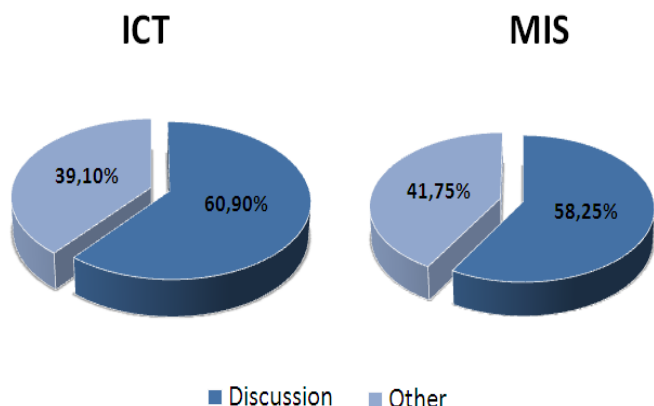

Figure 2 Online activities distribution within the ICT and MIS course

2.3 Distribution of the use of Netspeak elements

Table 2 shows the use of Netspeak elements within the posts of the same students within the 1st semester in 2007 and 7th semester in 2010.

	1st semester		7th semester	
	P-S(%)	S-S(%)	P-S(%)	S-S(%)
Word in English	94	88	80	95
Diacritical Marks	70	66	76	75
Acronyms and Abbreviations	70	78	66	73
Emoticons	52	36	11	30
Nonstandard use of Punctuation	62	68	27	42
Uppercase graphemes	12	8	10	9
Prolonged graphemes	8	17	2	4
Salutation at the beginning of post	7	11	6	24
Complementary closing at the end of post	35	26	28	47

Table 2 The comparison of various elements of professor-student and student-student discussion

2.3.1 Word in English

Even in 90% of posts there is present at least one expression in English language. It is expected because those are the IT courses, all about new technologies and the used expressions are internationally accepted. It is not a big news, as we know. It's common issue to all minor world languages, being subjected to English language not only in a field of information technology.

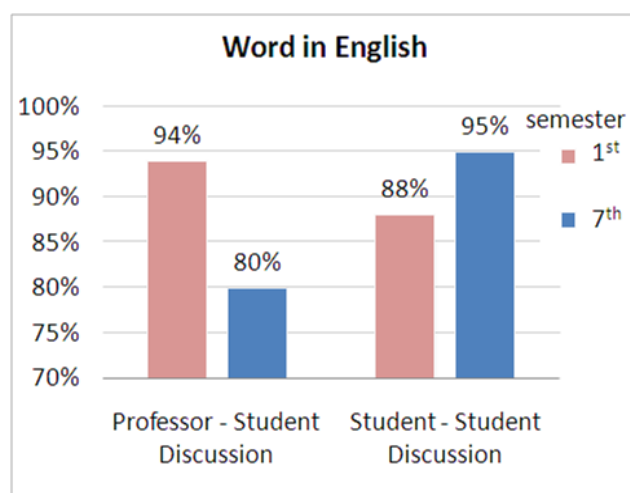Figure 3 shows the use of expression in English language in discussion.

Figure 3 Distribution of word in English in 1st and 7th semester

2.3.2 Diacritical Marks

Those students using the diacritics in one discussion usually use them in all discussions as well as in e-mails. Up to 10% of students sometimes use diacritics sometimes not. Below 1% of students in the same post combine using the diacritics and omitting it.

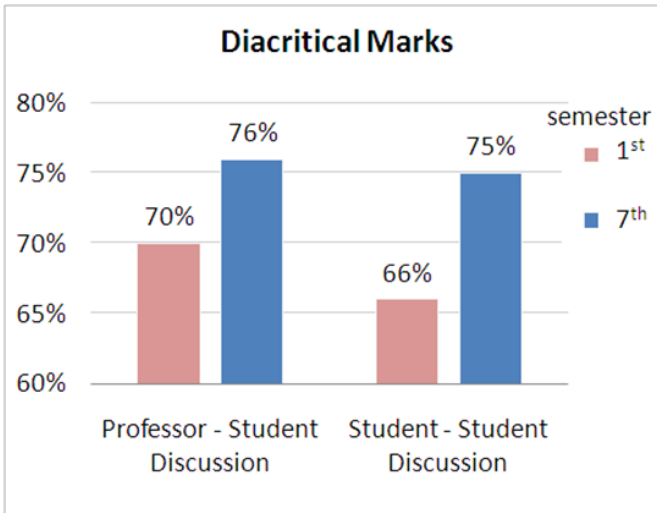Figure 4 shows the distribution of the use diacritics of the punctuation.

Figure 4 Distribution of diacritical marks in 1st and 7th semester

2.3.3 Acronyms and Abbreviations

Figure 5 shows the use of acronyms and abbreviations within the posts of the same students within the 1st semester in 2007 and 7th semester in 2010.
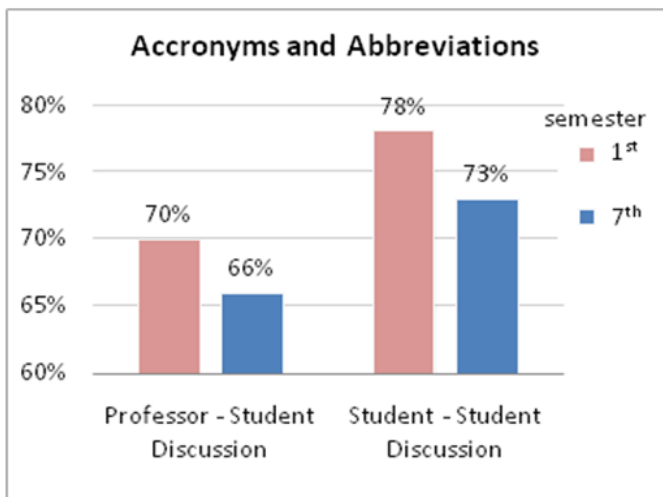

Figure 5 Distribution of acronyms and abbreviations in 1st and 7th semester

Average, the acronyms and abbreviations are used more often by students in 1st semester and in the informal student-student discussion.

2.3.4 Emoticons

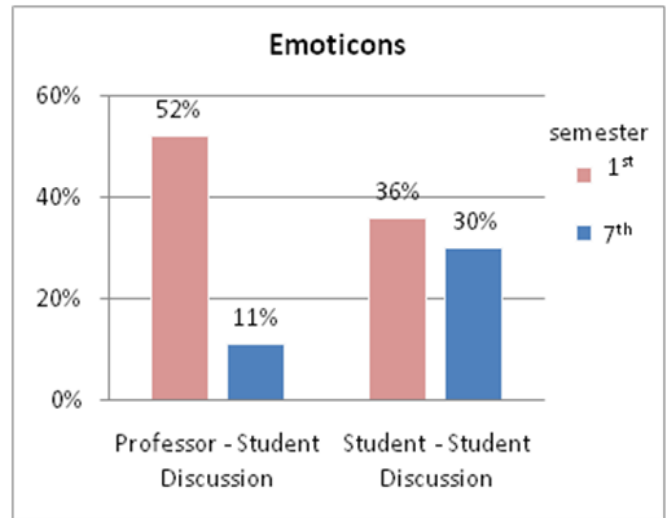Figure 6 shows the distribution of the use of emoticons in 1st and 7th semester.

Figure 6 Distribution of the use of emoticons in 1st and 7th semester

In average the same students used emoticons much more less in 7th semester than they used to do that in 1st semester.

Unexpected result of wider use of emoticons in 1st semester within the more formal professor-student discussion is explained with the length of the posts. In fact, the posts within this discussion are oftener longer than in a student-student discussion so the possibility of the appearance of the emoticons increases.

2.3.5 Nonstandard use of the Punctuation

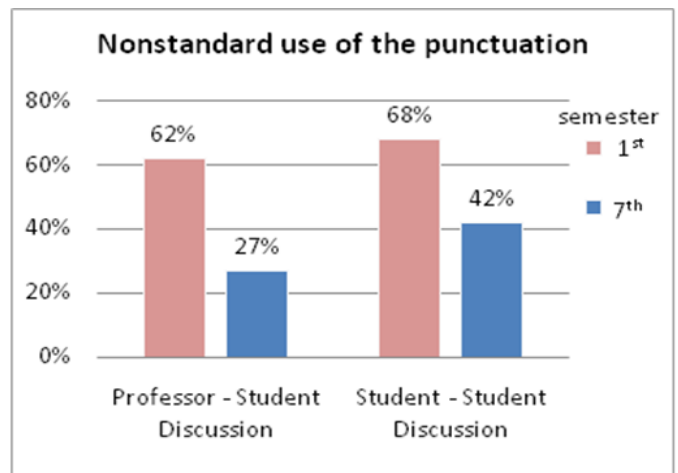Figure 7 shows the distribution of the use of the punctuation.

Figure 7 Distribution of the nonstandard use of the punctuation

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Students in 1st semester use much more often the punctuation to express hesitation and yelling than they do that in 7th semester. In both cases, the punctuation is used oftener in informal student-student discussion rather than in professor-student. The nonstandard use of punctuation includes using the period, exclamation marks and question marks to stress out what we are talking about and to simulate hesitation or using loud voice.

2.3.6 Uppercase and prolonged graphemes

Very similar to the use of uppercase and prolonged graphemes it is used to add prosodic elements to the written words as well as to express strong emotions.

Figure 8 shows the distribution of the use of uppercase and prolonged graphemes in 1st and 7th semester.
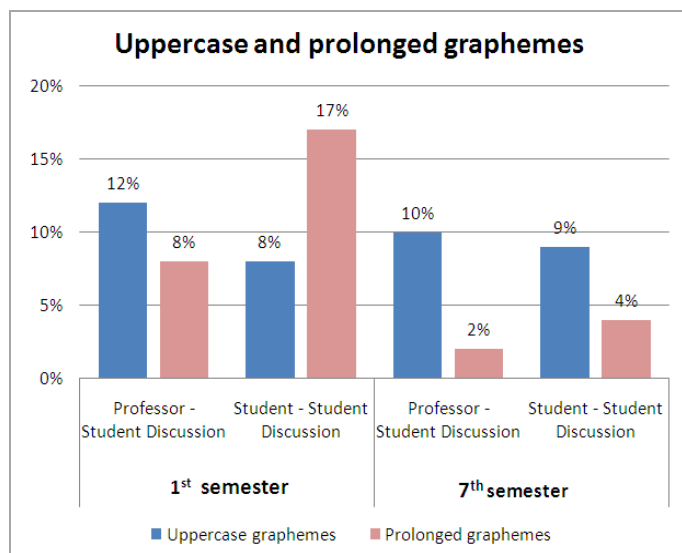

Figure 8 Distribution of the uppercase and prolonged graphemes use of the punctuation

About 10% of students use uppercase graphemes no matter if they attend 1st semester or 7th semester and no matter of the type of the discussion. Prolonged graphemes are oftener used in 1st semester and within the student-student discussion.

2.3.7 Salutation at the beginning of the post

Even though it is a closed discussion strictly related to the teaching materials students are not showing much interest in salutation directly continuing the discussion.

Figure 9 shows the use of salutation at the beginning of the post.
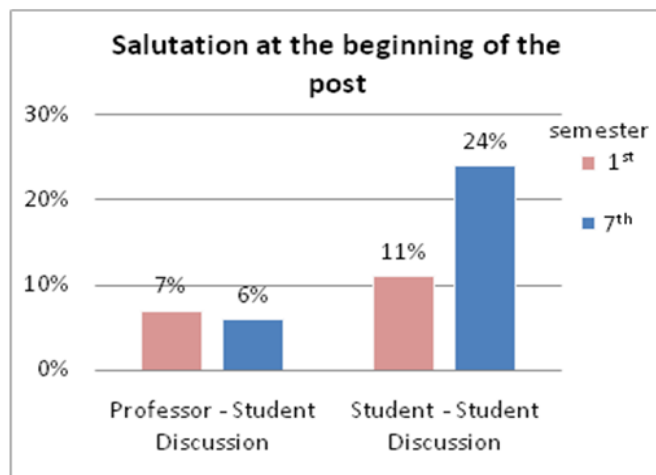
Figure 9 Salutation at the beginning of the post

Even though it is a closed discussion strictly related to the teaching materials students are not showing much interest in salutation directly continuing the discussion. It is the feature of spoken language, of common conversation where the strict rules of written Croatian language start to vanish.

2.3.8 Complementary closing at the end of the post

Skipping the salutation and complementary closing the discourse automatically assumes the conversational tone.

Figure 10 shows the use of complementary closing at the end of the post.

Figure 10 Complementary closing at the end of the post

Students are much more interested in salutation at the end of the post, but it's important to stress out that the majority of the complementary closing at the end of the discussion are emoticons.

3   Results on Statistical Research

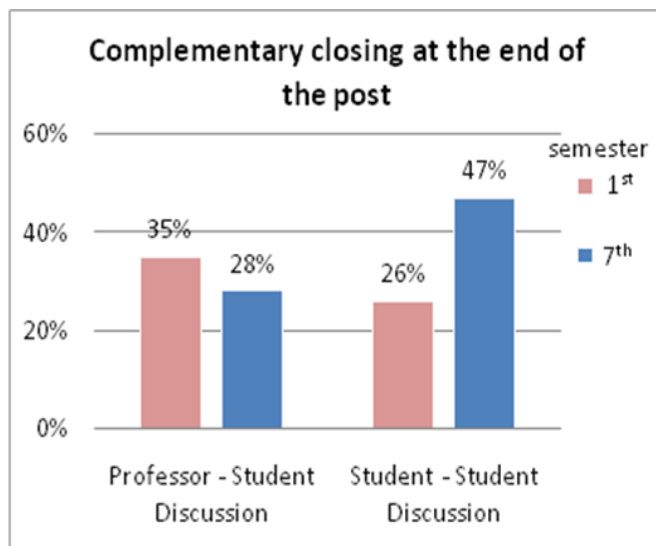This research includes the analysis of the student posts who participated in asynchronous discussion in the 1st semester when they were freshmen, back in 2007, and the posts in asynchronous discussion on their fourth year of study, in the 7th semester in 2010.

The hypotheses are as follows:

1. Netspeak elements such as slang, omission of diacritics, acronyms, abbreviations, emoticons, nonstandard use of punctuations, uppercase and prolonged graphemes used in 1st semester will be used in 7th semester too.
2. Netspeak elements are used more often in 1st semester rather than in 7th.
3. Netspeak elements oftener used in 1st semester will be oftener used in the 7th semester as well.

3.1   Testing the first hypothesis

The authors assumed that the Netspeak elements are oftener used in 1st semester within the ICT course rather than in 7th semester within the MIS course. To test the first hypothesis the authors have been using the Pearson product moment coefficient of correlation with sample of 36 students that have been actively participated in the discussions in both courses, in 1st semester within the ICT course, and in 7th semester within the MIS course. If we look the average use of every Netspeak elements as shown in the Table 3 the authors state the correlation between the use of Netspeak elements in 1st and 7th semester.

		ICT – the use of Netspeak elements	MIS - the use of Netspeak elements
ICT – the use of Netspeak elements	Pearson Correlation	1	,382*
	Sig. (2-tailed).		,022
	N	36	36
MIS - the use of Netspeak elements	Pearson Correlation	,382*	1
	Sig. (2-tailed).	,022	
	N	36	36

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

Table 3 Correlation between the average use of Netspeak elements in 1st and 7th semester

The same Netspeak elements used in 1st and 7th semester have been compared and the results shows the

statistically significant correlation between the use of diacritical marks and the use of emoticons with the reliability ratio of 95% regarding the significance ratio being 0,045 and 0,044.

Other correlation coefficients are not statistically relevant; they are not correlated in 1st and 7th semester which is shown in the Table 4.

The Table 4 shows the correlation coefficient and significance ratio proving the existence of correlation between mentioned elements.

Paired Samples Correlations				
		N	Corr.	Sig.
Pair 1	ICT slang & MIS slang	36	,062	,721
Pair 2	ICT diacritical marks & MIS diacritical marks	36	,337	,045
Pair 3	ICT acronyms and abbreviations & MIS acronyms and abbreviations	36	,052	,762
Pair 4	ICT emoticons & MIS emoticons	36	,337	,044
Pair 5	ICT beginning of posts & MIS beginning of posts	36	,210	,220
Pair 6	ICT end of posts & MIS end of posts	36	,253	,136
Pair 7	ICT nonstandard use of punctuation & MIS nonstandard use of punctuations	36	,309	,067
Pair 8	ICT upper case & MIS upper case	36	,178	,299
Pair 9	ICT prolonged graphemes MIS prolonged graphemes	36	-,082	,633

Table 4 Correlation between each Netspeak elements in 1st and 7th semester

Therefore, there is a correlation between the use of diacritics in 1st semester and the use of diacritics in 7th semester as well as the correlation between using emoticons in 1st and 7th semester. There is a correlation between the use of emoticons, complementary closing at the end of the post and nonstandard use of punctuation in 1st and 7th semester. This result is expected and very logic because the posts in most of time end with emoticons.

As well, there is a correlation between the nonstandard use of punctuation and the complementary closing at the end of the post in 1st and in 7th semester as shown in the Table 5.

Paired Samples Correlations		N	Corr.	Sig.
Pair 1	ICT emoticons & ICT greetings at the end of the posts	36	,505	,002
Pair 2	ICT emoticons & MIS greetings at the end of the posts	36	,564	,000
Pair 3	ICT emoticons & ICT uppercase	36	,400	,016
Pair 4	ICT emoticons & MIS uppercase	36	,341	,042
Pair 5	ICT nonstandard use of punctuation & ICT greetings at the end of the posts	36	,365	,029
Pair 6	ICT nonstandard use of punctuation & MIS greetings at the end of the posts	36	,390	,019

Table 5 Significant correlation between the use of each Netspeak elements in 1st and 7th semester

Therefore, it can be concluded that just two Netspeak elements are used both in 1st and in the 7th semester, they are diacritics and emoticons. For other Netspeak elements it can't be said.

3.2 Testing the second hypothesis

In order to test the second hypothesis the authors use the results obtained from One Sample Statistics and Paired Samples Statistics. The authors analyzed the average usage of Netspeak elements of all students, active participants in all discussions, as well as the average usage of Netspeak elements of active participants in just one discussion, either the one in 1st semester or the one in 7th. The obtained results are arithmetic mean showing the use of Netspeak elements in discussions in 1st and in the 7th semester.

	N	Mean	Std. Dev.	Std. Err. M	t-test
ICT Netspeak – discussion participants in both semesters	36	,3086	,15617	,02603	1,458
MIS Netspeak – discussion participants in both semesters	36	,2681	,14330	,02388	

Table 6 The use of Netspeak elements in discussions both in 1st and in 7th semester

	N	Mean	Std. Dev.	Std. Err. M	t-test
ICT Netspeak – discussion participants in 1st semester	85	,3116	,14332	,01555	3,1157*
MIS Netspeak – discussion participants in 7th semester	75	,2432	,13298	,01536	
*p<0,05					

Table 7 The use of Netspeak elements in discussions either in 1st or in 7th semester

Looking at the average results, the authors can conclude that Netspeak elements are used most often in 1st semester rather than in 7th semester in both samples.

Pair-simple t-test analysis of use of Netspeak elements in 1st and 7th semester show that this difference is considered to be not so significant to be claimed as statistically significant, and if we look at the result of the analysis of use of Netspeak elements in discussions either in 1st and 7th semester we can conclude that this difference is considered to be very statistically significant.

Based on the average result of the use of each Netspeak element within our 36 student sample obtained by Paired Samples Statistics and shown in the Table 8, and the average result within 124 student shown in the Table 9, the authors conclude the oftener usage of some Netspeak elements within 1st rather than within 7th semester.

As shown in the Table 8 and Table 9, the standard deviation varies more often than other which implies the no coherent use of Netspeak elements among students.

Indexes of Netspeak elements do more often vary in the use of diacritic marks both in 1st and in the 7th semester, in the use of emoticons, salutation and complementary closing as well as in the nonstandard use of punctuation. The elements such as slang and prolonged graphemes are equally used.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ICT slang	,0969	36	,25095	,04183
	MIS slang	,1064	36	,13054	,02176
Pair 2	ICT diacritical marks	,2436	36	,40663	,06777
	MIS diacritical marks	,2508	36	,36963	,06160
Pair 3	ICT acronyms & abbreviations	,7072	36	,34895	,05816
	MIS acronyms & abbreviations	,7753	36	,21622	,03604
Pair 4	ICT emoticons	,4881	36	,40638	,06773
	MIS emoticons	,2186	36	,31515	,05253
Pair 6	ICT beginning of posts	,1131	36	,25307	,04218
	MIS beginning of posts	,1242	36	,25354	,04226
Pair 6	ICT end of posts	,3131	36	,38149	,06358
	MIS end of posts	,3842	36	,37896	,06316
Pair 7	ICT nonstandard use of punctuation	,6200	36	,41144	,06857
	MIS nonstandard use of punctuation	,3903	36	,31045	,05174
Pair 8	ICT upper case	,1086	36	,23501	,03917
	MIS upper case	,1267	36	,27183	,04530
Pair 9	ICT prolonged graphemes	,0853	36	,18165	,03028
	MIS prolonged graphemes	,0347	36	,12246	,02041

Table 8 The average use of each Netspeak element in discussions both in 1st and in 7th semester within 36 student sample

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ICT slang	,0606	85	,18051	,01958
	MIS slang	,1456	75	,24051	,02777
Pair 2	ICT diacritical marks	,2866	85	,41502	,04501
	MIS diacritical marks	,2121	75	,36333	,04195
Pair 3	ICT acronyms & abbreviations	,7087	85	,35908	,03895
	MIS acronyms & abbreviations	,6900	75	,30905	,03569
Pair 4	ICT emoticons	,4638	85	,41700	,04523
	MIS emoticons	,1711	75	,27679	,03196
Pair 6	ICT beginning of posts	,0767	85	,22636	,02455
	MIS beginning of posts	,1317	75	,26869	,03103
Pair 6	ICT end of posts	,3308	85	,39164	,04248
	MIS end of posts	,3955	75	,39533	,04565
Pair 7	ICT nonstandard use of punctuation	,6462	85	,40956	,04442
	MIS nonstandard use of punctuation	,3240	75	,33580	,03878
Pair 8	ICT upper case	,1261	85	,29287	,03177
	MIS upper case	,0988	75	,21738	,02510
Pair 9	ICT prolonged graphemes	,1078	85	,23628	,02563
	MIS prolonged graphemes	,0200	75	,09011	,01040

Table 9 The average use of each Netspeak element in discussions both in 1st and in 7th semester within 124 student sample

Observing the use of Netspeak elements each by each, the authors note that some of them such as the use of slang, the omission of diacritics, the use of emoticons, the nonstandard use of punctuation and the use of prolonged graphemes are oftener used in 1st semester than in 7th. While the use of acronyms and abbreviations, uppercase graphemes and salutation at the beginning and complementary closing at the end of the posts are oftener used in 7th semester than in 1st semester.

3.3 Testing the third hypothesis

Netspeak elements that are used more often have higher average use in communication than other elements. The average uses of each element are shown in the Table 8 and 9. The Table 10 shows the average use of all Netspeak elements by 36 students in the semesters, 1st and 7th as well as the use of Netspeak elements by a larger sample of 124 students, 85 in 1st semester and 75 in 7th participating in the discussions.

	N	Mean	Std. Dev.	Std. Err. M
Netspeak – discussion participants in 1st semester	36	,2882	,3738	,01148
Netspeak – discussion participants in 7th semester	124	,2797	,38177	,01006

Table 10 The average use of all Netspeak elements in discussion in 1st and 7th semester

If we compare the indexes of the average use of each element from the Table 8 and 9 with average use of Netspeak of 0,2882 and 0,2797 it can be said that the most used Netspeak elements are acronyms and abbreviations, emoticons, complementary closing at the end of the post and nonstandard use of punctuations.

The Table 10 shows the Netspeak elements that are used the most. It is obvious that the most used elements are acronyms and abbreviations, nonstandard use of punctuation, complementary closings and emoticons. The results of t-test shown in the Table 11 shows the statistically significant difference in the use of emoticons and the nonstandard use of punctuation in the 1st and 7th semester and that there is no such a difference in the use of acronyms and abbreviation and the complementary closing.

		Mean	N	t-test
Pair 1	ICT acronyms & abbreviations	,7087	85	0,3508
	MIS acronyms & abbreviations	,6900	75	
Pair 2	ICT emoticons	,4638	85	5,1575*
	MIS emoticons	,1711	75	
Pair 3	ICT end of posts	,3308	85	1,0372
	MIS end of posts	,3955	75	
Pair 4	ICT nonstandard use of punctuation	,6462	85	5,3978*
	MIS nonstandard use of punctuation	,3240	75	

*p<0,05

Table 11 The average use of all Netspeak elements in discussion in 1st and 7th semester

Results show that the Netspeak elements such as acronyms and abbreviations, complementary closing and the nonstandard use of punctuation are used often both in 1st and in the 7th semester. Emoticons are used less in the 7th semester shows the index of the average use of Netspeak elements. The third hypothesis stating that the Netspeak elements oftener used in 1st semester will be oftener used in the 7th semester as well cannot be applied on the use of emoticons.

4 Conclusion

Netspeak generate itself from a spoken language, it develops rapidly and is becoming a common tool of communication erasing the boundaries between formal and informal communication.

The fear that the use of various communication technologies will endanger languages does not seem a real threat to us. It is only a matter of changing and adapting to the various grammatical entities as well as usage of different vocabulary.

Looking at the average results, the authors can conclude that there is a correlation between the average use of Netspeak elements in 1st and 7th semester. However, statistically significant correlation is between the use of diacritics and emoticons.

In conclusion it can be said that the use of Netspeak elements is oftener among the students in 1st semester than in 7th semester. Individually, the Netspeak elements are also more often used in 1st semester.

Moreover, the great part of Netspeak elements used in 1st semester will be used in 7th semester as well.

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