

Code-switching practices of English majors in computer-mediated communication

Jurina, Jelena

Master's thesis / Diplomski rad

2024

Degree Grantor / Ustanova koja je dodijelila akademski / stručni stupanj: **University of Zagreb, Faculty of Humanities and Social Sciences / Sveučilište u Zagrebu, Filozofski fakultet**

Permanent link / Trajna poveznica: <https://urn.nsk.hr/urn:nbn:hr:131:682305>

Rights / Prava: [In copyright](#) / [Zaštićeno autorskim pravom.](#)

Download date / Datum preuzimanja: **2025-03-26**



Sveučilište u Zagrebu
Filozofski fakultet
University of Zagreb
Faculty of Humanities
and Social Sciences

Repository / Repozitorij:

[ODRAZ - open repository of the University of Zagreb
Faculty of Humanities and Social Sciences](#)



UNIVERSITY OF ZAGREB
FACULTY OF HUMANITIES AND SOCIAL SCIENCES
DEPARTMENT OF ENGLISH
TEFL SECTION

**CODE-SWITCHING PRACTICES OF ENGLISH MAJORS IN
COMPUTER-MEDIATED COMMUNICATION**

Master's thesis

Student: Jelena Jurina
Supervisor: Stela Letica Krevelj, PhD, Assistant Professor
Zagreb, 2024

SVEUČILIŠTE U ZAGREBU
FILOZOFSKI FAKULTET
ODSJEK ZA ANGLISTIKU
KATEDRA ZA METODIKU

**PREBACIVANJE KODA KOD STUDENATA ANGLISTIKE U
RAČUNALNO POSREDOVANOJ KOMUNIKACIJI**

Diplomski rad

Studentica: Jelena Jurina
Mentorica: doc. dr. sc. Stela Letica Krevelj
Zagreb, 2024

Examining committee:

assoc. prof. Renata Geld, PhD

mag. edu. ang. Nives Kovačič, assistant

asst. prof. Stela Letica Krevelj, PhD

Contents

1. Introduction.....	2
2. Theoretical background	2
2.1. Computer-mediated communication.....	2
2.2. Code-switching, code-mixing and (nonce) borrowing	3
2.3. Functions of CS.....	5
3. Previous research on CS in CMC	8
4. Study	10
4.1. Aim	10
4.2. Participants.....	10
4.3. Methodology.....	11
4.4. Exclusions.....	12
5 Results and discussion	13
5.1. Functions of CS.....	13
5.2. Interviews.....	23
6. Conclusion and final remarks	25
7. References.....	28

Abstract

The phenomenon of code-switching (CS) has been traditionally studied in oral communication. However, due to technological advances and increased online connectivity, it is becoming a more prominent feature of computer-mediated communication (CMC). Therefore, the aim of this study was to examine CS of English majors studying to be EFL teachers in a group chat on WhatsApp. More specifically, the focus was placed on the CS functions of their messages. Data were collected by exporting and analyzing the messages, with participants providing consent for both the analysis and potential interviews. The research study employed qualitative analysis of CS functions, supported by the four individual participant interviews. The results show that English majors code-switch most often out of habit or when they are talking about English courses. Apart from these functions, they also code-switch often for humor purposes, because they wish to retain a more accurate meaning of a word or simply because English is the most spontaneous form of communication in the group chat.

Keywords: *code-switching, computer-mediated communication, code-switching functions*

1. Introduction

The phenomenon of code-switching (henceforth CS) has been a topic of interest for many researchers. However, a big part of research studies related to CS deal with it in spoken, face-to-face communication. An area that is not as widely researched, but could provide interesting data, is CS in computer-mediated communication (henceforth CMC). The purpose of this research study is thus to research this less-known medium of communication when it comes to CS.

In this study, data spanning six months in a group chat on WhatsApp with Croatian-English bilinguals was examined. More specifically, data of English majors at the Faculty of Humanities and Social Sciences that are studying to be EFL teachers. The main focus of the analysis and the entire research study was to classify the CS functions of their messages.

This research study contributes to the body of work on CS in CMC by adding another language that has not been the focus of many similar studies, Croatian. Therefore, it provides new insights into the phenomenon of CS in online communication and into linguistic diversity online by using different languages alongside English, especially a smaller and unresearched language as Croatian. By using an under-researched language, new contexts and insights are offered that could help in the better understanding of the CS phenomenon.

2. Theoretical background

2.1. Computer-mediated communication

CMC can be described as any “human communication via computers” (Simpson, 2002, p. 414). This communication which occurs online can be synchronous and asynchronous. The former means that “interaction takes place in real time”, while the latter does not require participants to be online at the exact same time (Simpson, *ibid.*). Simpson provides examples of both forms of CMC. Examples of synchronous CMC could be “various types of text-based online chat, computer, audio, and video conferencing”, while “email, discussion forums, and mailing” could be examples of asynchronous CMC (*ibid.*). Friedrich and Diniz de Figueiredo also point out the fact that it is difficult to conclude that one form of communication is strictly synchronous or asynchronous by saying that it is “hard to assume that one particular form of communication online will never generate immediate responses” (2016, p. 52). Examples that the authors provide for this claim are a rapid exchange of e-mails, a generally asynchronous form of CMC, and a social media inbox message, generally synchronous form of CMC, that

could take a long time to be answered, depending on when people log in (ibid.). Dorleijn and Nortier (2009, pp. 128-129) describe CMC as “a hybrid between speaking and writing” and emphasize the fact that not all types of texts that exist online are relevant for research in CS. They further state that it is an “absolute prerequisite” for CS research to be done on informal messages, i.e. data, because CS normally occurs in such “informal situations and reflects colloquial language” (Dorleijn and Nortier, 2009, p. 130). Dorleijn and Nortier also claim that “real-time chatgroups” where direct online interaction between users is possible “seems to be the closest to speaking and may therefore be of great value for CS research” (2009, ibid.). Moreover, the authors provide advantages and disadvantages of this type of medium. Advantages being its similarity with spoken language and natural conversation, being able to manipulate the conversation by introducing topics or language and the fact that it is easily accessible. On the other hand, the first disadvantage they list is the data being short-lived, which with today’s technological advances is not the case any longer. The other two disadvantages are the fact that it would be difficult to get the users to cooperate because they do not know the researcher and the nature of the messages being quite short and reserved to one or two words (Dorleijn and Nortier, 2009, p. 132).

Another thing that is interesting and specific to CMC is the usage of an emoticon that “facilitates and accelerates the message” that one wishes to convey “given the absence of facial expressions and tone of voice” (Friedrich & Diniz de Figueiredo, 2016, pp. 60-61). This means that using emoticons can help in understanding how a user meant to say something and wished to be understood, which could help in classifying CS functions as well.

2.2. Code-switching, code-mixing and (nonce) borrowing

Apart from defining CS itself, definitions of code-mixing and borrowing will also be discussed. CS is a phenomenon that has been described in many different ways. The entire field of research within CS has been characterized as confusing considering that the same terminology can be used in completely different ways depending on the researcher (Milroy & Muysken, 1995, p. 12). Similarly, Eastman writes about the attempts of providing definitions for the above-mentioned terms, claiming that “efforts to distinguish CS, code-mixing and borrowing are doomed” (1992, p.1, as cited in Gardner-Chloros, 2009, p. 10).

To start off with perhaps most commonly used definition, that of Gumperz, CS is a “juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems” (1982, p. 59). Hoffman describes it as the

“alternate use of two languages or linguistic varieties within the same utterance or during the same conversation” (1991, p. 110). Friedrich and Diniz de Figueiredo define it also as “alternating between two or more languages or language varieties (codes)” (2016, p. 45).

Moving on to code-mixing, the same authors use the term code-mixing “when the insertion of codes occurs below the clause level”, that is when there are no “alternating full clauses in different languages” (Friedrich & Diniz de Figueiredo, 2016, p. 46). Meisel uses code-mixing to refer to “the fusion of two grammatical systems”, while CS is seen as “a specific skill in the bilingual’s pragmatic competence” (1989, p. 36). Furthermore, Setiawan describes “the use of morpheme from a source language to root from a recipient language as belonging to code-mixing” (2023, p. 55). Bhatia and Ritchie also write that code-mixing means the “mixing of various linguistic units (morphemes, words, modifiers, phrases, clauses and sentences) primarily from two participating grammatical systems within a sentence” while their definition for CS excludes morphemes and modifiers (2003, p. 337). Here, the last two explanations of code mixing not only include those instances below the clause level but also those below the word level.

However, some researchers avoid the term code-mixing due to the term implying that the speaker is mixing codes because of a lack of competence, that is because of the “pejorative connotation it carries that intra-sentential switching involves a random or unprincipled combination of languages” (Savile-Troike, 2003, p. 50). Therefore, CS can rather be used as an umbrella term to account for both actual instances of CS that most researchers would agree on and those that have the field divided, such as code mixing of morphemes.

Moving on, borrowing, or lexical borrowing, can be described as bridging a gap in the language, be it a real one or a perceived one (Friedrich & Diniz de Figueiredo, 2016, p. 46). The borrowed word can then become a part of the recipient language if it is accepted. Common examples of such loanwords come from technology and other areas that are advancing rapidly. Such words can lose their status of a loanword with time and through various adaptations on, for example, phonological and morphological levels (ibid., pp. 46-47). Furthermore, according to Holmes borrowing has been described as being motivated by “lack of vocabulary” or stemming from the need to “express a concept or describe an object for which there is no obvious word available in the language they are using” (2001, p. 42). The difference between borrowing and CS, apart from borrowings being adapted to a person’s L1, for Holmes is that with CS speakers actively choose to do so and are not forced into that decision due to previously mentioned reasons (ibid.)

Moreover, Sankoff and Poplack describe nonce borrowing as differing from borrowing in the traditional sense because “nonce borrowings are not necessarily recurrent or widely recognized in the community as loanwords” but they are “morphologically and syntactically incorporated into the host language” (1985, as cited in Nortier, 1990, p. 206). Bullock and Toribio further describe nonce borrowing as being similar to CS since both terms are found among bilinguals as opposed to monolinguals which is why some researchers see the two terms as “falling along a continuum” (2009, p. 5). Muysken describes nonce loans as elements that are borrowed on the spur of the moment, without yet having any status in the receiving speech community” (1995, p. 190). However, Poplack, Sankoff and Miller do not regard nonce borrowings as instances of CS (1998, p. 50, as cited in Myers-Scotton, 1992, p. 32). On the other hand, Myers-Scotton claims that there is no reason to claim that nonce borrowings, single-lexemes from another language that are not established loanwords in the target language, are not a part of CS (1992, p. 33). Thus, it can be concluded that CS could be regarded as a term that encapsulates different kinds of language mixing instead of excluding them.

2.3. Functions of CS

Classifications of functions of CS can vary from researcher to researcher, as well as from situation to situation. This is true not only for face-to-face communication but also for CMC since “a generally accepted methodology that takes the specifics of CMC into account has not yet been developed” (Androutsopoulos, 2013, p. 668). That is why researchers either design their own classifications based on their data or draw from those frameworks which were originally intended for spoken communication. Moreover, researchers do not rely on only one framework in their analysis of CS but rather use different approaches (ibid.).

Androutsopoulos provides a summary of CS functions that were identified in CMC research done by using the said frameworks for spoken language (2013, p. 680). Even though this is a summary of what was found in the literature, this does not provide a final overview of all the CS functions that can exist online, nor does the author claim so (ibid., 668). This is why some other frameworks will also be discussed in this part, so as to account for other CS functions in CMC contexts that are not mentioned in the summary.

To start off, the functions recognized by Androutsopoulos are quite self-explanatory and the most relevant will now be listed: switching for formulaic discourse purposes, including greetings, farewells, and good wishes; switching in order to perform culturally-specific genres such as poetry or joke-telling; switching with repetition of an utterance for emphatic purposes;

switching to respond to language choices by preceding contributors; switching to mark what is being said as jocular or serious, and to mitigate potential face-threatening acts, for example through humorous CS in a dispreferred response or a request; switching to or from the interlocutor's code to index consent or dissent, agreement and conflict, alignment and distancing, and so on (ibid., 681).

Apart from these, the author identifies some other functions from his own research of CS in CMC, mainly the fact that users employ "the concluding switch into English [that] serves to accentuate the writer's critical conclusion and sets it off from the preceding argumentation" (ibid., 682). Another function the author finds is CS when an "equivalent would presumably have been readily available" but the person decides to code-switch "for reasons of habit or convenience" (ibid.). Both of these functions are recognized and supported in Fabekovec's research study on CS between English and Swedish on Swedish forums and are there called *Pointing out a concluding remark* and *Reasons of habit or convenience* (2022, p. 21).

There are, however, some researchers such as Friedrich and Diniz de Figueiredo who do write about CS and its functions in the virtual world, that is, as a part of CMC. Even though they write about CS in online context, the examples they provide for these functions are mostly for oral, face-to-face communication. Friedrich and Diniz de Figueiredo also recognize the fact that CS in online contexts "can fulfill similar functions to those we see in the real world" and that there the characteristics of oral and written communication tend to mix (2016, p. 52). The two frameworks do overlap to a certain extent. For example, one similarity can be seen when Androutsopoulos writes about culturally specific genres such as joke-telling (2013, p. 681). Friedrich and Diniz de Figueiredo write about using language in a creative way and give puns as an example, which can also be seen as a humorous use of language (2016, p. 49). They are also similar when Androutsopoulos mentions switching to or from the interlocutor's code to show distancing (2013, 681). Friedrich and Diniz de Figueiredo discuss similar concepts when discussing "showing objectivity or subjectivity (or speaking from the heart or from the mind)" (2016, p. 50). They claim that using different languages for different topics can change "the emotional charge of the act itself", meaning that people who speak more than one language tend to perceive one of their languages as "more heartfelt or emotionally meaningful" (Friedrich & Diniz de Figueiredo, 2016, p. 51). Therefore, when the authors write about speaking from the heart or the mind, for the former they assume the mother tongue for talking about more personal topics. The latter refers to "potentially more business-like matter" in the language that a person perceives to be less emotional (Friedrich & Diniz de Figueiredo, 2016, p. 50). It can be concluded then that a person might code-switch to the less emotionally charged

language in order to distance themselves from a certain topic or situation, which is what Androutsopoulos (2013) suggests in his chapter.

What does, however, appear entirely new in Friedrich and Diniz de Figueiredo's framework is their function "shortcut to term" for which they provide two possible interpretations. The first interpretation accounts for those instances of CS when people are "members of similar speech communities" and "can [then] rely simply on the first language an expression comes to mind" (2016, p. 48). In other words, that it is not necessary for them to think of a word in another language because they know they are going to be understood. The other interpretation of this function is CS because the word in a particular language "has the most precise term to convey their meaning" (ibid.). Example they provide is a Portuguese word "saudade" that does not really have an exact English equivalent. Therefore, by relying on the word that has a more accurate meaning with people who speak both languages, ideas can be expressed "with no loss in time, fluency, or meaning" (Friedrich & Diniz de Figueiredo, 2016, p. 49).

Hoffman writes about functions, that is reasons for CS, as mainly being of "contextual, situational and personal kind" (1991, p. 115). What is different in this framework and therefore interesting, is Hoffman's function "talking about a particular topic" that is explained either as being caused by "lack of facility in the relevant register" or "because certain items trigger off various connotations which are linked to experiences in a particular language" (ibid.). Even though Androutsopoulos writes about "switching to contextualize a shift of topic or perspective", it is not described in such specific manner as is Hoffman's function (2013, p. 681). The two authors overlap when talking about "switching with repetition of an utterance for emphatic purposes" (Androutsopoulos, ibid.), however. Hoffman writes more generally about this function, as simply being emphatic about something which can then often take forms of interjection or repetitions used for clarification (1991, p. 116).

It can be concluded that there are many different and possible functions a code-switched element could have. The functions differ depending on the researcher as well as the context, however, they do tend to overlap. Even though such classifications can be of great help, Androutsopoulos warns of a "too heavy a reliance on classifications" that could in turn mean "reducing analysis to a simple 'category check', which disconnects CS from the conversational activity in which it is embedded and may result in a decontextualized listing of CS instances" (2013, p. 683).

3. Previous research on CS in CMC

Research done in Croatia by Treska (2000) analyzed both written and oral production (voice messages) of five Croatian-Italian bilinguals, using the platform WhatsApp. The analysis was done from grammatical, pragmatical, and conversational perspectives. In the research study two separate chats were analyzed – one chat was between two sisters and the other was between two cousins, both having over 250 written text messages. Participants' biographies were described in detail and were taken into consideration while conducting the analysis (Treska, 2020, p. 12). The researcher pointed out that it was difficult to use only one framework to explain the messages. This indicates that the phenomenon depends on many variables, not only language itself. For example, they accounted for subjective factors, such as the participants' mood (Treska, 2020, p. 45). The research provided an extensive analysis of each cluster of messages, describing both the places CS took place in the sentence or clause and its possible function. However, it was once again emphasized that while it was quite easy to describe the structure of the sentence and code-switched element, it was not entirely possible to account for the functions of each and every, and sometimes any, utterance (Treska, 2020, p. 42).

Fabekovec took a Swedish online forum to examine CS of users between English and Swedish. This research study does not only take functions of CS into consideration but also the types of CS and word classes of the code-switched elements (2022, p. 1). In this extensive analysis, Fabekovec assigns multiple reasons to one and the same CS instance. Fabekovec further justifies this by writing that this was done “either because there really were multiple reasons as to why a switch took place, or in order to cover all possible bases” (2022, p. 17). He continues by saying that some CS instances were not assigned any function because “there was not enough evidence to justify it” (ibid., p. 18). The author also made some exclusions, such as deciding not to analyze established borrowings, proper nouns, quotes that were copied from somewhere else and other (Fabekovec, 2022, p. 24). In his corpus, the function that appeared the most was *Talking about a particular topic*, the topics being stocks or video games, for example, because “the users find English more appropriate for these words” that belong to those areas (Fabekovec, 2022, p. 39). This function was often paired with the function *In-group communication* in the sense that “in some speech communities the mixed code is the preferred variety for in-group communication” (Dorleijn and Nortier, 2009, p. 128, as cited in Fabekovec, 2022, p. 20). Another highly prevalent function in the corpus was *Emphasis* of “their opinions, surprise, disappointment, annoyance or the quality of something” and they would often emphasize those utterances even more by using bold or italicized letters, for

instance (ibid.). *Reasons of habit or convenience* was also one of the most common functions that was assigned for the utterances in this corpus since the “the forum members often use established words and phrases which exist in Swedish but they are used to using them in English” (Fabekovec, 2022, p. 40).

In the research study done by Roslan et al. (2021) they focused on the types and factors that influence the use of CS by bilingual university students in Malaysia. The research study was conducted on 90 participants using a 45-item questionnaire. The items were separated into three sections: demographic questions, questions related to the types of CS and, finally, questions related to the factors of CS. The questionnaire asked the participants to self-assess and rank the types and factors of code-switching in the way that they most often use it. However, no actual analysis of text-messages was conducted, rather the research solely relied on the participant’s self-assessment. For their second research question about the factors that influenced the participants to code-switch, the most common factor was *Habitual expression*, followed by *Emphasis of point*. The authors comment on this by providing some actual examples, even though this research study did not analyze actual text-messages. However, they state that the participants “preferred to insert discourse particles such as “you know” to reason for the first most common factor for CS (Roslan et al., 2021, p. 49). When it comes to the second most common factor, *Emphasis of point*, respondents state that they “assumed that switching to another language during an argument can add more force to the statement” (ibid.).

Another research study done in Malaysia by Serip Mohamad (2022) analyzed WhatsApp messages of 12 bilingual participants aged 18 to 24 attending same English courses. Serip Mohamad claims that such forms of CMC as WhatsApp are “the least-explored medium” which is interesting to keep in mind for further research (2022, p. 75). This research study combined both the analysis of text messages as well as an interview with the participants. The purpose of the interview was to “clarify the functions of code-switching phenomenon that occur in the conversations between the participants and their friends” (Serip Mohamad, 2022, p. 76). They categorized the CS instances using taxonomy by Hoffman (1991) and Appel & Muyskens (2000). The interviews then served as either clarification of real motives or as a complement to the already identified functions (Serip Mohamad, 2022, p. 76). Their data showed that the participants code-switched when they were discussing “health conditions, apologizing, and swearing” (Serip Mohamad, 2022, p. 77). They also code-switched “due to the lack of readily available words in the language such as abbreviations and acronyms” (ibid., p. 83). Additionally, the participants code-switched “mostly for emphatic function and interjections”

and they unconsciously code-switch when, for example “quoting someone, expressing feelings” (ibid., p. 84).

Most of the above-mentioned research studies were done in recent years and used the same medium as this one. The data they provide offers valuable insights into CS research on WhatsApp and different ways in which data can be approached and analyzed. The results from each of the research studies seem to overlap, especially regarding the most common functions for CS, habitual reasons and emphasis. Something that is lacking in these research studies, as well as this one, but could prove very useful is combining WhatsApp with other platforms, such as e-mails or social media sites while using the same participants (Androutsopoulos, 2013, p. 668). This would offer greater insight into the practices of each participant and provide data that is more conclusive.

4. Study

4.1. Aim

The aim of the study was to examine the CS practices of Croatian English majors at the Faculty of Humanities and Social Sciences in the context of CMC. Specifically, it focused on WhatsApp, where communication between users is very informal by nature.

The research study aimed to answer the following research question:

What are the functions of CS used by English majors in communication via WhatsApp?

4.2. Participants

Participants in this research study were 20 English language majors enrolled in the Teaching English as a Foreign Language program at the Department of English at the Faculty of Humanities and Social Sciences in Zagreb, Croatia. Out of these, three were male and 17 were female. All participants were members of a WhatsApp group chat from which the data were collected. The messages that were analyzed spanned a period of almost six months, more specifically from the 22 September 2022 until 16 March 2023, during which the participants were enrolled in their final year of studies. The group chat itself had 21 members at the time of writing this master’s thesis. However, one of the members was an Erasmus student who was excluded since they are not a Croatian English major. Out of the remaining 20 participants, 19 of them have participated in the group chat to a certain extent during the data collection period. The author of this research study was also a member of the same group chat and therefore a

participant, however, with only two instances of CS. Therefore, the majority of the messages and code-switches were produced by the other members.

4.3. Methodology

This research study employed qualitative research by analyzing the functions of CS. The collected data had already existed and the author did not influence it in any way. All 19 participants from the group chat gave their consent for the data analysis via e-mail sent out on 5th February 2024. The e-mail included informed consent in which the participants were notified about the aim of the research study. They were also informed about the possibility of being interviewed about their CS functions.

Data was collected from a WhatsApp group chat using its option to export chats into a textual document and was then sent to a desired e-mail address. The chat was copied into a Word document, printed out, and analyzed. The analysis started by highlighting all instances of CS so that they could be classified according to their functions. The messages that contained CS were copied into a Word document one by one and were coded in terms of their functions.

It is important to note that most of the messages have been classified using various CS functions since it is difficult to claim that a person code-switched to fulfill only the one function and that the author of this paper can be certain about that. Different functions for the same instance were separated by a comma while functions of different instances were separated by a semicolon. When there was more than one instance of CS in a single message, all were put in bold and then underlined differently in order to make it clearer what was analyzed separately. Therefore, in an attempt to make the analysis more detailed and correct, the CS instances were classified from more than one perspective. What else proved to be helpful was taking into consideration the emoticons that users used alongside their CS messages since they sometimes provided more context into how they were feeling while typing the message. The functions that were assigned to CS instances in this corpus were drawn from several frameworks. This was done because not one framework seemed to fully encompass all of the functions from the participant's messages. Apart from combining several different frameworks, namely that of Hoffman (1991), Androutsopoulos (2013) Friedrich and Diniz de Figueiredo (2016), some CS functions were added by the author after the interviews with the participants. The functions that were added were *CS because of (perceived) language economy* and *In-group communication*. The former has not been found in literature and was coined by the researcher upon hearing the participant's reasoning behind some of their CS functions. The latter, however, can be found

in literature and was actually already identified in the *Previous research* section but was only deemed of importance after talking to participants. Both of these functions will be further discussed in the *Results and discussion* section of this research paper. The interviews themselves were done in order to gain better insight into participants' CS practices and to corroborate or disprove the researcher's own analysis. There were four interviews with those participants who code-switched most often and had most interesting instances of CS that the author had trouble classifying. The participants were interviewed online via Zoom and recorded with their consent. The interview was done in Croatian. The author of the paper did not insist on this, rather almost all of the participants asked whether they should speak in Croatian or English. The author stated that it did not matter and that they could do it in Croatian, which they did, albeit with frequent instances of CS. Each of the four participants was asked to try and explain why they thought they code-switched in their own messages, that is what they would say the function of the CS element was. Apart from their own specific messages, they were also asked to give their opinion on the CS functions of some common words or expressions that the entire group commonly code-switched, such as "ty" and other variations of saying "thank you" "in English, "same", "nope" and "yes". The participants were also asked some open-ended questions that can be divided into these three categories: general questions about CS, their own CS habits and CS misconceptions. The researcher also read 11 statements about CS to the participants that they answered using a Likert scale, i.e. the participants said how much they agreed with the statement from 1-5 and provided a short explanation for their answers. The statements were taken from Ćurlin's (2015) master's thesis *Code-switching between English and Croatian in Croatian university students of English*, however, not in their entirety considering that the main focus of these interviews was not the attitudes of English majors but rather their interpretations of their own CS functions. The open-ended questions along with the statements were used in order to gain more insight into the participants attitudes and feelings towards CS and try and see how they correspond with their actual usage of CS in the messages that were analyzed.

4.4. Exclusions

There were some messages which at first seemed to be CS instances but were excluded because they did not meet the criteria for CS defined in the theoretical framework. These instances include direct citations in English, often written with quotation marks. One such example from the corpus was "Turn in a short narrative description of what you did (one to two pages). You

should turn in the narrative description by Jan 30, 23.59". This message was directly copied and pasted in the chat and therefore not an instance of the participant's own CS.

Similarly, messages where one participant shared their questions for the upcoming discussion they had in class were also not analyzed. The questions they provided in the chat cannot be seen as CS instances just because they are in English, rather they were written in English because they were prepared for class that was held entirely in that language.

Words such as "sejm", "fejk" or "pliz", that is words that were orthographically adapted to the Croatian language and its phonology, were not analyzed. Such words were regarded as nonce-borrowings and were not analyzed as instance of CS in this master's thesis because they were regarded closer to the phenomenon of borrowing and not that of CS. Even though some researchers regard nonce-borrowings to be part of CS, for the scope of this research study they were not take into consideration. However, words such as "refreshat" where there was an English root mixed with a Croatian suffix were analyzed and considered here to be examples of code-mixing which the author believes falls under the scope of CS.

5 Results and discussion

5.1. Functions of CS

The aim of this research study was to identify what functions the CS instances serve in CMC of English majors at the Faculty of Humanities and Social Sciences. For this purpose, a total number of 154 messages containing at least one CS instance were analyzed. As has already been mentioned, one and the same instance was often given more than one function in order to try and be as thorough as possible in the analysis and not reduce it to a "simple category check" (Androutsopoulos, 2013, p. 683). Therefore, while the number of messages that contained CS was 154, the number of functions was almost doubled. It is worth highlighting again that some of the messages contained more than one instance of CS. Each instance was then analyzed separately, regardless of whether they shared the same function or not.

As previously stated, this research study combined CS functions from several different frameworks. In addition to these, certain functions were either created by the author or adapted

from the frameworks to better suit the CS instances found in the corpus. Table 1 shows all of the functions from the corpus and their prototypical examples:

Table 1

CS function	Example
Reasons of habit or convenience (Androutsopoulos, 2013)	Okii thank you
Pointing out a concluding remark (Androutsopoulos, 2013)	To je moja logika, again, might be smooth brained
Switching for formulaic discourse purposes (Androutsopoulos, 2013)	Peeps , jel bio tko na dvojezicnosti da mi moze reci sto ste radili danas?
Switching to respond to language choices by preceding contributions (Androutsopoulos, 2013)	Kratko pitanje za dvojezicare... onaj slajd na samom pocetku prve preze, "BLs vs MLs" jel se ovo MLs odnosi na <u>multilinguals</u> ili <u>monolinguals</u>? 🙄 ➔ Multilinguals , da, sori sto tek sad javljam hahaha
Emphasis (Hoffman, 1991)	Meni je problem drugi termin actually
To soften a request (Savile-Troike, 2003)	Just to be sure: tekst za sutra (Aronin & Jessner (2014) Methodology in Bi-and Multilingual Studies) citamo svi?
Real lexical need (Savile-Troike, 2003)	ukratko, imamo 2 open notes kolokvija, neki seminar koji je review relevantne literature i dio ocjene je aktivnost na nastavi.
Shortcut to term (Friedrich and Diniz de Figueiredo, 2016)	...al ja ne vidim kako pronać 2+ sata za commute uz još jednu praksu i 7 kolegija...
In-group communication (Dorleijn and Nortier, 2009)	Not yet
Talking about English courses (adapted from Hoffman, 1991)	A nista nije komentirala one listening assessment tasks ?
Convenient phrase/word to use in CMC (adapted from Fabekovec, 2022)	Btw jel ona zapisuje ili šta jer nisam primjetila jučer?

CS for comical effect (created by the author)	Am just stuped
CS because of (perceived) language economy (created by the author)	...a jedan kolokvij koji zapravo imas je jako easy i nema puno toga za naucit...
Emotional hedging (created by the author)	Ma okej, I dont wanna add fuel to the fire ...

Table 2 shows CS functions found in the messages, from the most to the least recurring one:

Table 2

CS function	Number of examples
Reasons of habit or convenience	55
Talking about English courses	54
Shortcut to term	29
CS for comical effect	28
In-group communication	22
Emotional hedging	16
Convenient phrase/word to use in CMC	14
CS because of (perceived) language economy	14
Emphasis	<ul style="list-style-type: none"> - Emphasis of a point – 7 - Emphasizing gratitude – 3 - Emphasizing solidarity - 1 <p>10 in total</p>
Pointing out a concluding remark	8
Switching for formulaic discourse purposes	<ul style="list-style-type: none"> - Greetings: 3 - Good wishes: 2 <p>5 in total</p>
Switching to respond to language choices by preceding contributions	5
To soften a request	5

Real lexical need	3
-------------------	---

As can be seen from the table, the most common function found in the corpus was *Reasons of habit or convenience*. This function was most often identified in instances where participants used CS to say thank you in different ways or when they used words such as “okay” or fillers like “basically”. However, it was also used with some words that are often seen on social media and used by younger generations since it can be assumed that being exposed to such discourse on a daily basis affects habits as well. Examples of such words can be seen in the table below. The second function, *Talking about English courses*, was also commonly employed when participants discussed their English courses at university and their assignments regarding those. The fact that these two functions were the most frequent is not surprising considering the participants and the main purpose of the group chat. The participants mostly use the group to talk about their obligations in various English courses. Moreover, they are English majors so it is to be expected that the language, some words and expressions in particular, has also become a part of their daily, habitual use. The interviews with the participants also attest to this since all of them expressed using CS daily and with anyone. They even said that they noticed they code-switched so much that they sometimes felt the need to try and actively hold themselves back from doing it, which again shows how habitual CS comes to them. Some examples of these two functions were the following:

Aa okay , super, thank youuu	Reasons of habit or convenience; Reasons of habit or convenience
thankss , budem joj još mail poslala da mi potvrdi samo	Reasons of habit or convenience
Ja sam cuo da je fake hahahah	Shortcut to term, Reasons of habit or convenience
Cini mi se da ce ona stvarno bit chill oko tih prezentacija	Reasons of habit or convenience, Shortcut to term
A nista nije komentirala one listening assessment tasks ?	Talking about English courses
Pitanje za [X] - ako sam dobro shvatio za ovaj continual assessment moramo smisliti jedno pitanje za svaku od ove cetri kategorije, dakle cetri pitanja ili?	Talking about English courses [] - name omitted
Da, nac dva online journala sta se bave language acquisitionom ili teachingom , i neke osnovne informacije o njima izvadit	Talking about English courses; Talking about English courses;

Function *Shortcut to term* was also quite common in the participants' messages. It was recognized in two different situations. The first one being with examples where it could be assumed, or was corroborated in the interviews, that an expression first came to mind in English but the participants know of a Croatian equivalent, such as:

same goes for you hahah	In-group communication, Shortcut to term
Fingers crossed jer cu to procitat	Shortcut to term

The second situation was with words that do have a Croatian counterpart but are not entirely the same in both languages and since the participants were aware that other members of the group would understand them, they used CS instead. The fact that they are not the same can either be because of their actual meaning, connotations or perhaps entirely because of the participant's own perception of the two terms in different languages. Examples with such words or expressions were:

Upis obavljen, samo se nadam da necu zapet na ovom random izbornom jer sam mislila da sam hakirala sustav	Shortcut to term, Reasons of habit and convenience
Rad s nadarenim ucenicima, ako vec nisi, easy peasy	Shortcut to term
Ma da... Samo joj, uvijek neke zavrz lame sa tim upisima... nista ne moze biti straightforward	Shortcut to term

CS for comical effect was often used by the participants to refer to something from pop culture and social media in order to create a humorous atmosphere, make things sound less serious or simply make a joke. This was also something that was discussed in the interviews with participant C referring to such instances of CS as "Gen-Z slang" and participant B as "social media discourse". Examples of such messages were:

To je moja logika, again, might be smooth brained	CS for comical effect, Pointing out a concluding remark
Source: trust me bro	CS for comical effect
Big brained? Or dumbass move? 🤔😏👉	CS for comical effect

In the last example above, the usage of the emoticons also made the user's intentions even more clear, i.e. that they were being humorous.

In-group communication, as has already been mentioned, was found relevant after doing the interviews with the participants and hearing their explanations that they sometimes code-switch just because of who they are talking to, i.e. because of the group they are in. More specifically, the participants could not think of any other reason as to why they code-switched, apart from the fact that they were in a group with English majors. The function is explained by Dorleijn and Nortier in a similar way, as using "mixed code" because it is the "easiest, the most 'relaxed' and therefore most spontaneous, least monitored, and most unconsciously produced way of speaking for them" (2009, p. 128). Similarly, when the participants were asked about various CS examples in the interviews, they expressed that they used English for some of them because it felt more natural, appropriate, and relaxed to say something in that language to other group members than it did in Croatian. In short, this function was most often appointed to some shorter expressions such as saying "yes" instead of "da" since it was assumed, and later concluded during interviews, that such short words come automatically to one's mind because of group membership. This function was, for the same reason, often paired with *Reasons of habit or convenience*. It is interesting to note here that this function differs from other functions that can be found in literature such as Hoffman's (1991) CS to express group identity. As Dorleijn and Nortier write, this function does not account for "identity construction" (2009, p. 28). Participants are not CS to emphasize their identity, rather their identity of being a member of such group and knowing other members unconsciously influences them to use English. However, some of the examples seem to surpass Dorleijn's and Nortier's explanation because participants themselves described their usage in a more conscious way and not as automatic. For example, using certain expressions in English because they are too formal in Croatian and therefore not appropriate for the group, either because of the medium itself or its members who are like-minded peers. Still, such examples were classified under this function considering that the main ideas are very similar. Examples of this function included:

same goes for you hahah	In-group communication, Shortcut to term
Za cijeli nas odsjek I think , ali neka netko jos potvrdi	Reasons of habit or convenience, In-group communication

...pregleda sve materijale i pripreme i uvijek ima jako korisne sugestije. feedback joj je dosta usmjeren na samoevaluaciju, i ima milijun savjeta koji in the long run fakat pomognu...	Shortcut to term, CS because of (perceived) language economy; Shortcut to term, In-group communication
--	--

Convenient word/phrase to use in CMC was a category created by Fabekovec (2022, p. 22) in his research of CS on forums, albeit slightly adapted for the purposes of this research paper. This function was used mainly for abbreviations or other short expressions often seen online:

Jaaa mislim da je rekla do kraja mjeseca tbh	Convenient phrase/word to use in CMC, Shortcut to term
Nvm, nasla ☀️	Convenient phrase/word to use in CMC, CS for (perceived) language economy

The function *Emotional hedging* was created by the author, although it is similar to Friedrich and Diniz de Figueiredo's *Showing objectivity or subjectivity* and Androutsopoulos' distancing that were discussed prior. It was used when participants code-switched out of desire to distant themselves from their emotions or their statements. For example, they wanted to seem less affected by something that either upset or embarrassed them.

Ja sam bila uvjerena da je prank but apparently not	Shortcut to term, Reasons of habit or convenience; Emotional hedging, Pointing out a concluding remark
I to je sa sastanka s odsjeka pedagogije očito, if my reading comprehension skills are correct	Pointing out a concluding remark, Emotional hedging

Another perhaps less obvious example of this function was one where a participant used CS to wish merry Christmas:

Merry Christmas folks 🎁👉	Switching for formulaic discourse purposes (good wishes), In-group communication, Emotional hedging
---------------------------------	---

This example was put in this category after the interviews when participant A explained that they wished to create some distance in order not to intrude on the other participants. The Croatian variant to them was reserved more to family and friends and the English one was both

more appropriate for the group (hence *In-group communication*) and less emotional. What is interesting is the fact that this seemed to be mostly subconscious for the speakers and they became more aware of it when they were asked to think about it.

Another function that was added after the interviews was *CS because of (perceived) language economy* since participants explained several of their messages in this way. This function was coined by the author of this master's thesis and was used for words or phrases used in English because they were either objectively shorter or just perceived to be so by the participants.

Okiii same	Reasons of habit or convenience, CS for (perceived) language economy
Ali ne bih znala, that's just a thought	Emotional hedging, CS because of (perceived) language economy, Pointing out a concluding remark
sve potpisujem. Zbilja daje odlican feedback i ako se zelite fokusirat na izradu vlastitih materijala X je super izbor...	Shortcut to term, CS because of (perceived) language economy
Nisam bila na pocetku prakse jucer, jel ima novi kolegij na omegi ili? I ako da, jel mozete napisat pass	Talking about English courses, CS because of (perceived) language economy

When it comes to CS for *Emphasis*, it was less common in the corpus than expected considering the results of previous research. Three types of emphasis were detected in the corpus. Participants used CS to emphasize their gratitude in these examples:

Aa okej, hvala puno, much appreciated 😊	Emphasizing gratitude
Bless you , nisam zapisala jer sam si sva pametna mislila da cu procitat u silabu hahaha	CS for comical effect, Emphasizing gratitude
Well thanks 💕	Emphasizing gratitude, Reasons of habit or convenience

Other instances of expressing gratitude through writing “thank you” in English were, as was already discussed, classified as instances of CS for *Reasons of habit or convenience*. The reasoning behind this was the participant's background and an assumption that saying “thank you” in English in their group was the expected choice and something they often used. Therefore, it was no longer seen as something that stood out and was there to highlight their

utterance. The above two examples were classified as emphasis considering that they did stand out a bit from a simple “thank you” or the abbreviated forms. Furthermore, the usage of the emoticons also seemed to suggest that they wished to highlight their gratitude more. Participants also used emphasis to strengthen the meaning of their sentence. This type of emphasis was discussed earlier in Roslan et al.’s research study (2021) where they called it *Emphasis of a point*, which was used here as well. This function was mostly used when participant inserted fillers that seem to have no other function but to put more stress on their statement. Examples of this were the following:

Je li to službeno tho ? I jel se to odnosi na cijeli odsjek ili samo na nastavnički smjer?	Emphasizing a point
Meni je problem drugi termin actually 😊	Emphasizing a point
Mislim realno, nekim PROFESORIMA treba actual psiholoska pomoc... ne samo studentima	Emphasizing a point

Lastly, one example of using CS to emphasize their solidarity towards other members of the group was the following:

We'll help you out , bez brige	Emphasizing solidarity
---------------------------------------	------------------------

Pointing out a concluding remark was assigned to those messages where participants made a comment at the end of their message in English that served as a sort of conclusion of what they were writing about in Croatian. For example:

Ja sam bila uvjerena da je <u>prank</u> but apparently not	Shortcut to term, Reasons of habit or convenience; Emotional hedging, Pointing out a concluding remark
nisam bila danas, so i'm extra clueless :')	Pointing out a concluding remark, CS for comical effect, In-group communication
Ali ne bih znala, that's just a thought	Emotional hedging, CS because of (perceived) language economy, Pointing out a concluding remark

Switching for formulaic discourse purposes was a function that also manifested itself in two different ways. The first formulaic discourse purpose referred to greetings and initiating

conversation and was found only in three examples. Since all three examples are messages from the same person, the code-switched utterances were also appointed the *Reasons of habit or convenience* function. The examples were:

Hello , jel imas jos netko ovakvih zezancija sa upisom da mu basically ne dopusta upis Dvojezicnosti i onog drugog	Switching for formulaic discourse purposes (greetings), Reasons of habit or convenience; Emphasizing a point
Peeps , jel bio tko na dvojezicnosti da mi moze reci sto ste radili danas? 🙄	Switching for formulaic discourse purposes (greetings), Reasons of habit or convenience
Peeps sa dvojezicnosti, nisam bila na onom uvodnom predavanju pa neam pojma o kakvom seminaru ona prica, can you pls enlighten me?	Switching for formulaic discourse purposes (greetings), Reasons of habit or convenience; To soften a request, CS for comical effect

Other instance of CS for formulaic discourse purposes had to do with good wishes, example once again being connected to Christmas:

Merry Christmas, everyone 🎄🍷	Switching for formulaic discourse purposes (good wishes), In-group communication
-------------------------------------	--

The function *Switching to respond to language choices by preceding contributors* is quite self-explanatory. It was used when one participant code-switched a word and other participants responded to them in the same manner, i.e. also CS that word or expression. One such example was this exchange of messages:

Source: trust me bro	CS for comical effect
pricala sam s predstavnicom godine koja je bila na toj sjednici jucer. source: na pedagogiji sam	CS for comical effect, CS to respond to language choices by preceding contributions

Considering that the main purpose of this group chat was to be able to exchange information with other students, there were a few instances where participants code-switched in order *To soften a request* (Savile-Troike, 2003: 54):

Any useful info s danasnjeg sastanka?	To soften a request
Peeps sa dvojezicnosti, nisam bila na onom uvodnom predavanju pa neam pojma o kakvom seminaru ona prica, can you pls enlighten me?	Switching for formulaic discourse purposes (greetings), Reasons of habit or convenience; To soften a request, CS for comical effect

The last CS function that was identified in this research paper was CS because of *Real lexical need* (Savile-Troike, 2003: 56). This function was used only three times when it was concluded that Croatian does not really have an existing equivalent that participants could have used instead. One such example was “open notes” in this message:

ukratko, imamo 2 open notes kolokvija, neki seminar koji je review relevantne literature i dio ocjene je aktivnost na nastavi.	Real lexical need, Talking about English courses; Talking about English courses
--	---

The other two examples were Internet slang word “yolo” and “lol” which can only be translated word by word to convey their meaning and an equivalent abbreviation does not exist. However, by translating them in that way, their connotations change from a casual utterance to something more serious and formal, which was also discussed in the interview with participant D.

Neparni semestar je, ako mi je dopustilo tako sam upisala, yolo	CS for comical effect, Pointing out a concluding remark, Convenient phrase/word to use in CMC, Real lexical need
Jel vama upisana ocjena iz prakse lol	Convenient word/phrase to use in CMC, Emotional hedging, Real lexical need

5.2. Interviews

Interviews were conducted individually with four participants, referred to as A, B, C and D in this master’s thesis. At the time of conducting the interviews, only person A had graduated with a degree in English. They also said they worked as an English teacher but felt more distanced from English now than at university and almost never code-switched. The other three participants were still enrolled at university and reported CS on a daily basis. Participant C especially stated noticing an increase in their CS habits in the past several years due to new friendships with mostly English majors. Person B also similarly described their CS increasing with change of scenery, i.e. becoming an English major in a bigger city. On the other hand, Person D did not notice any significant changes in their informal communication regarding code-switching. However, they did notice changes in more formal discussions, as they acquired a lot of English vocabulary throughout their education.

All of the four interviewed participants provided similar answers for the first category of open-ended questions, ones dealing with CS in general. All of them view CS as a natural part of their communication, saying that English words come to their mind spontaneously regardless of who

they are talking to. However, they do tend to adapt their language depending on the interlocutor. For example, person A emphasized they paid attention not to code-switch around people who were not proficient in English or even those that were proficient but think that CS is silly. Person C also mentioned not CS as much around people who might not understand them and specifically named older generations as an example. On the other hand, person D made the point of being more inclined to code-switch when they were around people who viewed CS as something unnatural and pretentious. In an attempt to make them see that CS was something that exists and is okay to do. It is worth noting, however, that the same person did say that they agreed with the statement “I try to avoid code-switching when I talk to people who are not as proficient in English as I am” because they wanted everybody to understand them and they did not wish to be seen as pretentious.

The second category of open-ended questions dealt with the participant’s CS habits before, during and after university education, i.e. how their experiences as English majors affected their CS tendencies. Participants noted changes in discussions about topics from English courses where most of the vocabulary was acquired at university and therefore was more accessible in English, which was what the analysis of their messages also showed. They also expressed mixed feelings towards their habits. For example, participant A said they code-switched a lot prior becoming an English major and only became more aware about their usage of English words at university. This made them stop code-switching as much because after hearing other English majors and how much they code-switch, they felt like they were doing it too much. On the contrary, person B said they became more open towards CS at university and started forgiving themselves more when they could not think of a Croatian word. However, they were also sometimes self-conscious in some situations. For example, if they couldn’t tell whether it was okay to code-switch so much. Similarly, participant C said that they wondered whether they had forgotten to speak Croatian when they couldn’t think of a word. However, they expressed there were more positive than negative sides to CS. When it came to the last category of questions about CS misconceptions, all four participants provided similar answers. The main misconceptions about CS to them were the fact that some people view CS as lazy and pretentious and that CS is detrimental to the Croatian language.

Moving on, the participants' responses to the 11 statements closely aligned with their answers to the open-ended questions. Moreover, the participants for the most part provided similar levels of agreement and explanations for them. The statements where their opinions seemed to slightly differ concerned the following statements. The participants for the most part disagreed with the statement *I think that English majors are more justified in code-switching than other*

people with participant A and B saying that anybody could take part in CS and it was still justified. Person C added that it made more sense for English majors to code-switch but acknowledged that others did it as well. However, person D pointed out that it did not have to do with the fact that somebody was an English major but with the fact that they encountered English more often.

Statement *I think that code-switching is cool* provided interesting answers. Persons B and C wholeheartedly agreed with the statement explaining CS as a good indicator of language proficiency and creating dynamic in a conversation or describing CS as cool purely because it was cool. In contrast, persons A and D were quite reserved and did not view CS neither as something cool nor something that would make you uncool. For statement *I code-switch with other English majors more than with other people*, participants provided similar explanations, albeit with different degrees of agreement. Participants A and B agreed with the statement, with participant B also including people with high proficiency here, not necessarily English majors. Person C decided to be neutral in their answer, explaining that it was difficult to say considering almost all of their friends were in fact English majors. Participant D fully disagreed with the statement and said that it did not matter to them whether somebody was an English major, but rather if they were aware if the person they were communicating with was proficient in the language or not. Finally, statement 9 *I have different feelings about my code-switching depending on who I am talking to* showed the participants' self-awareness about their habits. Person B expressed adapting to the situation and speaker if they knew somebody was enthusiastic about preserving the Croatian language, while person C said they did not associate feelings with CS but they tended not to code-switch if they were not sure the speaker would understand them. Person D emphasized that their own feelings about CS did not change depending on the speaker. Instead, they simply expressed that they paid attention not to code-switch around those who did not like it or would not understand it. Even though their explanations were similar again, they expressed different levels of agreement with the statement. The reason behind this was the fact that some participants did not really associate feelings with CS, as the statement suggested, rather they were just aware of the situation they were in and their interlocutor and were willing to adapt.

6. Conclusion and final remarks

The aim of this research study was to determine what CS functions English majors use in CMC. This was done by examining their messages from a group chat on WhatsApp over a period of

almost six months. The messages were first analyzed independently by the author whose assumptions were then corroborated or disproved in individual interviews with four of the participants. Apart from discussing their own CS instances, the four participants were also asked questions about their attitudes and beliefs about the CS phenomenon. The participants generally viewed CS as a natural part of their communication and as something more positive than negative. Regarding their CS habits before, during and after university, participants recognized shifts influenced by their English major studies. Their studies have made some more conscious of their CS tendencies and others more open to it. They also named several CS misconceptions that they wished did not exist, namely it being lazy and harmful to the Croatian language. What was interesting was their awareness of CS in their daily life and ability and willingness to adapt their communication based on the situation they were in and the interlocutor.

The results of the message analysis showed that the most common CS function, i.e. reason why English majors CS in CMC was because of *Reasons of habit or convenience*. Such a result was not surprising considering the profile of the participants, English majors. Moreover, participants themselves stated in interviews that English was very much part of their communication and comes very naturally to them. The second most common function was *Talking about English courses*. This was again expected considering what the group chat was mainly used for – exchanging information with other colleagues about university subjects. Therefore, participants often talked about topics regarding their courses and used vocabulary as they heard it from their professors, how they read it in literature and so on. The other three functions that had more than 20 examples were *Shortcut to term*, *CS for comical effect* and *In-group communication*. The participants often code-switched either because an expression first came to their mind in English or because they knew that an English expression was more accurate and they were certain that their colleagues would understand it as well. CS for humor purposes was also fairly common with participants often making references to pop culture and various slang used online, which was something they expressed being exposed to during the interviews. The instances that were marked as *In-group communication* were those where they code-switched for no apparent reason besides being a member of the group, that is because English was the most spontaneous choice. However, in this research study, this function was also used for those more conscious decisions where participants decided that some expressions might be too formal for the communication in this particular group chat.

This research study aimed to contribute to the somewhat newer and not entirely explored area of CS in CMC. In recent years, more and more research has been done in this medium. This

can be seen in the *Previous research* part of this master's thesis that discussed several recent research papers that dealt with CS in various modes of CMC. This research study explored English CS instances in Croatian, a language that is not so widely spoken and even less researched when it comes to CS in CMC. By doing so, it adds new insights and data into this body of work which is yet to be fully explored. Considering that the analysis was done using messages of future EFL teachers, the openness they expressed towards the phenomenon of CS during the interviews and in their messages could be beneficial in their teaching. What is meant by this is the fact that they may be more willing to teach English with help of the languages that their students already know. By presenting CS as something positive in their classrooms, they may create an environment where language diversity is encouraged and where knowledge of other languages may alleviate the process of learning English through making connections with something they already know. Finally, while a framework specifically designed for CS in CMC is yet to be fully developed, it was concluded in this research study that those frameworks that were originally designed for spoken, face-to-face communication are a valuable and relevant source of information and a good starting point. Moreover, the results from this research study appear to be similar to other research studies with similar aims, which indicates that some CS functions are recurring in CMC and more common than others. For example, using CS for emphasis, out of habit or as the most relaxed and unconscious choice because of a certain topic or online context.

Some limitations of this research study were the relatively small number of participants and a short time period from when the messages were collected. Even though the time period was almost six months, it has to be taken into consideration that the group was mostly used to exchange information about English courses and was, therefore, not used on a daily basis. This research study also focused only on one online medium of communication, CMC. It might be interesting to expand CS research onto more than one medium and see how CS of one and the same users differs depending on the online environment. Furthermore, the usage of emoticons, a vibrant part of CMC, might also prove interesting to research into more detail, i.e. how emoticons can better help understand CS functions.

7. References

- Androutsopoulos, J. (2013). Code-switching in computer-mediated communication. In S. Herring, D. Stein & T. Virtanen (Ed.), *Pragmatics of Computer-Mediated Communication* (pp. 667-694). Berlin, Boston: De Gruyter Mouton. <https://doi.org/10.1515/9783110214468.667>
- Bhatia T.K., Ritchie W.C. (2004). Social and Psychological Factors in Language Mixing. In Bhatia T.K. & Ritchie W.C. (Eds.), *The Handbook of Bilingualism* (pp. 336-352). Blackwell. 10.1002/9780470756997.ch13.
- Bullock, B. E., & Toribio, A. J. (2009). Themes in the study of code-switching. In Bullock B.E. Toribio A.J. *The Cambridge Handbook of Linguistic Code-switching* (pp. 1-19). Cambridge: Cambridge University Press.
- Ćurlin, P. (2015). *Code-switching between English and Croatian in Croatian university students of English* (Master's thesis). Zagreb: University of Zagreb, Faculty of Humanities and Social Science.

- Dorleijn, M. & Nortier, J. (2009). Code-switching and the internet. In Bullock B.E. Toribio A.J. (Eds.), *The Cambridge Handbook of Linguistic Code-switching* (pp. 127-142). Cambridge: Cambridge University Press.
- Fabekovec, D. (2022). *Code-switching between Swedish and English in Online Communication* (Master's thesis). Zagreb: University of Zagreb, Faculty of Humanities and Social Sciences. urn:nbn:hr:131:820274
- Friedrich, P., & Diniz de Figueiredo, E. (2016). *The Sociolinguistics of Digital Englishes* (1st ed.). Routledge.
- Gardner-Chloros, P. (2009). *Code-switching*. Cambridge: Cambridge University Press.
- Hoffman, C. (1991). *An Introduction to Bilingualism*. Longman.
- Holmes, J. (2001). *An introduction to sociolinguistics* (2nd ed.). Longman.
- Meisel, J. M. (1994). Code-switching in young bilingual children: The Acquisition of Grammatical Constraints. *Studies in Second Language Acquisition*, 16(4), 413–439. <http://www.jstor.org/stable/44487780>
- Milroy, L. & Muysken, P. (1995). (Eds). Introduction: Code-switching and bilingualism research. In Milroy, L. & Muysken, P. *One Speaker, Two Languages: cross-disciplinary* (pp. 1-15). Cambridge University Press. https://books.google.hr/books/about/One_Speaker_Two_Languages.html?id=7UV9Fe17A0YC&redir_esc=y
- Muysken, P. (1995). Code-switching and grammatical theory. In Milroy, L. and Muysken, P. (Eds.), In *One speaker, two languages: cross-disciplinary perspectives on code-switching* (pp. 177-198). Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511620867.009>
- Myers-Scotton, C. (1992). Comparing codeswitching and borrowing. *Journal of Multilingual and Multicultural Development*, 13(1-2), 19-39. 10.1080/01434632.1992.9994481

- Nortier, J. (1990). Nonce Borrowing. In *Dutch-Moroccan Code Switching among Maroccans in the Netherlands* (pp. 206-207). Berlin, Boston: De Gruyter Mouton. <https://doi.org/10.1515/9783110877182-038>
- Roslan, A., Mahmud, M., & Ismail, O. (2021). Why Code-switch on WhatsApp? A Quantitative Analysis of Types and Influences of Code-switching. *Asian Social Science*, 17(10), 43. <https://doi.org/10.5539/ass.v17n10p43>
- Savile-Troike, M. (2003). *The ethnography of communication* (3rd ed). Blackwell Publishing.
- Serip Mohamad, N. (2022). Functions of Code Switching in Youth WhatsApp Chats. *International Journal Of Modern Languages And Applied Linguistics*, 6(4), 71-88. doi:10.24191/ijmal.v6i4.19946
- Setiawan, B. (2023). Code-mixing vs code-switching: a study of grammatical perspective through code-switching varieties. *KnE Social Sciences* (pp. 47–57). 10.18502/kss.v8i7.13235
- Simpson, J. (2002). Computer-mediated communication. *ELT Journal*, 56 (4), 414–415. <https://doi.org/10.1093/elt/56.4.414>
- Treska, B. (2020). *Analiza računalno posredovane komunikacije dvojezičnih govornika hrvatskoga i talijanskoga jezika* (Other document type). Zagreb: University of Zagreb, Faculty of Humanities and Social Sciences. <https://urn.nsk.hr/urn:nbn:hr:131:362718>

Sažetak

Prebacivanje kodova (engl. *code-switching* – CS) tradicionalno je proučavano kao dio usmene komunikacije. Međutim, u današnjem svijetu tehnoloških napredaka i sve većoj internetskoj povezanosti, ono postaje istaknutija karakteristika računalno posredovane komunikacije (engl. *computer-mediated communication* – CMC). Stoga je cilj ovog rada bio ispitati prebacivanje

kodova kod studenata nastavničkog smjera anglistike u grupi na WhatsAppu. Fokus istraživanja bio je stavljen na funkcije koje prebacivanje kodova ima u njihovim porukama. Rezultati pokazuju da studenti nastavničkog smjera anglistike najčešće koriste CS iz navike ili kada razgovaraju o zajedničkim engleskim kolegijima. Osim ovih funkcija, često koriste CS svrhu humora, jer žele zadržati točnije značenje riječi ili jednostavno zato što je engleski u njihovom grupnom razgovoru najspontaniji oblik komunikacije. Jedan od glavnih zaključaka ovog rada je činjenica da su okviri koji su izvorno osmišljeni za tradicionalno istraživanje CS-a u usmenoj komunikaciji korisni i za istraživanja unutar CMC-a, barem ona koja pokazuju sličnosti s govorenom komunikacijom.

Ključne riječi: *prebacivanje kodova, računalno posredovana komunikacija, funkcije prebacivanja kodova*