

The Peculiarities of Spelling Rules in Formal, Informal Handwriting and Internet Communication

Zoriana Kunch¹, Anna Serednytska¹, Ihor Vasylyshyn¹, Halyna Horodylovska¹ and Iryna Farion¹

¹ Department of Ukrainian Language, Lviv Polytechnic National University, 12 Bandera Street, Lviv, 79013 Ukraine

Abstract

The development of technical means has led to a trend towards the transition from communication to a written online format. Due to radical social and technical changes, the question of how language functions within virtual informal communication has become topical. The purpose of this study is to establish the dynamics of spelling rules changes for students due to the choice of one from three different types of communication - traditional formal (business), informal (handwritten notes) and informal online communication. The experimental part of the study is based on Google Form survey of 397 respondents aged between 17 and 18 years. Respondents answered 19 questions which concerned the most important norms of the Ukrainian spelling. At the next stage, the collected material was systematized, classified, and described. Based on a comparative analysis it was found that the attitude of young people to the observance of orthography norms at three levels of communication were different. By studying the survey data we have also taken into account the general statistics, and the statistics of answers to specific questions. The results were analyzed by using theoretical methods of generalization and induction. Systematized data allowed us to detect trends in compliance with different types of spelling rules in various communicative situations, in particular during Internet communication. It was discovered that the discrepancy between data illustrating compliance of norms in business and informal Internet communication, in some cases reached 38%. At the same time, the experiment confirmed the existence of a basic part of orthography norms that are rarely the subject of distortion and are a kind of orthography imperative for speakers. The survey allowed to systematize common speech errors and it can become the basis for a mobile application development that will prevent their occurrence in Internet communication.

Keywords

Internet communication, applied linguistics, communicative situation, orthography, orthography norm, speech error, term

1. Introduction

The development of technical means has led to a steady trend towards the transition from communication to a written online format. This trend intensified in a pandemic, when direct contact between people became limited. Modern speakers communicate through a variety of messengers, social networks, chats, forums, write comments, send emails. As a result of radical social and technical changes, the question of how language functions in the context of virtual informal communication is becoming increasingly important.

COLINS-2022: 6th International Conference on Computational Linguistics and Intelligent Systems, May 12–13, 2022, Gliwice, Poland
EMAIL: zoriana.y.kunch@lpnu.ua (Z. Kunch); anna.y.serednytska@lpnu.ua (A. Serednytska); ihor.p.vasylyshyn@lpnu.ua (I. Vasylyshyn); halyna.p.horodylovska@lpnu.ua (H. Horodylovska); iryna.d.farion@lpnu.ua (I. Farion)
ORCID: 0000-0002-8924-7274 (Z. Kunch); 0000-0003-0883-3229 (A. Serednytska); 0000-0001-5036-4716 (I. Vasylyshyn); 0000-0002-4960-4599 (H. Horodylovska); 0000-0002-5368-2055 (I. Farion)



© 2022 Copyright for this paper by its authors.
Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).
CEUR Workshop Proceedings (CEUR-WS.org)

The aim of this research is to establish the dynamics of changes in students' attitudes to spelling rules depending on the choice of one of three different communicative situations – traditional formal (business) and informal (in handwritten notes) and the latest situation of informal Internet communication.

Defining the objectives of the study, we put forward a number of rules in business texts; the attitude of students to language norms in informal handwriting communication and informal Internet communication is approximately the same; the basis of the Ukrainian spelling are the rules that determine the patterns of writing an apostrophe, soft sign, degrees of comparison of adjectives, simplification, doubling, spelling of prefixes *з-, с-, пре-, при-*, formation of possessive adjectives, spelling of the particle no/not (*не*). These applied linguistics rules are generally followed regardless of the scope of language use. Linguistic norms that codify the spelling of capital letters, complex nouns, adjectives, adverbs, are relatively less important for users.

The obtained statistical results confirm the first hypothesis. Regarding the second, the rates of compliance with the spelling rules of informal handwriting and Internet communication may differ, but insignificantly, within 3-7 percent. Regarding the third assumption, it turned out that the most important spelling rules of the Ukrainian language include capital spelling. Instead, the percentage of people who correctly put an apostrophe in informal communication turned out to be unexpectedly low. It is also difficult for communicators to comply with regulatory requirements for the spelling of words of foreign origin and for the spelling of the particle no/not.

An important practical result of this study is the possibility of improving the recommendation system for setting up mobile applications that offer users the correct spelling of words. It is important to pay attention to those spelling problems that cause in the minds of users a little desire to look for a normative form. Thanks to the tips of mobile applications, you can achieve not only the correctness of Internet communication, but also increase the level of literacy of their users.

2. Research material and methods

In the research process, we relied on a specific sociological method, as well as methods of experiment, description, observation. The scheme of methodology of our research is shown in the Fig. 1. First of all, a questionnaire was compiled, covering a number of general questions (age, gender, place of birth and residence, knowledge of the state language, etc.). In the main part of the questionnaire, students were asked 19 questions related to the most important types of the Ukrainian spelling.

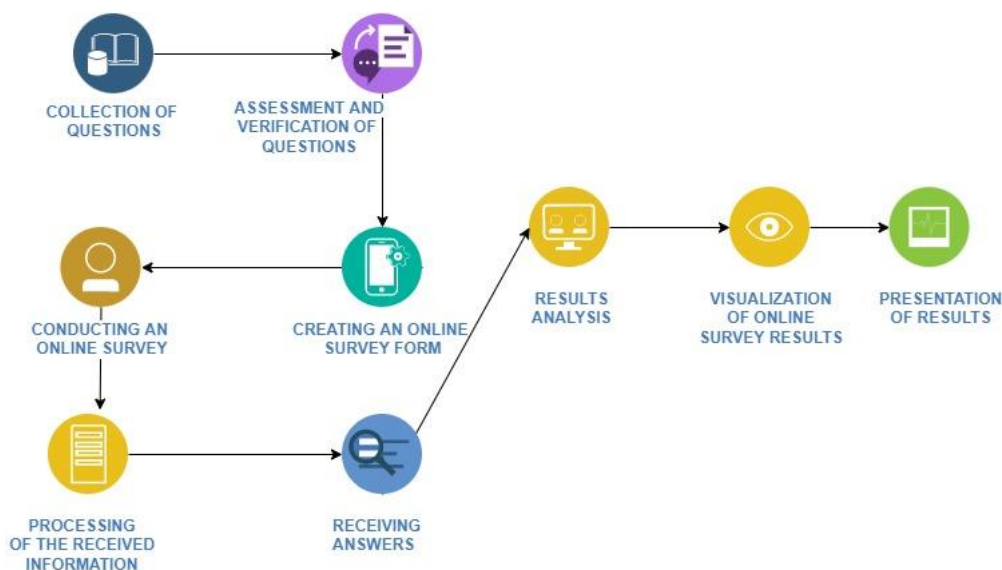


Figure 1: Research methodology

To help respondents determine their level of spelling competence, examples of typical spellings were provided for each question. For example, the question *"Do you follow the rules of doubling letters in foreign words?"* illustrated by examples: *екстренний, Таллінн*.

The experimental part of the study was conducted on the basis of Google Forms implementing a survey of 397 respondents aged between 17 and 18 years. 56.2 % of respondents were boys and 43.8 % were girls. Students come from different cities and villages of Ukraine and study at technical, economic and law faculties. For 386 respondents (97.2 %) Ukrainian is their native language.

At the next stage, the collected material was systematized, classified and described using a structural (descriptive) method, which is based on comparative analysis. Based on this analysis it was found that the attitude of young people to the observance of orthography norms at three levels of communication were different. In the process of analyzing the survey data, general statistics of answers are taken into account, as well as statistics of answers on a specific question. The obtained results were analyzed using theoretical methods of generalization and induction.

Systematized data allowed identifying trends in compliance with different types of spelling rules in different communicative situations, in particular during Internet communication. In accordance with the results obtained on the problematic aspects of spelling, recommendations have been developed to improve mobile applications that offer users the correct spelling of words.

3. Related work

As it is known the orthography norms are one of the most defining features in Ukrainian literary language. However, depending on what style the speakers talk and what communicative situation they are in, attitudes toward orthography norms and term usage can change dramatically [1].

Strict adherence to orthography norms is an integral part of business style. If informal communication allows the occurrence of spelling errors, which can be recognized as a kind of language game, in business communication such mistakes can make a bad impression. According to M. Blazquez, C. Fan [2], "the results suggest that, despite detecting more than 85% of the errors, all the platforms fail to give the appropriate alternative for one third of the spelling errors".

Spelling errors caused by inattention or haste, can seriously damage the image of the employee. Scientists argue that errors reduce the level of trust between people and **make** an assessment of their intelligence and education [3, 4]. In addition, errors in business communication can lead to misunderstandings and financial losses. Bak Seung Hyeon, Kim Pan Koo assert that spelling errors in important documents may lead to a decrease in reliability [5]. Keep in mind that customers often do not trust sites that are full of errors because they are considered fraudulent. When looking for a job, first of all, pay attention to job offers of companies whose sites do not contain errors [6]. According to Pickard Alison J., Shenton Andrew K., Johnson Andrew, survey participants felt that information on the web should be free from spelling and grammatical errors [7] using mobile devices [8]. Jeong Allan Li, Haiying Pan, Andy Jiaren say that grammatical and spelling errors understate competence and credibility during the written communication. Arguments posted by high-error students are more likely to be challenged than arguments posted by low-error students [9]. Employees who write a competent resume are more likely to find a job. Vazquez-Cano Esteban, Holgueras Gonzalez Ana Isabel, Manuel Saez-Lopez, Jose consider that university and society require professionals who can use their language correctly in any context, device or mode of communication [10].

Recently, written informal communication has been moving into the realm of the Internet and is mediated by social networks and messengers. "Within the span of two decades, Americans went from being a nation of talkers (on landline phones) to a nation of typists (first through word processing, email, and IM, and now through texting)", claims Naomi S. Baron [11]. F. Busch [12], Pawade D. Y. [13], Thelwall M. [14], Maskens, Lenais Cougnon, Louise-Amelie Roekhaut, Sophie Fairon Cedrick [15] consider that associating electronic writing with secondary students spelling mistakes is not correct.

However, most linguists believe that a sharp change in communication significantly influenced the attitude of communicators to language. According to A. Lopez, the language of the Internet is essentially different from those found in other semiotic situations [16]. Myslin Mark, Gries Stefan Th. say that a newly evolving form of Spanish Internet orthography differs from standard Spanish spelling

by a reduction, a transformation and a reduplication [17]. S. Bralic [18] and Myslin Mark, Gries Stefan Th. [17] confirm that the revolution in electronic communication [19, 20] may give rise to new modes of communication. Electronic language has its features and graphology. Besides shortening, clippings and contractions students use unconventional spellings. Izazi Zulkifli Zulfati, Tengku-Sepora, Tengku Mahadi say that communication on Twitter contains slang and cacography [21]. Ashwini K., Brundha M. P., Preejitha V. B. consider that use of messengers, chats, and other forms of electronic communication technology increase the number of spelling errors. The problem in the digital age is that good language and strong spelling have become more optional [22]. Guzalia Gabdraufovna Akhmadgalieva, Gulnaz Glusovna Sattarova consider that Internet communication is one of the reasons for the illiteracy of the population. Internet users have a feeling of indifference to the literate and correct writing, because they get used to visual identification of errors [23]. K. Bedijs and U. Frohlich say that alternative spelling in the computer-mediated Spanish communication can be perceived as neography [24, 25].

However, we assume that in informal Internet communication, which is in social networks, there is some modification of acceptable spelling rules. G. Yu. Klyarska. O. D. Tarasenko [26] claims that sometimes even those users who write correctly enjoy the internet's informality, lack of rules, from which spelling norms (especially capitalization) as well as punctuation primarily suffer from. Obviously, the behavior of network users [27] is influenced by the fact that during this type of communication they have the illusion of anonymity, confidentiality, a sense of security, as a result of which a person often begins to meet their destructive deviant needs, including language. I. A. Kovalchuk expresses an interesting opinion that the root cause of language errors are in network communication is a "protest against normalization" [28].

Significant part of users in informal online communication implement conversational style, which affects significantly the way of expression [26]. Akbiyik C., Karaduz A., Seferoglu S. Sadi [29] also confirm that the language used by students during chatting has common features with spoken language, owing to this language having various deviations, especially in spelling. As a result, students follow almost none of the rules of written language. The same opinion adheres to O. Konevshchynska [30]: electronic communication "acquires the features of oral speech that occurs in writing", because of this, "it is inherent spontaneity, economy and redundancy of language resources. Experts note the stylistic, spelling, syntactic and punctuation illiteracy, as the result of limited vocabulary communication of participants, speech clutter, borrowed words..."

Yu. Makovetska-Hudz [31] explains the use of Russisms, erroneous forms, surzhyk, obscene language vocabulary elements, games in Internet communication. She claims that similar processes are happening today in Russian network jargon, which uses "deliberately distorted spelling and specific vocabulary". S. Tagliamonte, D. Denis [32] mentions about similar features of the Internet communication: "There are numerous typos, misspellings, swear words, and colloquialisms (i.e., slang), along with numeric forms and a propensity toward lowercase". E. Codarcea [33] believes that contributors form non-standard forms to demonstrate playfulness and creativity. T. Sherman, J. Švelch [34] claim that the significant cause of numerous violations is the desire to attract attention using comics or inappropriateness of posts. "Numerous deviations receive attention because they trigger comically ambiguous interpretations or strike users as incongruous". A similar message was expressed by J. N. Rauer, M. Kroiss, N. Kryvinska, C. Engelhardt-Nowitzki, M. Aburaia [35] and Nataliia Bragina [36]: "When one uses a well-known speech misstep deliberately, it helps him/her to create expressive and ironic utterances". Bragina Nataliia also considers that speech missteps in online communication can be used as a kind of a stylistic mark [36]. Barbosa Bruna Carolini, Martins Neto, Irando Alves [37] give suggestions about spelling mistakes, which may be indispensable to the constitution of meaning. At least, Verheijen Lieke [38] supposes that attitude to language and spelling depends on age group. Adolescents and young adults appear to have different perceptions of language use and spelling.

The haste factor can not be completely ruled out. S. Peivandi, L. Ahmadian, J. Farokhzadian, Y. Jahani [39] state that errors occur due to the technical conditions of communication: haste, fulfillment of many tasks at once, and non-compliance with the rules of capitalization – a necessity of simultaneous work on the computer keyboard with both hands.

In contradistinction to listed meanings, researchers [1, 3, 4] believe that the level is a significant predictor of one's likelihood to make mistakes, suggesting that existing social inequalities translate

into differences in online behavior. Scott Graham G., Sinclair Jason, Short Emma, Bruce Gillian [40] show that language use had no impact on attractiveness, but users who used correct language were seen as more intelligent, competent, and employable. Correct spelling is the way to demonstrate the elevated importance to employers compared to peers [41].

However, regardless of the causes, illiteracy in informal online communication significantly underestimates the assessment given by readers' communicator. It is compliance with spelling rules and the ability to express their own opinions that are decisive in the formation of a positive image of the contributor in any area of Internet communication [42].

While communicating in real life, we first pay attention to extra linguistic features of the interlocutor: appearance, clothing, expression, face, look, smile, gestures, tone of voice, manner of holding. Researchers claim that 38 % of information during communication is perceived by features of sound and intonation, and 55 % - nonverbal means that include gestures, facial expressions, appearance [43].

Due to verbal communication in the Internet, the most important tool to influence on the addressees is the language, and the individual style of communication becomes the expression of linguistic personality [44]. Low language culture, use of colloquialism [45], the incorrect structure of phrases and sentences, and especially spelling errors may give the reader the impression that the interlocutor is not trustworthy as a person with a low cultural and educational level [3. 4]. I. A. Kovalchuk [28] claims that the ancient phrase "Speak - and I'll see you" should be transformed into: "Write - and I will imagine you".

Reckless, spelling or grammatically incorrect posts can cause significant damage to the image of a person, and not only once, but also for a long time. People often perceive the messages they post online as ephemeral, but the Internet functions in such a way that they still can be read years later. Therefore, it is of vital importance to write them very responsibly.

1. Results

After analyzing the questionnaires offered to the students of the Lviv Polytechnic National University for a survey on the topic: "My attitude to the issue of compliance with current Ukrainian spelling in different communicative situations", we found interesting answers to various questions. The experimental data are summarized in the Table 1.

Table 1
Percentage of spelling rules in different communicative situations

Norm	Business communication	Informal communication	Internet communication
writing apostrophe in the Ukrainian words	Yes, always 85,9 %	Yes, always 50,1 %	Yes, always 46,7 %
	No, never 0,4 %	No, never 2,5 %	No, never 3,8 %
	Not always 12,9 %	Not always 39,6 %	Not always 37,9 %
	Sometimes 0,8 %	Sometimes 7,8 %	Sometimes 11,6 %
writing apostrophe in internationalisms	Yes, always 85,1 %	Yes, always 58,5 %	Yes, always 55,1 %
	No, never 1,3 %	No, never 3 %	No, never 2,5 %
	Not always 10,1 %	Not always 30,6 %	Not always 33,1 %
	Sometimes 3,5 %	Sometimes 7,9 %	Sometimes 9,3 %
consonants alteration before suffixes -ськ- (ий), -ств- (о)	Yes, always 91,4 %	Yes, always 68 %	Yes, always 69,6%, No, never 1 %
	No, never 0,5 %	No, never 2,5 %	Not always 23,8 %
	Not always 7,4 %	Not always 25,9 %	Sometimes 5,6 %
	Sometimes 0,7 %	Sometimes 3,6 %	
consonants alteration during formation of	Yes, always 91,9 %	Yes, always 72,7 %	Yes, always 73,2 %
	No, never 0 %	No, never 1,5 %	No, never 0,5 %
	Not always 6,6 %	Not always 21 %	Not always 21,7 %

Norm	Business communication	Informal communication	Internet communication
degrees of comparison	Sometimes 1,5 %	Sometimes 4,8 %	Sometimes 4,6 %
alteration -цьк-, -чч-, -ськ- – -щ-	Yes, always 86,8 %	Yes, always 62,1 %	Yes, always 66,4 %
	No, never 0,5 %	No, never 0,5 %	No, never 1,5 %
	Not always 11,4 %	No never 31,6 %	Not always 24,2 %
	Sometimes 1,3 %	Sometimes 5,8 %	Sometimes 7,9 %
writing soft sign (front yer) in the Ukrainian words	Yes, always 91,4 %	Yes, always 72,6 %	Yes, always 73,1 %
	No, never 0,2 %	No, never 0,8 %	No, never 1,3 %
	Not always 7,9 %	Not always 21,3 %	Not always 20,3 %
	Sometimes 0,5 %	Sometimes 5,3 %	Sometimes 5,3 %
writing soft sign (front yer) in the internationalisms	Yes, always 83 %	Yes, always 64,4 %	Yes, always 64,7 %
	No, never 1 %	No, never 2,3 %	No, never 2 %
	Not always 12,5 %	Not always 27 %	Not always 26,1 %
	Sometimes 3,5 %	Sometimes 6,3 %	Sometimes 7,2 %
simplification in consonants groups	Yes, always 84,3 %	Yes, always 57,8 %	Yes, always 57,1 %
	No, never 0,2 %	No, never 1,5 %	No, never 1,8 %
	Not always 14,2 %	Not always 34,8 %	Not always 34,3 %
	Sometimes 1,3 %	Sometimes 5,9 %	Sometimes 6,8 %
doubling the letters in the Ukrainian words	Yes, always 86 %	Yes, always 66,2 %	Yes, always 65,2 %
	No, never 0,5 %	No, never 1 %	No, never 2,3 %
	Not always 12,2 %	Not always 27,5 %	Not always 25,1 %
	Sometimes 1,3 %	Sometimes 5,3 %	Sometimes 7,4 %
doubling letters in internationalisms	Yes, always 72,3 %	Yes, always 46,2 %	Yes, always 46,7 %
	No, never 1,2 %	No, never 3,5 %	No, never 2,6 %
	Not always 23,7 %	Not always 38,8 %	Not always 35,5 %
	Sometimes 2,8 %	Sometimes 11,5 %	Sometimes 15,2 %
writing prefixes з-, с-	Yes, always 94,2 %	Yes, always 76,3 %	Yes, always 77,9 %
	No, never 0,5 %	No, never 0,8 %	No, never 1 %
	Not always 4,8 %	Not always 19,6 %	Not always 16 %
	Sometimes 0,5 %	Sometimes 3,3 %	Sometimes 5,1 %
writing prefixes pre-, pri-	Yes, always 94,7 %	Yes, always 81 %	Yes, always 80,2 %
	No, never 1 %	No, never 0,8 %	No, never 0,5 %
	Not always 3,8 %	Not always 15,7 %	Not always 14 %
	Sometimes 0,5 %	Sometimes 2,5 %	Sometimes 5,3 %
writing suffixes -ин-, -їн- in possessive adjectives	Yes, always 84,3 %	Yes, always 54,7 %	Yes, always 52,7 %
	No, never 0,3 %	No, never 4,1 %	No, never 3,6 %
	Not always 12,9 %	Not always 33,1 %	Not always 30,4 %
	Sometimes 2,5 %	Sometimes 8,1 %	Sometimes 13,3 %
writing suffixes -ів-, -ов-, -ев-, -єв-	Yes, always 84,8 %	Yes, always 55,3 %	Yes, always 55,1 %
	No, never 1,5 %	No, never 3,5 %	No, never 3,6 %
	Not always 11,4 %	Not always 33,8 %	Not always 27,7 %
	Sometimes 2,3 %	Sometimes 7,4 %	Sometimes 13,6 %
writing complex nouns	Yes, always 73,6 %	Yes, always 44 %	Yes, always 43,1 %
	No, never 2 %	No, never 3,1 %	No, never 4,6 %
	Not always 19,8 %	Not always 42,5 %	Not always 38,1 %

Norm	Business communication	Informal communication	Internet communication
	Sometimes 4,6 %	Sometimes 10,4 %	Sometimes 14,2 %
writing complex adjectives	Yes, always 77,9 % No, never 1 % Not always 17 %	Yes, always 44,8 % No, never 3,1 % Not always 41,2 %	Yes, always 42,2 % No, never 4,4 % Not always 38,4 %
writing adverbs	Sometimes 4,1 % Yes, always 81,4 % No, never 1,3 % Not always 14 %	Sometimes 10,9 % Yes, always 51,8 % No, never 2 % Not always 36 %	Sometimes 15 % Yes, always 50,3 % No, always 3,3 % Not always 32,9 %
writing particle no/not	Sometimes 3,3 % Yes, always 82,2 % No, never 0,8 % Not always 14,5 %	Sometimes 10,2 % Yes, always 57,6 % No, never 0,8 % Not always 32 %	Sometimes 13,5 % Yes, always 54,2 % No, never 2,3 % Not always 32,8 %
use of capital letter	Sometimes 2,5 % Yes, always 82,2 % No, never 1 % Not always 12,7 %	Sometimes 9,6 % Yes, always 48 % No, never 3,2 % Not always 40,4 %	Sometimes 10,7 % Yes, always 43,9 % No, never 4,6 % Not always 36,3 %
	Sometimes 4,1 %	Sometimes 8,4 %	Sometimes 15,2 %

Analyzing the attitude of the students to the observance (see Fig. 2) of spelling rules in formal (business), informal written and informal Internet communication, we have found that in business communication, the majority of students (from 70 to 90 %) adhere to spelling rules (see Fig. 5).

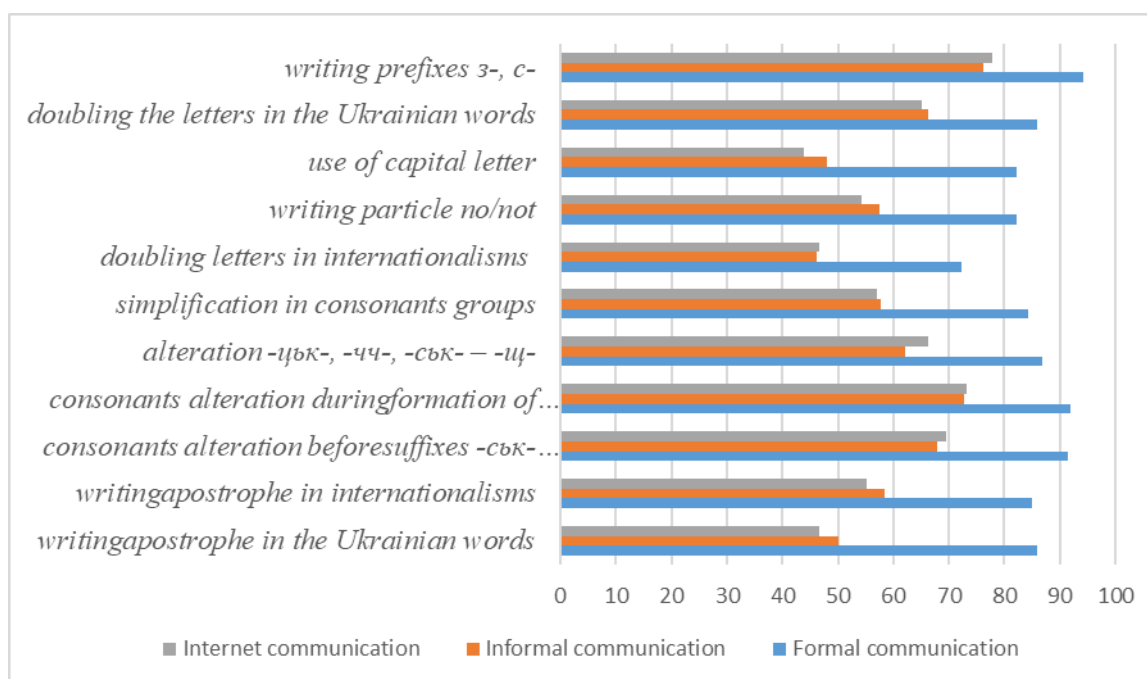


Figure 2: Percentage of language rules compliance in different communication situations

The rules of writing an apostrophe, soft sign, degrees of comparison of adjectives, simplification in groups of consonants, doubling or lengthening of consonants, spelling of prefixes з-, с-, пре-, при-, formation of possessive adjectives, capital letters are especially important for them.

The data shown by the respondents is 5-9 % worse when it comes to spelling of complex words (nouns and adjectives, adverbs) which are difficult to master or spelling the particle no/not.

The lowest percentage of respondents adheres to the rules of doubling the letters in foreign words - 72.3 %. We assume that the lower level of compliance with regulatory requirements is due to the difficulty of mastering these spelling rules and the lower frequency of their application.

The negligence of speakers can also be explained by the factor of haste, the need to perform several tasks at once, lack of control over the written text, informal circumstances of communication. In informal communication, which takes place with the help of handwriting, the level of compliance with spelling rules immediately drops sharply. This is due to the fact that communicators (Fig. 3) are moving to a conversational style of communication, which is characterized by free handling of norms, including spelling. As adherence becomes unimportant, not all speakers consider it necessary to make extra effort to spell words correctly.

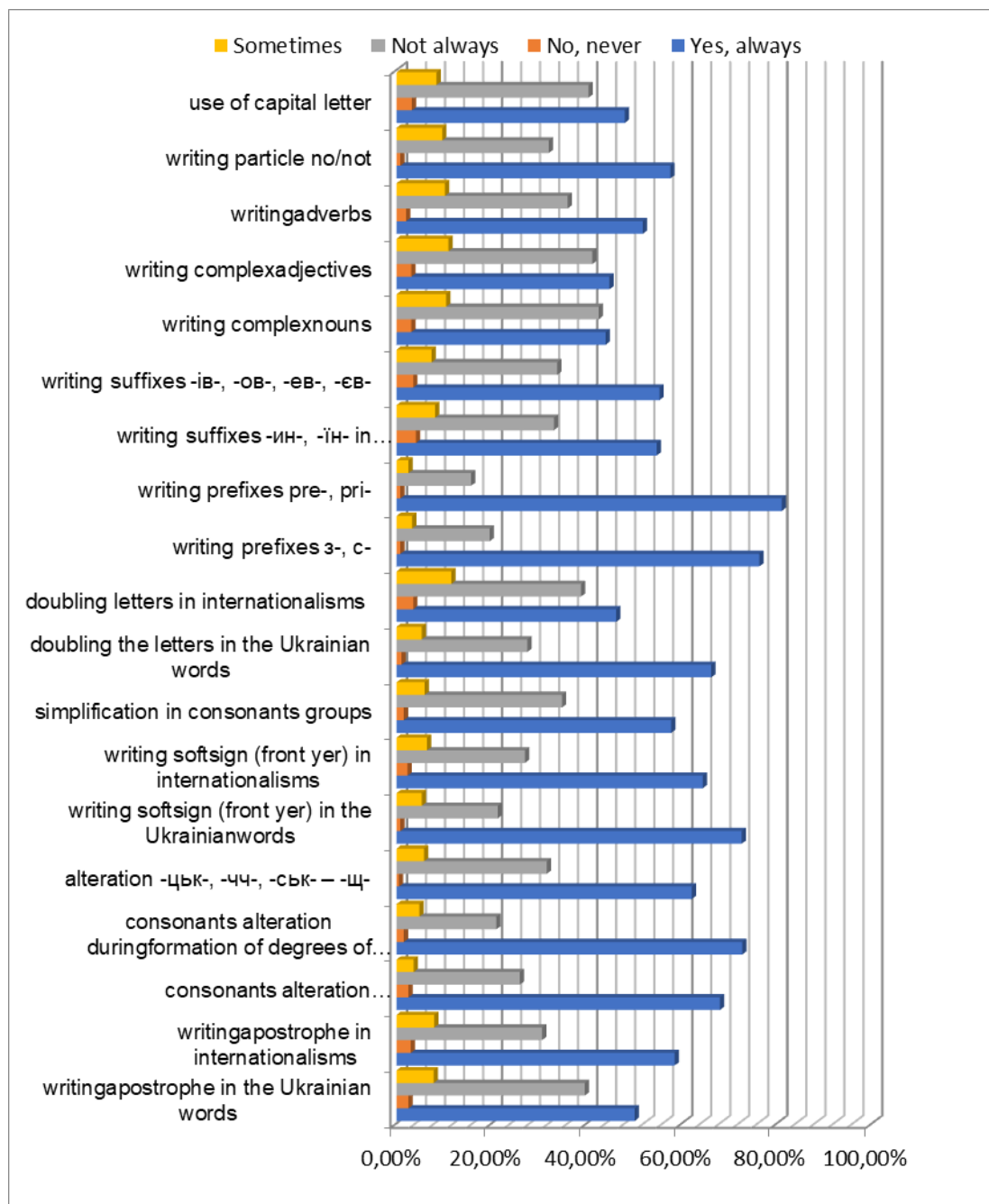


Figure 3: Percentage of language rules compliance in the informal communication

The level of literacy of informal communication on the Internet (see Fig. 4) is especially low, which raises serious concerns. The results of the study eloquently show that literacy during online communication becomes insignificant for the younger generation, as other means of self-expression come to the fore: images, photographs, the ability to comically present information, demonstrate originality and independence from public opinion by all possible methods including sometimes deliberate language deviations and obscene language. As a result, some spelling rules in Internet communication are followed by only 50–70 % of respondents, and in some cases even this level falls below 50 %.

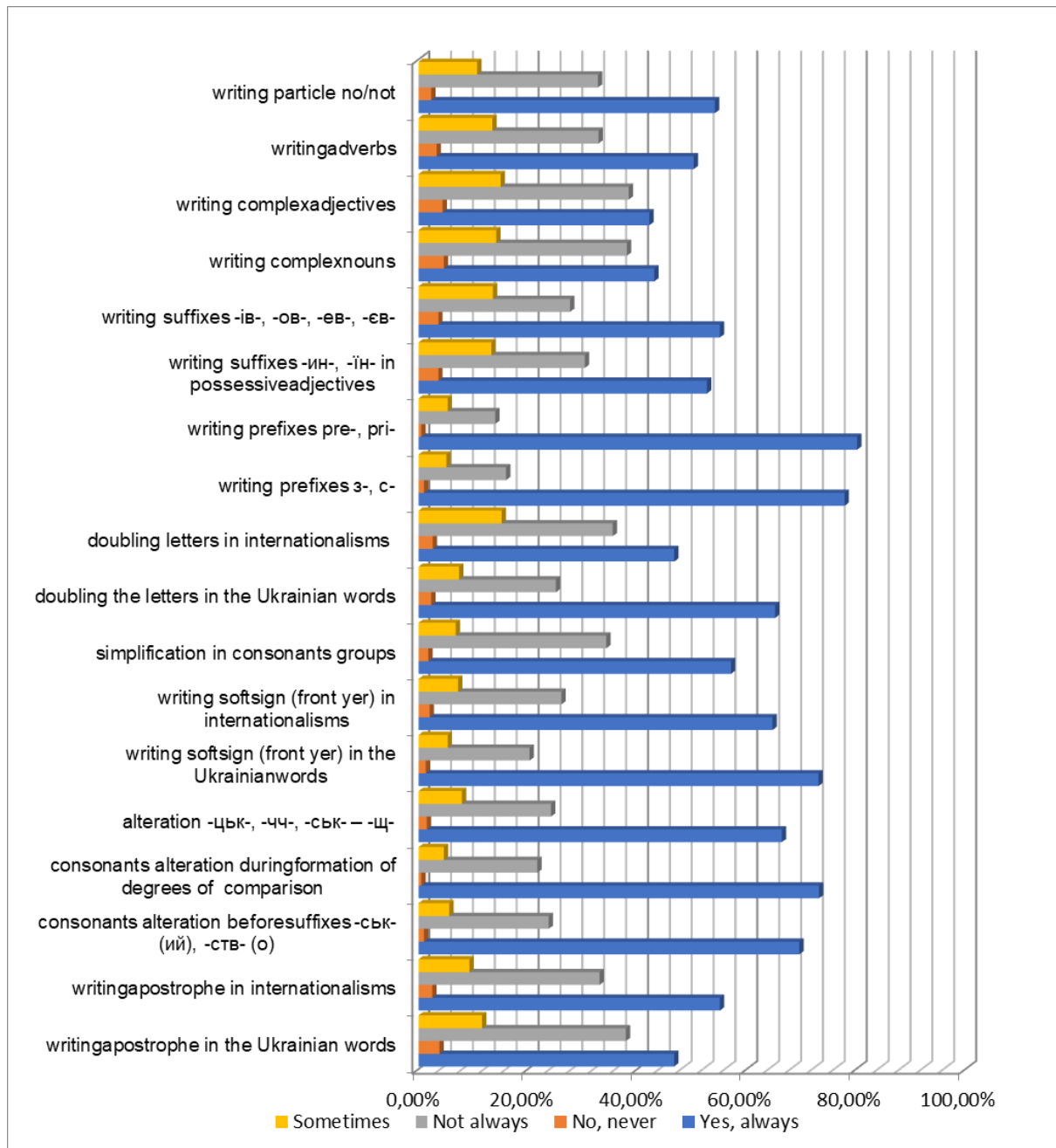


Figure 4: Percentage of language rules compliance in the Internet

For example, in the Ukrainian words, only 48.3 % and sometimes 11.6 % of respondents always follow the rules of apostrophe use. However, this can be explained by technical difficulties - they need to switch the keyboard case during typing.

However, we consider this argument weakness, as there is another eloquent example (Fig. 4): 46.7 % of respondents always follow the rules for doubling letters in foreign words and 15.2 % follow them sometimes. Our assumption about the imperfect mastery of complex spelling rules is confirmed, which is exacerbated by the lower frequency of their application.

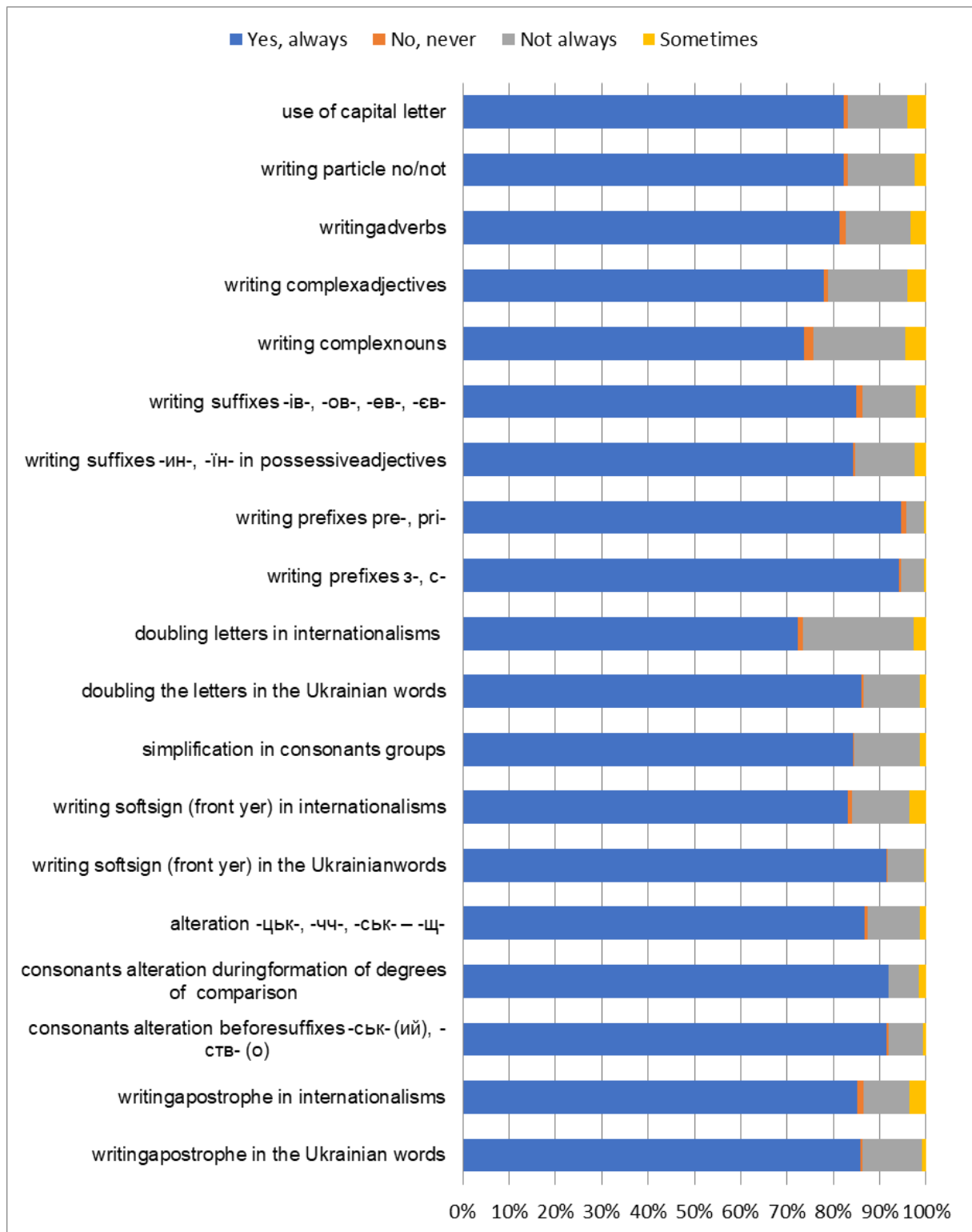


Figure 5: Percentage of language rules compliance in the formal communication

2. Conclusions and practical recommendations

The study discovered that Internet users between the age of 17 and 18 years significantly underestimate the importance of spelling correctly to communicate online to create a positive personal image. The discrepancy between the data illustrating compliance in business and informal online communication, in some cases reaches 38 %. The level of compliance with spelling rules is almost the same for informal handwriting and Internet communication. This suggests that students perceive communication on the Internet as a private informal conversation, not realizing that it is becoming public and virtually indestructible. Young people perceive language primarily as a means of entertainment, self-affirmation, demonstration of their originality, humor, creativity, unwillingness to obey the norms that causes a careless attitude to spelling and the use of intentionally distorted forms.

At the same time, the experiment confirmed the existence of the basic part of spelling rules, which are rarely subject to distortion and are a kind of spelling imperative for speakers. Regardless of the style and format of communication, most communicants try to follow the rules of writing a soft sign, the degree of comparison of adjectives, simplification, doubling, spelling of prefixes *з-, с-, пре-, при-*, formation of possessive adjectives, capital letters. Thus, despite all the changes in the communication process due to the development of modern technical means, language remains a universal, timeless means of transmitting ideas.

The results of the study show that it is necessary to take care of eliminating errors in online communication, because posts, comments are available to everyone and are stored in the online environment for a long time. Mistakes and errors in online communication can cause significant damage to a person's image. The survey made it possible to systematize typical errors and can become a basis for improving the recommendation system when creating a mobile application that will prevent the occurrence of breaking the spelling rules in Internet communication. The most important recommendation: you should pay special attention to the spelling of words of foreign origin, including proper names, regarding such norms as consonant doubling, apostrophe spelling, soft sign and spelling hyphen.

Acknowledgements

The authors would like to thank the Armed Forces of Ukraine for providing security to perform this work. This work has become possible only because of the resilience and courage of the Ukrainian Army.

References

- [1] G. L. Voznyuk, S. Z. Bulyk-Verkhola, I. P. Vasylyshyn, M. V. Hnatiuk, I. B. Mentynska, I. D. Shmilyk. Training manual. Lviv: Lviv Polytechnic Publishing House, 2020.
- [2] M. Blazquez, C. Fan, The Efficacy of Spell Check Packages Specifically Designed for Second Language Learners of Spanish, *Pertanika Journal of Social Science and Humanities* 27 (2) (2019) 847–861.
- [3] Liliia V. Kharchuk, Lexical and Semantic Norms in Formation of State Official Language Competency. *Bulletin of Alfred Nobel University. Series: Philology.* 2 (22) (2021) 228–236. doi: 10.32342/2523-4463-2021-2-22-22.
- [4] Z. Y. Kunch, Implementation of the Ukrainian Language Euphony Rules in Modern Scientific Literature of the Humanitarian Profile. *Bulletin of Alfred Nobel University. Series: Philology.* 1 (21) (2021) 207–216. doi: 10.32342/2523-4463-2021-1-21-21.
- [5] S. Bak, P. Kim, Korean spelling error correction using a Hangul similarity algorithm. *Advances on broad-band wireless computing, communication and applications* 2 (2017) 223-229. doi:10.1007/978-3-319-49106-6_21.
- [6] A. E. Cooper, D. L. Diab, K. M. Beeson, Why Spelling Errors Matter: Online Company Reviews and Organizational Attraction. *Corporative reputation review* 23 (3) (2020) 160-169. doi:10.1057/s41299-019-00075-z.

- [7] A. Pickard, A. Shenton, A. Johnson, Young people and the evaluation of information on the World Wide Web: principles, practice and beliefs 46 (1) (2014) 3–20. doi:10.1177/0961000612467813.
- [8] R. G. Alakbarov, Challenges of Mobile Devices' Resources and in Communication Channels and their Solutions. *International Journal of Computer Network and Information Security*, 13, 1 (2021) 39-46. doi: 10.5815/ijcnis.2021.01.04
- [9] A. Jeong, L. Haiying, P. A. Jiaren, A sequential analysis of responses in online debates to postings of students exhibiting high versus low grammar and spelling errors". *Etr&d-educational technology research and development* 65 (5) (2017) 1175–1194. doi:10.1007/s11423-016-9501-2.
- [10] E. Vazquez-Cano, G. Holgueras, I. Ana, J. M. Saez-Lopez, An analysis of the orthographic errors found in university students' asynchronous digital writing. *Journal of computing in higher education* 31 (1) (2019) 1–20. doi:10.1007/s12528-018-9189-x.
- [11] N. S. Baron. Do mobile technologies reshape speaking, writing, or reading?, *Mobile Media & Communication* 1(1) (2013) 134–140. doi:10.1177/2050157912459739.
- [12] F. Busch, Enregistered spellings in interaction Social indexicality in digital written communication. *So zeitschrift fur sprachwissenschaft* 40 (3) (2021) 297–323. doi: 10.1515/zfs-2021-2033.
- [13] D. Y. Pawade, Analyzing the impact of search engine optimization techniques on web development using experiential and collaborative learning techniques. *International Journal of Modern Education and Computer Science*, 13, 2 (2021) 1-10. doi: 10.5815/ijmecs.2021.02.01.
- [14] M. Thelwal, Text characteristics of English language university Web sites. *Journal of the American society for information science and technology* 56 (6) (2005) 6–60919. doi:10.1002/asi.20126.
- [15] M. Lenais, C. Louise-Amelie, R. Sophie, F. Cedrick, New media and spelling. Incompetence or pluricompetence?. *Discours-revue de linguistique psycholinguistique et informatique* 16 (2015). doi:10.4000/discours.9020.
- [16] A. Lopez, Electronic communication and orality discourse, *Cultura Lenguaje y Representacion revista de estudios culturales de la Universitat Jaume* 20 (2018) 269–283. doi: 10.6035/clr.2018.20.17.
- [17] M. Myslin, St. Gries, K dixez? A corpus study of Spanish Internet orthography, *Literary and linguistic computing* 25 (1) (2010) 85–104. doi:10.1093/lilc/fqp037.
- [18] S. Bralic, Deviations from the language norm – the Italian language in the digital age. *Folia linguistica et litteraria* 35 (2021) 235–257. doi: 10.31902/fli.35.2021.12.
- [19] A. Poniszewska-Maranda, R. Matusiak, N. Kryvinska, and A.-U.-H. Yasar, A real-time service system in the cloud. *J Ambient Intell Human Comput*, 11, 3 (2020) 961–977. doi: 10.1007/s12652-019-01203-7.
- [20] Z. Kunch, L. Kharchuk, Y. Syerov, S. Fedushko, Development of concept of terminological online assistant for electric power engineering specialists. *Proceedings of the XIth International Scientific and Technical Conference «Computer Sciences and Information Technologies» (CSIT-2017)*. Lviv, 05-08 September 2017. 83–86. doi: 10.1109/STC-CSIT.2017.8098742.
- [21] Z. Z. Izazi, T. M. Tengku Mahadi, Slangs on Social Media: Variations among Malay Language Users on Twitter. *Pertanika journal of social science and humanities* 28 (1) (2020) 17–34.
- [22] K. Ashwini, M. P. Brundha, V. B. Preejitha, A Survey on Increasing Spelling Errors due to Increase Use of Digital Technology Among Students. *Bioscience biotechnology research communications* 13 (7) (2020) 247–250, doi:10.21786/bbrc/13.7/41.
- [23] G. G. Akhmadgalieva, G. G. Sattarova, Orfographic Mistakes in the Internet and Their Influence on the Literacy of Tatar Students. *Modern journal of language teaching methods* 7 (9) (2017) 580–586.
- [24] K. Bedijs, Neography in the computer-mediated Spanish Communication. Alternative spellings in the chat network *www.irc-hispano.es*. *Romanische forschungen* 130 (3) (2018) 418–421.

- [25] U. Frohlich, Neography in computer-mediated Communication of Spanish. For alternative spellings in the Chat Network. *Zeitschrift fur romanische philology* 133 (4) (2017) 1155. doi:10.1515/zrp-2017-0062.
- [26] H. Yu. Klyarska, O. D. Tarasenko, Features of Internet communication (on the example of the Ukrainian-speaking users), *Scientific Bulletin of the International Humanities University, Range: Philology* 32 (3) (2018) 49–52.
- [27] S. Fedushko, Yu. Syerov, O. Skybinskyi, N. Shakhovska, Z. Kunch, Efficiency of Using Utility for Username Verification in Online Community Management. *CEUR Workshop. Vol-2588* (2020) 265-275. doi: ceur-ws.org/Vol-2588/paper22.pdf.
- [28] I. A. Kovalchuk, Language specifics of communication on the Internet, *Magisterium, Linguistic studies* 37 (2009) 45–48.
- [29] C. Akbiyik, A. Karaduz, S. Seferoglu, A Study of Students' Use of Written Language in Online Chatting. *Bilig* 64 (2013) 1–22.
- [30] O. E. Konevshchynska, Problem of Internet Communication of Upper Secondary School Pupils in Electronic Social Network 60 (4) (2017) 77–86.
- [31] Yu. A. Makovetska-Hudz, The Ukrainian language in social networks, Linguistic and conceptual pictures of the world, *The collection of scientific works* 47 (1) (2014) 658–663.
- [32] S. A. Tagliamonte, D. Denis, Linguistic ruin? LOL! Instant messaging and teen language, *American Speech* 83 (1) (2008) 3–34. doi:10.1215/00031283-2008-001.
- [33] E. Codarcea, Gaming Language and Gamer Slang from a Sociolinguistic Perspective. List of Common Abbreviations, *Studia universitatis Babeş-bolyai Philologia*, 66 (3) (2021), 179–200. doi: 10.24193/subbphilo.2021.3.12.
- [34] T. Sherman, J. Švelch, “Grammar Nazis never sleep”: Facebook humor and the management of standard written language, *Language Policy* 14 (2015) 315–334. doi:10.1007/s10993-014-9344-9
- [35] J. N. Rauer, M. Kroiss, N. Kryvinska, C. Engelhardt-Nowitzki, M. Aburaia, Cross-university virtual teamwork as a means of internationalization at home. *The International Journal of Management Education*, 19, 3 (2021) 100512, doi: 10.1016/j.ijme.2021.100512.
- [36] N. Bragina, Speech Missteps in Internet Communication. *Tomsk state university journal* 444 (2019) 5–13. doi:10.17223/15617793/444/1.
- [37] B. Carolini; I. Neto, Heterogeneity of writing: proposed “Spelling errors” in digital social Networks and a sense construction. *Revista de letras norte@mentos* 12 (29) (2019) 158–176.
- [38] L. Verheijen, Orthographic principles in computer-mediated communication The SUPER-functions of textisms and their interaction with age and medium, *Written language and literacy* 21 (1) (2018) 111–145. doi:10.1075/wll.00012.ver.
- [39] S. Peivandi, L. Ahmadian, J. Farokhzadian, Y. Jahani, Evaluation and comparison of errors on nursing notes created by online and offline speech recognition technology and handwritten: an interventional study, *BMC medical informatics and decision making*, 22 (1) (2022). doi: 10.1186/s12911-022-01835-4.
- [40] G. Scott, J. Sinclair, E. Short, G. Bruce, It's not what you say, it's how you say it: language use on Facebook, Impacts employability but not attractiveness. *Cyberpsychology behavior and social networking* 17 (8) (2014) 562–566. doi:10.1089/cyber.2013.0584.
- [41] L. Verheijen, Orthographic principles in computer-mediated communication The SUPER-functions of textisms and their interaction with age and medium, *Written language and literacy* 21 (1) (2018) 111–145. doi:10.1075/wll.00012.ver.
- [42] L. Pomytkina, Yu. Podkopaieva, K. Hordiienko, Peculiarities of Manifestation of Student Youth' Roles and Positions in the Cyberbullying Process. *International Journal of Modern Education and Computer Science*, 13, 6 (2021) 1-10. doi: 10.5815/ijmecs.2021.06.01
- [43] A. Pyz, *Body language. How to read the thoughts of others by their gestures*, Moscow, Eksmo, 2006.
- [44] O. Mykytyuk, Verbalization of the Essence of Ukrainian Identity (Based on the Magazine «Ab Imperio»). *South Archiive (Philological Sciences). Issue LXXXIV*. Kherson: Kherson State University (2020) 134–139. doi: <https://doi.org/10.32999/ksu2663-2691/2020-84-25>.
- [45] B. Arrizabalaga, Social Networks: A Source of Lexical Innovation and Creativity in Contemporary Peninsular Spanish, *Languages*, 6 (3) (2021), doi:10.3390/languages6030138.