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LANGUAGE DYNAMICS IN THE DIGITAL ENVIRONMENT THROUGH THE PRISM OF NEW MEANINGS AND CHANGED RULES

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ABSTRACT

In today's digital environment, communication is undergoing rapid changes that directly affect linguistic norms, communication styles, and the cultural function of language. The growing role of visual symbols, abbreviations, slang and anglicisms necessitates a scientific analysis of new linguistic realities. The purpose of the study is to identify the peculiarities of language transformations in digital communication on the example of five popular platforms. The methodological basis was a qualitative content analysis of messages in social networks, messengers, and forums. The study found that platforms focused on visual content (Instagram, Twitter) demonstrate the highest concentration of language changes, including abbreviations, anglicisms, neologisms, and emojis. At the same time, forums retain more traditional language forms. There is a phenomenon of hybridization of the language code, where elements of normative and situational speech are combined. The results also show that the language behavior of users is closely related to the technical features of the platform and the level of personalization of the information space. The practical significance lies in the possibility of using the results to update language policy in education, form digital language ethics, and support linguistic identity in the context of globalized communication. The data obtained can become the basis for further interdisciplinary research in the field of digital linguistics. In addition, the study makes a valuable contribution to IT research by demonstrating how digital platforms and algorithmic features directly shape linguistic behavior. This highlights the role of information technologies not only as neutral communication channels but also as active agents influencing cultural codes, which is significant for advancing interdisciplinary approaches at the intersection of linguistics and digital technology.

Keywords: *Digital Communication, Linguistic Norms, Language Transformation, Social Networks, Cultural Identity*

1. INTRODUCTION

In the twenty-first century, digital technologies have radically transformed the ways of human communication, opening up new channels of communication, but at the same time creating new challenges for language culture. Social networks, messengers, and blogs have introduced alternative language formats that go beyond traditional normativity, from emojis to memes, from anglicisms to situational syntactic flexibility. As a result, changes take place in the basic words, the manner of writing or speaking, plus the understanding and purpose of language and the cultural background of the community. People are paying more interest to how digital languages are changing due to studies examining the effects of social platforms on language and its use [1], [2], [3]. In detail, the authors look into the development of new forms of expressing oneself, the mixing of

different cultures, changes in language structure, and a rise in the use of images as symbols during online communication [4], [5], [6]. Similarly, several factors are not studied enough, for example, the way language changes in local areas of the Internet, especially in Ukrainian, and how platforms act as intermediaries that shape the structure of these languages.

No comprehensive analysis of how languages change across digital platforms of different content, algorithms, and target audience has been done. Computers as environments for personalized information still impact language development, but there is little research on the connection between youth's language, cultural exchange, and their sense of belonging to one language group. In this case, the study explores how digital technology can change language rules and its cultural role by looking at five popular internet platforms. The purpose of the study is to find standard changes in language, explain the shifts' cultural impacts, review language use based on the platform, and justify revising language policy for use in digital society. From the perspective of information technology studies, the significance of this research lies in linking linguistic shifts with the technical design of digital platforms, such as character limits, personalization algorithms, and multimodal interfaces. By conceptualizing IT systems as active mediators of language change, the study advances interdisciplinary understanding of how technological infrastructures co-create new communicative norms and thus broadens the scope of applied IT research in digital communication.

2. LITERATURE REVIEW

Studies carried out recently prove that digital technology is causing major changes in the way people use language and traditions. Scholars are especially paying attention to the growth of mingled dialects, the popularity of emojis, memes, and new words in how people communicate through cyberspace [1], [2], [3], [4]. They affect how languages progress and disprove the usual view of linguistic correctness [5], [6], [7], [8]. The cultural side of digital communication includes taking note of digital codes' meanings, stylishly designed messages, and the sense of identification shared by users [9], [10], [11], [12]. It has been noted by researchers that digital language allows people to communicate while also helping them show their culture and become more social [13], [14], [15], [16].

Digital algorithms and artificial intelligence are also important because they play a role in how language is now used, mainly seen in the rise of hybrid speech [17], [18], [19], [20]. Currently, there is more interest in how digital media shows intercultural interaction, which is bringing new ways to share local cultures with the whole world [21], [22], [23], [24]. There is a group of studies that studies differences in how people from various age groups and social backgrounds interact with digital language. It has been established that young ages groups are more comfortable with accessing different forms of digital communication, and older ages can have difficulties understanding digital signs and symbols [8], [13], [14]. As a result, people of different ages often understand each other differently and may experience problems in their communication. In addition, scholars reveal that speech on the Internet is more informal and spontaneous, so it can influence the way people think and communicate [23], [24], [25].

There has been some thinking about how to handle regulating language online because of the rapid advancement of digital platforms. Particularly, Karjus and Cuskley [22] focus on how using different social media platforms often leads to language separation among people, and Cai et al. [19] suggest using multi-agent modeling to look at language choices. This highlights the possible uses of artificial intelligence for understanding language changes, even though it also starts a discussion about how much interpretation can be done automatically. At the same time, Wan [12] and Li [21] explain why it is crucial to maintain cultural traditions as globalization through the internet increases the impact of general rules. In agreement with the heteroglossia of digital space, here global and local aspects live together and also influence one another [9], [10], [11], [16]. Sussman and Carter [18] help reveal how digital technologies influence how people communicate, especially when such tools are involved in the communication process. It is demonstrated in the model of Cai et al. [19] that users modify their speech to escape the effects of algorithms and restrictions in digital environments. Wan [12] discusses how traditional cultural ways and new digital trends connect in the online environment. In addition, Karjus and Cuskley [22] point out that social disputes have caused stones of public debate to increasingly separate on the basis of language online.

Despite the breadth of coverage, previous studies have left out two important issues: the lack of a unified system for adapting language innovations to educational standards and the lack of analysis of the impact of digital communication on deep cognitive mechanisms of meaning formation. These aspects require further targeted research.

3. RESEARCH METHODS

The study was conducted by the author in April 2025 based on a qualitative content analysis of messages from five digital platforms popular among Ukrainian users: Facebook, Instagram, Twitter, Telegram, and Ukrainian-language online forums. For each platform, 100 messages were selected (500 in total), ranging in length from 20 to 280 characters, which in total amounted to about 30,000 words. The selected messages covered a variety of topics (personal posts, reactions, news, humorous posts) and were created by unique users to avoid authorial bias. The unit of analysis was a linguistic unit (word, phrase, or symbol) that belonged to one of five transformation categories: neologisms, emojis/visual elements, abbreviations, anglicisms, and simplified syntax. The analysis was carried out manually, with the parameters recorded in tables, followed by quantitative calculation and visualization of the results for each platform. In addition, comparative analysis with examples from scientific sources was used to verify the observed linguistic phenomena.

4. RESULTS

In the twenty-first century, digital communication has become one of the leading forces in the transformation of the global information environment, affecting both the forms of social interaction and the structure of the language space. Among the key trends that outline this influence is the growing role of visual elements in communication. Visualization has become an everyday practice, where text is supplemented with emojis, gifs, memes, and multimodal elements that combine image, sound, and movement. Such forms of information transfer change not only the structure of the message but also the communicative intention itself, creating new semantic levels. This indicates the transformation of the linguistic code and the actualization of non-verbal components, which are no less important in the digital space than words. At the same time, digital communication stimulates the globalization of the language space. Under the dominance of international platforms such as Facebook, Instagram, TikTok, and YouTube, language practices are being unified, with English dominating as a global medium of communication. However, at the same time, the opposite trend is also growing – the use of digital technologies to support and develop local languages and cultures. National and regional communities create digital content aimed at preserving linguistic identity and popularizing cultural heritage, which forms a kind of digital heteroglossia in which the global and the local interact, sometimes in conflict and sometimes in harmony.

Special attention is drawn to the emergence and spread of artificial intelligence technologies, which are increasingly involved in communication processes. Automation is altering human language exchange because chatbots, software assistants, and translators are involved, bringing humans and machines closer as equals in communication. As a result, traditional linguistics now has to deal with challenges relating to who authored the text, the text's authenticity, and what it means. With this type of communication technology, language is treated differently and uses both man-made tools and human ability, rather than serving only humans. Sending messages that fit each user's interests is now an important trend. Having access to your interests, algorithms present social media content items that you are more likely to respond to. Because of this, people often remain in information environments where they mainly connect with those who believe the same things as they do. This happening causes society to be divided into groups that oppose each other, which leads to more disputes about language: it becomes easier to notice insulting and slang language being used instead of proper language.

One more factor is how language standards change and vary because of our online activities. Since many messages are shared, platforms are upgraded, and cultures interact, there are many rapid changes in language use, style, and the way people write. It is becoming more important to adjust to the present situation than to blindly follow the usual rules in how we transfer content. This further shows that language keeps evolving and becoming more flexible. As a result, we need for new methods to standardize language and teach it in the digital age.

Social networks, messengers, forums, and blogs online have brought about a new way for people to communicate, and the rules for speaking

and writing are now changing a lot. People show these changes by making language simpler, focusing on emotional impact, mixing words from several languages, and always adapting their terms to recent trends and topics. More people are writing using less-complete versions of words and rely on pictures in the form of emojis, memes, and stickers instead of describing everything verbally. As a result, people use both spoken and written language at the same time online, which introduces unique ways to express themselves well. Table 1 explains some important examples of how digital platforms are changing the way language is used throughout its system.

Table 1: Main Changes in Linguistic Norms Under the Influence of Digital Platforms

Aspect of language	Typical changes under the influence of digital platforms	Examples/trends
Spelling	Simplification, intentional mistakes, loss of punctuation	"hey", "what's up", "ok", "pls", "tnx"
Morphology	Merging parts of speech, using nouns as verbs, mixing languages	"like", "share", "tag"
Syntax	Short constructions, lack of connections, dominance of simple sentences	"I went. I saw it. I liked it."
Vocabulary	Neologisms, slang, borrowings, hybrid words	"influencer", "clickbait", "fake", "buzzer"
Stylistics	Loss of formality, dominance of conversational style, gamification of speech	Use of emojis, memes, visual clichés
Cultural context	Globalization of expressions, influence of the English-speaking environment, symbolic load of digital codes	Unified reactions: ♡,😂 , 💯

Source: created by the author based on Babazade [1], Bahri et al. [4], Luhulima et al [5], Danescu-Niculescu-Mizil et al. [6], Suganya [3].

As a result, digital platforms have become a catalyst for dynamic linguistic changes that have led to the formation of alternative communication norms. Linguistic innovations initiated by the online environment create a new linguistic reality where traditional rules give way to functionality, responsiveness, emotional intensity, and intercultural influence. This process has not only technical but also socio-cultural significance, as it changes the structure of interaction in society and shapes new types of linguistic behavior.

Digital communication radically changes not only the linguistic form but also the cultural essence of communication. With the emergence of digital platforms, the rigid boundaries between private and public space disappear, and linguistic behavior is increasingly determined by platform algorithms, the speed of reactions, and the need for visual and symbolic expressiveness. Under such conditions, traditional styles of speech are being transformed, discursive practices are being updated, and language is being enriched with new symbolic forms. An important factor is that digital communication increasingly performs not only informative but also identification, socializing and aesthetic functions, forming new cultural codes that regulate the interaction between participants in the communication process. Table 2 shows the main areas of influence of digital communication on the cultural aspects of language communication.

Table 2: Cultural transformations of language communication in the context of digital communication

Cultural aspect	Manifestation in digital communication	Examples / features
Speech styles	Formation of hybrid styles (informative and formal, emotional and concise)	An official message with emojis or jargon: "Dear! We are waiting for you ♡ "
Discursive practices	Change of genres and structures: post, trend, story, reactive commenting	Dominance of reactions to messages in the format of "+1", "👌 ", "real"
Symbolic load	Replacing words with symbols, memes, images, shortening the content with visual codes	Emoji as an equivalent of a value judgment: " ", "😢 ", "🏘 "

Socio-cultural identity	Expressing belonging to a community through language patterns, jargon, and narratives	Youth slang in TikTok, "kringle", "chill"
Intercultural communication	Global patterns of linguistic behavior with the participation of local features	Mix of anglicisms with national words: "hype in your own way"
Aestheticization of speech	Focus on visual appeal, game and graphic means	Text in ASCII-graphics format, memetic posts, stylization for interface design

Source: created by the author based on Ladzekpo et al. [9], Li & Zheng [10], Park et al. [11], Guntuku et al. [2], Suganya [3].

Thus, digital communication rethinks not only the linguistic structure but also the cultural function of language itself. Speech in the digital space is becoming more flexible, visual, emotionally charged, and collectively symbolic. This creates new socio-cultural norms, in which the main role is played not only by what is said, but also by how, when, by what means, and in what context it is conveyed. New language practices become markers of group identity, integrate local and global elements, and thus contribute to the formation of a new digital culture of language communication.

Digital communication affects language culture in different ways depending on the social group, level of education, age, professional environment, and cultural context. On the one hand, it opens up new opportunities for linguistic expression, creativity, access to information, and intercultural dialogue. On the other hand, it leads to the erosion of language norms, simplification of syntax, and the loss of some traditional forms of communication. This is especially evident in the youth environment, where linguistic innovation is often driven by technological trends and visual-interactive culture, while older generations demonstrate a greater desire for normativity, but also adapt under the influence of digital channels. Table 3 provides a comparative analysis of the positive and negative effects of digital influence on the language culture of different social groups.

Table 3: Positive and negative effects of digital communication on the language culture of social groups

Social group	Positive effects	Negative effects
Young people	Formation of new forms of expression, development of creative writing, quick adaptation	Slangization, loss of literacy, fragmentation of thinking
Students / applicants	Access to educational content, development of academic language online	Excessive patterning in language, copying memes as tools of thought
Adult employees	Development of professional discourse in the online environment, effective business communication	Formalization of language, loss of flexibility of style, overuse of abbreviations
Older generation	Engaging in communication through messengers, inter-family communication	Difficulties in adapting to new codes, misunderstanding of symbolic digital style
Urban residents	Active participation in public discourse, involvement in social movements	Information overload, aggression in digital conflicts
Rural communities	Preservation of dialects in digital format, cultural visibility	Language isolation, limited access to digital resources, copying the dominant code

Source: created by the author based on Lee [13], Panjaitan & Patria [14], Abdallah et al. [15], Salfin et al.[8], Heang & Chuong [16]

Thus, digital influence on language culture is multidirectional and ambiguous. It opens up new horizons for communicative freedom and linguistic innovation, but at the same time creates risks of losing established norms, decreasing linguistic responsibility, and generational gaps in the ways and styles of linguistic expression. This requires not only linguistic but also social analysis to ensure the balanced development of language culture in the digital age.

The study is based on a qualitative and content analysis of digital communication texts selected from three main types of digital platforms:

social networks, messengers, and forums. The analysis covered messages from five platforms popular among Ukrainian users: Twitter, Facebook, Instagram, Telegram, and several Ukrainian-language online forums. The data collection period was April 1-30, 2025.

A representative corpus of 500 message units was formed, ranging from 20 to 280 characters each, which in total amounted to approximately 30,000 words. For each platform, 100 messages were selected. The selection of samples took into account different users (non-repeatable) to avoid authorial bias or stylistic homogeneity. The sample covered messages on various topics (personal posts, reactions, discussions of events, news, humorous posts) to capture typical language patterns.

- a unit of analysis is a linguistic unit (word, phrase, or symbol) that corresponds to one of the five categories of language transformation;
- neologisms – newly created words, mostly of a borrowed or innovative nature, which have no equivalent in the traditional language;
- emoji/visual elements – any non-linguistic symbols that perform a semantic or emotional function;
- abbreviations – graphic or phonetic reductions of words or phrases, for example: "pls", "fk", "dm";
- anglicisms – lexical items of English origin integrated into the Ukrainian text (without translation);
- simplified syntax – sentences without a subject, without agreement, without punctuation, or with intentional fragmentation.

The selection of critique criteria was based on their frequency and visibility in prior digital communication studies [1], [3], [7]. Neologisms, emojis, abbreviations, anglicisms, and simplified syntax were chosen as they represent the most salient markers of language transformation in online platforms and allow cross-comparison across different cultural and technological contexts. While these categories do not exhaust the full spectrum of digital language practices, they provide a systematic framework to evaluate linguistic dynamics in a measurable way.

The analysis was carried out manually with the unified parameters recorded in a table for each message, after which the data was summarized and the percentage of the mentioned units to the total number of language units in the messages of the respective platform was calculated.

Additionally, a cross-check with examples from scientific sources describing similar phenomena was used to comparatively assess the reliability of the results. Ethical standards are met: no message contains personal data or information that can identify the user. In the digital space, platforms demonstrate different levels of linguistic transformation, which is well illustrated in Figure 1, which presents a comparative analysis of the frequency of language changes in five categories. Visualization allows us to identify both general patterns and the specifics of each platform (see Appendix) [3], [6], [7], [17], [20].

The data analysis shows that Instagram is the leader in the frequency of using emojis and visual elements (37%), significantly outpacing other platforms. This is 32% more than on online forums (5%) and 25% more than on Telegram (12%), which indicates the prevalence of visual and emotional style in environments focused on imaginative communication. Twitter demonstrates the highest level of use of anglicisms (30%), which is 8% higher than Instagram (22%) and 15% higher than Facebook (15%). This reflects the globalized nature of Twitter, where English is often used as a universal communication code. At the same time, online forums remain the platform with the lowest rates of all language changes, with only 10% of neologisms, 5% of emojis, 12% of contractions, 15% of anglicisms, and 13% of simplified syntax, indicating a more conservative language behavior of their audience. In terms of abbreviations, the highest rate is observed on Twitter (25%), which is almost twice as high as on online forums (12%) and 5–8% higher than on Facebook and Telegram. This can be explained by the character limitations of Twitter, which force users to compress their speech to the most efficient forms. Neologisms appear most frequently on Instagram (21%) and Twitter (18%), while the lowest level is on forums (10%). Telegram and Facebook show average values (16% and 14%, respectively), which correlates with their semi-formal communication model. At the same time, simplified syntax is most typical for Twitter (27%) and Instagram (24%), which is significantly higher than the respective figures for Telegram (18%) and forums (13%).

Thus, based on these data, authors can conclude that Twitter and Instagram are the most "linguistically innovative", where users show the greatest tendency to adapt language to the requirements of fast, emotional and visually coded communication. To the least extent, these changes are characteristic of forums where the traditional structure of speech is preserved. For this reason,

these features help us follow the development of language in the digital area and come up with flexible strategies for teaching and standardizing language.

Due to the effects of digital communication on language, it is now vital to design useful ways to protect people's unique cultural heritage. Thanks to the internet, people have many more chances to grow linguistically and become more expressive. On the other hand, it poses a threat of fragmentation of norms, dominance of Anglicisms, and loss of deep cultural meanings. Therefore, it is necessary to find a balance between innovation and tradition, between the convenience of digital language and normative language practice. Below are four practical recommendations aimed at adapting linguistic practices to the digital space.

1. Create digital language guides and dictionaries of the latest forms. It is worth developing official online resources that would record and explain modern linguistic innovations (neologisms, slang, abbreviations), adapting them to the norms of the literary language. This will help not only to record language dynamics but also to provide feedback between the living language and language standards. Such dictionaries can support both regional and national language policy initiatives.

2. Integrate digital linguistics into educational programs. Ukrainian language courses should be supplemented with modules on language analysis in digital media: messengers, social networks, blogs. This will allow students to consciously use the language in online communication, recognize stylistic registers, and avoid patterned or destructive language practices. Digital competence should go hand in hand with language awareness.

3. Stimulate creative digital content in Ukrainian. Youth initiatives, media projects, blogs, and YouTube channels that produce content in Ukrainian in creative, accessible, and stylish formats should be supported. Such content helps to strengthen the prestige of the language among young people, making it relevant to digital culture and competitive alongside global media. Particular attention should be paid to topics of culture, humor, and self-expression.

4. Development of intercultural language ethics on the Internet. A culture of responsible speech in the online environment should be fostered – with respect for different language groups, avoiding language aggression, and preserving the national language face. Educational campaigns, public messages, and online etiquette should promote the ideas of linguistic tolerance and self-respect for the mother tongue in an open digital environment.

Adapting language practice to the digital environment should not be reduced to a simple reaction to trends. It should be strategic, combining innovation and national identity. Only then will the language be able not only to survive in the digital age, but also to develop as a powerful cultural resource capable of competing at the level of global discourse without losing its deeper meanings.

5. DISCUSSION

The purpose of the study was to find out how digital communication affects the transformation of linguistic norms and language culture in the context of active use of social networks, messengers and forums. The results confirmed the hypothesis of a dynamic shift in language standards towards simplification, hybridization, and emotional intensity, which is associated with new communication formats, including multimodality and visual code. The greatest changes are recorded on platforms with visually oriented content (Instagram, Twitter), which confirms the findings of Suganya [3] and Guntuku et al. [2], which point to the growing role of symbols and non-verbal elements in digital broadcasting. At the same time, the findings partially contradict the statements of Salfin, Kurniadi and Erwin [8] and Meena et al. [7], who emphasize a gradual return to standards and norms even in the digital space. Our study shows that this "rollback" to normativity is not typical for social platforms, but rather situational speech, individualization of communication style, and expressive flexibility prevail. This also correlates with the findings of Babazade [1] about the change in speakers' motivations – from the desire for correctness to the desire for effective, fast and emotionally impactful content transmission.

A number of authors [6], [22] emphasize the polarization of language practices in the digital space, especially in conflict discourses. Our study confirms this trend: platforms with a high level of personalization (Twitter, Telegram) demonstrate more manifestations of emotionally colored, simplified and aggressive speech. At the same time, online forums retain a more formalized discourse,

which coincides with Lee [13] and Abdallah et al. [15], who point to the influence of community type on language behavior. Of particular note is the comparison of our results with Cai et al. [19] and Sussman & Carter [18], who analyze the role of artificial intelligence in language transformation. Although our study did not focus on automated speech, the observed abbreviations, patterns, and reduced constructions are often the result of the influence of algorithmic logic (e.g., character limits on Twitter), which is indirectly consistent with their findings.

Thus, the results confirm the general tendency to blur the boundaries between the established linguistic norm and situational functionality, which is in line with the observations of many authors [4], [5], [17], [26]. At the same time, the study reveals the specifics of the Ukrainian segment of digital communication: a combination of anglicisms with local slangisms and the flexibility of language innovations aimed at a youth audience, which is not always fully reflected in global comparisons. A limitation of the study is the focus on short text messages, without analyzing video content, stories, or audio, which play an increasingly important role in digital broadcasting. It should also be borne in mind that the empirical data covers only one month and five platforms, so it does not cover the full range of digital practices.

Summarizing, authors can say that the results confirm the hypothesis of a deep language transformation in the context of digital communication. At the same time, preservation of linguistic identity and culture requires further interdisciplinary research, especially in the areas of integrating digital language practices into educational policy and analyzing the impact of AI on deep cognitive and linguistic processes. Concurrently, limitations and boundaries of the received results should be critically considered. In contrast to the previous researches that predominantly focused on the topic of either universal role of the English language in global communication [10], [12] or the diffusion of digital hybridization of cultures [18], [22], our results point to the specifically Ukrainian digital setting, in which anglicisms are systematically integrated into local slang and youth neologisms. This difference implies that language change is not exclusive to the global, but it is also locally constituted, a point that previous studies have lacked. Still, there are some areas of concern: the volatility of digital linguistic innovations, the threat of undermining of academic language norms, and the generational communication gaps that are to be monitored further. These areas need to be addressed in order to develop a more balanced view on the dynamics of language in the digital environment.

When it comes to validity, some threats must be mentioned. To begin with, the short span of data collection (one month) and the use of text based information might not be effective in capturing the picture multimedia and long term linguistic trends. Second, manual coding, although qualitative in nature, involves a risk of a researcher bias when coding linguistic units. Third, platform-specific conditions (e.g. the character limit of Twitter) can artificially increase the prevalence of certain phenomena (e.g. the use of abbreviations). The identification of these limitations will guarantee transparency of findings and position future studies that have the capacity to triangulate procedures and increase data.

6. CONCLUSION

The obtained results suggest that digital communication not only transforms external language forms but also rethinks the deep function of language as a tool for identification, emotional expression and social navigation. This process is accompanied by the emergence of new linguistic codes that combine elements of verbal, visual, and symbolic speech, which indicates the emergence of a new form of linguistic culture. The novelty of the study lies in the comprehensive comparative analysis of the five platforms, which allowed us to identify the specifics of linguistic behavior in each environment, as well as to trace the connection between the technical limitations of the platform and the nature of linguistic transformations. The practical significance lies in the possibility of using the results to develop language policy in the digital space, in particular in the educational process. A limitation was the focus on text messages and lexical and grammatical changes, without taking into account multimedia formats. Further research should be directed at analyzing the impact of artificial intelligence on stylistic variation in speech, as well as the intercultural correlation of digital linguistic strategies. It is also worth investigating the psychological and cognitive consequences of language fragmentation in the digital environment and developing tools for preserving linguistic identity in the face of hypermedia influence. To us, the study proves that the topicality of the digital communication is not

only the technical or linguistic change, but the radical change in the culture that redefines identities and ethics in communication. We believe that the novelty of our work is in the ability to preserve the dynamics between globalized tendencies and local language use in the Ukrainian online zone which was not always paid proper attention to in the international discourse. Although we admit the shortcomings of our dataset, we feel that this study can help put digital linguistics into perspective as an area that can be used to reconcile empirical findings with the practical policy implications.

The advantages of this research are associated with a profound comparative structure of five leading digital platforms and the combination of two linguistic and cultural aspects of communication, which provided the chance to describe the differences between platforms that had been overlooked in earlier studies. Another benefit is the attention to the Ukrainian online space which adds a regional dimension into the international discussions. Simultaneously, some weaknesses cannot be disregarded: the short time frame of data collection, the strict orientation on short text formats with no audiovisual materials, and the use of manual coding that can lead to the bias of the researcher. These limitations define the limitations of our conclusions and show that further studies should be conducted. In the future, research needs to grow the corpus, incorporating long-term effects and multimedia representation, combine mixed methods using automated and manual analysis, and investigate cognitive and psychological impacts of linguistic fragmentation. These guidelines would provide the opportunity to evaluate the soundness of our conclusions and enhance digital linguistics as an interdisciplinary area.

REFERENCES:

[1] Y. Babazade, "Digital Language Trends: How Technology is Shaping Multilingualism", *Acta Globalis Humanitatis et Linguarum*, Vol. 1, No. 1, Center for Eurasian Studies (Azerbaijan), 2024, pp. 60–70.

[2] S.C. Guntuku, M. Li, L. Tay, and L.H. Ungar, "Studying Cultural Differences in Emoji Usage Across the East and the West", *arXiv preprint* arXiv:1904.02671, Cornell University (USA), 2019.

[3] P.R. Suganya, "Shaping Language in the Digital Age: The Impact of Social Media on Modern Linguistic Practices", *SSRN Electronic Journal*, Elsevier (USA), 2025.

[4] S. Bahri, E.B. Manullang, P.S.N. Sihombing, and K.E. Eleazar, "Language Change in Social Media", *Randwick International of Social Science Journal*, Vol. 4, No. 3, Randwick International (Indonesia), 2023, pp. 713–721.

[5] C.C. Luhulima, E.R. Linuwih, and D.R. Hutagaol, "Language Change on Social Media", *International Journal of English and Applied Linguistics*, Vol. 4, No. 1, Centre for International Research Development (Nigeria), 2024, pp. 81–87.

[6] C. Danescu-Niculescu-Mizil, M. Gamon, and S. Dumais, "Mark My Words! Linguistic Style Accommodation in Social Media", *arXiv preprint* arXiv:1105.0673, Cornell University (USA), 2011.

[7] G. Meena, S. Arya, N. Janani, P. Pathak, and A. Sharma, "Language in the Digital Age: Trends and Transformations in Online Communication", *European Economic Letters*, Vol. 14, No. 1, EEL (Europe), 2024, pp. 41–46.

[8] S. Salfin, P. Kurniadi, and E. Erwin, "Language Development in the Digital Age: A Literature Review on the Influence of Technology on Human Communication", *Sciences Du Nord Humanities and Social Sciences*, Vol. 1, No. 1, Sciences Du Nord (France), 2024, pp. 1–7.

[9] G.K. Ladzekpo, C.K. Amekor, and M. Akrobotu, "Language and Communication in the Digital Age: The Study of How New Technologies and Digital Media Are Affecting Language Use, Communication Patterns, and Sociolinguistic Dynamics", *Journal of Language and Literary Studies*, Vol. 1, No. 1, Ghana Institute of Linguistics (Ghana), 2023, pp. 24–31.

[10] L. Li and X. Zheng, "Cross-cultural Communication in the Digital Age: An Analysis of Cultural Representation and Inclusivity in Emojis", *arXiv preprint* arXiv:2409.07475, Cornell University (USA), 2024.

[11] M. Park, J. Park, Y.M. Baek, and M. Macy, "Cultural Values and Cross-cultural Video Consumption on YouTube", *arXiv preprint* arXiv:1705.03154, Cornell University (USA), 2017.

[12] L. Wan, "Cultural Communication in the Digital Media Environment", *Highlights in Art and Design*, Vol. 6, No. 3, BCP Press (China), 2024, pp. 50–56.

[13] S. Lee, "The Impact of Digital Communication on Language Evolution Among Urban Youth in Singapore", *International Journal of*

Linguistics, Vol. 5, No. 2, Academy Publication (Singapore), 2024, pp. 38–48.

[14] L.L. Panjaitan and A.N. Patria, "Social Media and Language Evolution: The Impact of Digital Communication on Language Change", *International Journal of Linguistics, Literature and Translation*, Vol. 7, No. 12, Al-Kindi Center for Research (UAE), 2024, pp. 53–61.

[15] R.A.-Q. Abdallah, I.H.M. Hatamleh, Y.S. Nemer Abu Eid, and M. Mahroum, "Communication in the Digital Age: The Impact of Communication Skills and Cultural Restraint on the Use of Social Media Platforms in the Case of Jordan", *Journalism and Media*, Vol. 5, No. 3, MDPI (Switzerland), 2024, pp. 1244–1258.

[16] R. Heang and K. Chuong, "Digital Media and Its Impact on Intercultural Communication of Cambodia with China and Japan", *Open Access Library Journal*, Vol. 12, Scientific Research Publishing (USA), 2025, pp. 1–16.

[17] W. Austin and I.A. Nurcholish, "Assessing the Impact of Digital Communication on Language Processing", *Kopula: Jurnal Bahasa, Sastra dan Pendidikan*, Vol. 7, No. 1, Kopertais Wilayah XI Kalimantan (Indonesia), 2025, pp. 163–172.

[18] K. Sussman and D. Carter, "Detecting Effects of AI-mediated Communication on Language Complexity and Sentiment", *arXiv preprint* arXiv:2504.19556, Cornell University (USA), 2025.

[19] J. Cai, J. Li, M. Zhang, M. Li, C.-S. Wang, and K. Tei, "Language Evolution for Evading Social Media Regulation via LLM-based Multi-agent Simulation", *arXiv preprint* arXiv:2405.02858, Cornell University (USA), 2024.

[20] N. Di Marco, E. Loru, A. Bonetti, A.O.G. Serra, M. Cinelli, and W. Quattrociocchi, "The Evolution of Language in Social Media Comments", *arXiv preprint* arXiv:2406.11450, Cornell University (USA), 2024.

[21] J. Li, "Research on Immersive Digital Cultural Communication System for Local Language and Culture", *3C Empresa: Investigación y Pensamiento Crítico*, Vol. 13, No. 1, 3Ciencias (Spain), 2024, pp. 157–174.

[22] A. Karjus and C. Cuskley, "Evolving Linguistic Divergence on Polarizing Social Media", *arXiv preprint* arXiv:2309.01659, Cornell University (USA), 2023.

[23] N.V. Derstuganova, "Scientific and Pedagogical Activity: Actualization of the Concept in the Training of Doctor of Philosophy Applicants", *Proceedings of the International Scientific and Practical Conference: Current State and Trends in the Development of Science and Education*, International Humanitarian Research Center (Ukraine), December 30, 2023, pp. 15–18.

[24] I. Bakhov, Y. Rudenko, A. Dudnik, N. Dehtiarova, and S. Petrenko, "Problems of Teaching Future Teachers of Humanities the Basics of Fuzzy Logic and Ways to Overcome Them", *International Journal of Early Childhood Special Education*, Vol. 13, No. 2, INT-JECSE (Turkey), 2021, pp. 844–854

[25] N. Akimova, A. Akimova, and A. Akimova, "Specificity of Internet Texts Understanding in Youth Age", *Psycholinguistics*, Vol. 32, No. 1, Pereiaslav-Khmelnytskyi Hryhorii Skovoroda State Pedagogical University (Ukraine), 2022, pp. 6–28.

[26] N. Akimova, A. Akimova, and A. Akimova, "The Study of the Genesis of Internet Texts Understanding in Adolescence Depending on the Level of Mental and Speech Development", *Psycholinguistics*, Vol. 31, No. 1, Pereiaslav-Khmelnytskyi Hryhorii Skovoroda State Pedagogical University (Ukraine), 2022, pp. 6–24.

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APPENDIX

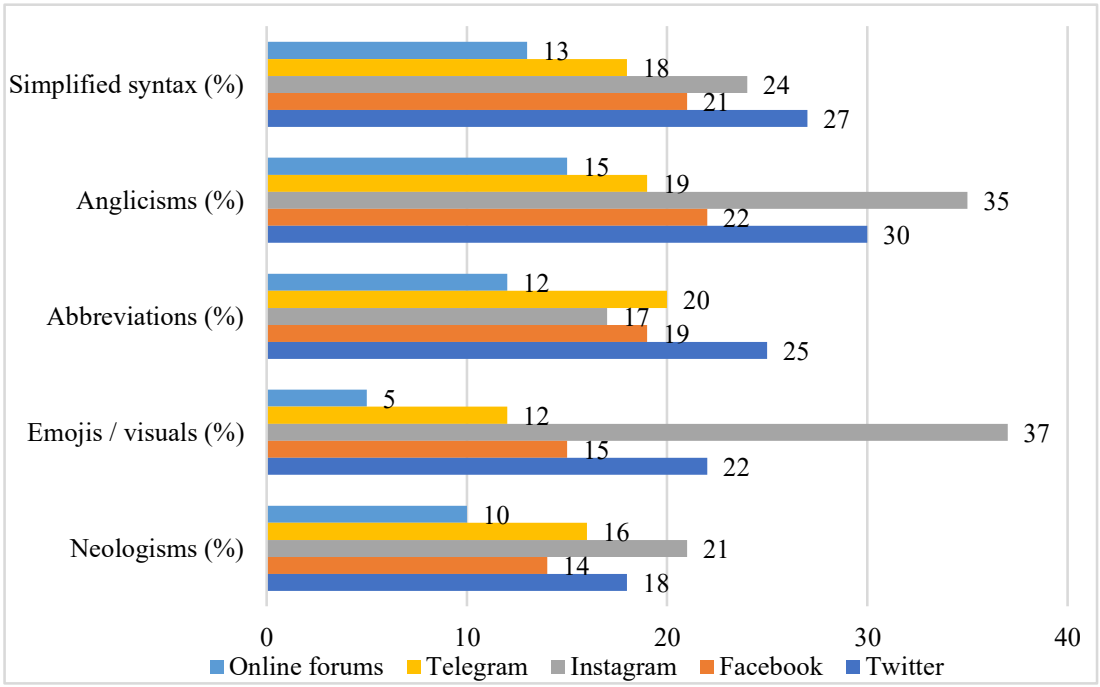

Figure 1. Frequency distribution of language changes in digital platforms, %.
Source created by the author based on Austin & Nurcholish [17], Di Marco et al. [20], Danescu-Niculescu-Mizil et al. [6], Suganya [3], Meena et al. [7].