Digital Communication And The Evolution Of Language: A Sociolinguistic Analysis Of Online Interactions

Ahsan Mukhtar (Corresponding author)[1] , Tanveer Fatima[2] , Tanveer Fatima[3]

Abstract

This paper aims at giving a detailed description of the use of language in different aspect in computerized communication, with reference to its sociolinguistic consequences. It also examines the development of new socio-political artifacts including using abbreviations in communication, using emojis, and other types of multimodal communication that characterize modern civilized world's communication. The work engages with the question of how the confines of digital media – for example, the character limit of Twitter, have impacted on the morphology and functionality of language, hence resulting in shorter and sometimes innovative modes of communication. Furthermore, the paper explores the practice of code switching and language blending especially in social media sites where individuals in the[1] course of their communicating shift between one lang from another. It also reviews the social consequences of these shifts in linguistic patterns, with focus on identity representation and formation, as well as building of various forms of new digital dialects. This paper will then consider long-term implications of digital communication on the diachronic changes of language and the value of developing knowledge on the same within the sociolinguistic framework.

Keywords: Digital communication, language evolution, sociolinguistics, online interactions, abbreviations, emojis, multimodal communication, code-switching, social media, digital dialects.

I. Introduction

Things that may have started with IM and SMS have today developed into fundamental ways of using language and therefore new forms of language usage and communication. This chapter focuses on the role of digital communication along with technological advancement in shaping the language by giving sociolinguistic account of the change. New dynamics of language use have been named through new media platforms including the use of abbreviations, the use of emojis, and the use of social media language through the use of hashtags among others as identified by Crystal, (2006). Such shifts should be viewed as a part of the distinct trend in the evolution of language: the usage of language in new communicative contexts —″ flexibility of language in the net-communicative environment where conciseness and speed are valued excessively (Baron, 2008). In addition, digital communication makes a strong distinction between writing and speaking impossible as people employ bases of both in their written communication; the use of casually written informal language in writing, for instance,

[1]Associate Professor,Department of English Language and Literature Government Shah Hussain Associate College, Lahore, Punjab.
[2]Associate Professor Department of Applied Psychology Govt. Queen Mary Graduate College, Lahore, Pakistan.
[3]Lecturer Department of Pakistan Studies National University of Modern Languages, Lahore, Pakistan.

(Tagliamonte & Denis, 2008). This evolution has also helped in decentralizing the usage of language since users from different linguistic backgrounds are able to engage in the international discussions hence promoting transfer of these changes between language and cultures exists (Androutsopoulos, 2015). Although such changes have been noted over time, the tempo to which they are being effected has been rised, thus, cause anxieties concerning the obsolesce of traditional language standards and its impact to language diversity (Thurlow, & Mroczek, 2011). These dynamics are the focus of this chapter, as the study presents an overview of transformation that digital communication brings to language in the modern world.

Social media and other types of digital networks are pervasive elements of modern society; they have fundamentally transformed the interactions and informational exchanges as well as people's means of personal self-presentation. These applications are social accounts such as Face book and Tweeter; messaging applications such as Was App and We Chat and online discussions forums including Reddits, they have introduced new territories in the social communication that employs languages which are extra geographical and cultural (Boyd & Ellison, 2007). These platforms have introduced new forms of communication that extend extends the texts and images and technology has enabled those involved to make real time communications across large distances. It has resulted in a number of quite specific linguistic novelties within the field of semio-communication – the use of emoticons, GIFs, memes, and the like as both linguistic and cultural indicators within the sphere of online communication (Danesi, 2017). Also, most electronic media are characterized by synchronous communication which allows individuals to plan their messages in a keen manner thus creating unique online identities and patterns of communication (Page, 2012). It is therefore paramount to unravel how these platforms work to appreciate how they induce change in the actual use of language and other peculiarities of contemporary linguistic maturation.

The coming of the digital age has brought changes that have not been observed in the past making it even more important to understand the advances made in languages. Since digital communication is steadily evolving into a universal part of people's life, it presents an essential avenue through which languages evolve (Crystal, 2006). It is important for several reasons to investigate language change particularly in the modern world with focus on new technologies. First, it allows linguists to see how a new technology affects language usage in terms of how new lexis enters the language, how new grammar develops and how new pragmatic norms are established (Baron, 2008). Second, it casts light on the social consequences of these changes, this is in relation to how the digital communication alters modes of interaction and informs identity processes (Androutsopoulos, 2015). In addition, this area of study applies to the ongoing debate of language maintenance and evolution, as well as the awareness of how and what new media affects language and minority languages' sustainability (Thurlow & Mroczek, 2011). Analyzing such dynamics, it is possible to reveal more about the interconnection between technology and language, and how technology-driven communication is developing in the future.

This review will focus on three questions: What changes to the specifics of language use can be attributed to contemporary technological advances? How digital communication influences metamorphosis of language? There are three basic goals: the first is to determine the essential and most typical linguistic shifts completed by digital platforms, the second is to consider the social and cultural consequences of these shifts, the third is to observe the overall effects of the digital communication on the linguistic variability and language conservation. It is going to be not only a review of particular social network or a messaging application, but it is also going to address different perspectives of language change in the global and local context with reference to Tagliamonte & Denis, 2008. Concerning the framework of the review, the focus is taken on new linguistic forms and structures which have appeared in the process of digital

communication, for instance, the experiences with internet slang, abbreviations, and emojis as non-verbal signs (Danesi, 2017). Further, the review will also examine the effects of the digital communication in social identity and cultural practices especially with regard to extant use of the language in defining their online personalities (Hossain &claims; Page, 2012). Thus, using the results of the current research, review aims at offering comprehensive understanding of the changes language undergoes presently as a result of technology.

II. Theoretical Background

Sociolinguistics can provide the much-needed theorization of the processes of language change given the crucial role they play in terms of relating linguistic forms to social structures. From the sociolinguistic point of view language change is not a slow process of development of tendencies in linguistic forms but developmental changes in social factors such as cultural and power transformations and identity politics (Labov, 1994). Integral to this point of view is the notion of the linguistic wave, a process through which, variation in language, social groups, and area and usage and a catalyst of language change. For instance, when specific patterns of language usage become characteristic of socially dominant groups, these features are taken up and are in due course institutionalized; conversely, features characteristic of subordinate groups either become deprecated or are maintained as stigmatized markers of group identity (Eckert, 2000). In addition, sociolinguistic research has also shown that social networks either encourage or discourage change as close-knit people are highly resistant to other types of normative forces (Milroy & Milroy, 1985). To these views, it is clear that the social dynamics determine the processes of language change at any given time, especially where new trends in communication are constantly developing.

Communicational technologies have provided a major contribution to the development of language, especially where new media technologies have brought in new media linguistics usage. Crystal (2006) noted that globalization, particularly through advancement in information and communication technology such as internet and mobile communication, has enhanced language change through creating a venue for fast and wide spread diffusion of linguistic change. These technologies allow the creation of virtual environments that users build and can adopt new words abbreviations and signs that do not respect the linguistic or cultural boundary (Baron, 2008). Another reason that relates to the usage of the Internet as a primary medium for communication is the possibility to write messages that are casual and synchronous at the same time, due tothe reflectivity of the language and the further development of the features that are specific to both, written and spoken language (Tagliamonte & Denis 2008). Also, due to advancement in technology, many people who were not privileged to play a role in shaping the language can as do today (Herring, 2001). To this end, this democratization has facilitated the overall expansion of non-standard forms and further the emergence of new norms that do not conform to the traditional standards of language stratification (Danet and Herring 2007, p. 43). Consequently, according to the analysis, technology drives not only the rhythm of language change but also determines directions, the consideration of which makes the study of technology in the context of the modern sociolinguistic phenomena essential.

Digital literacy and multimodal communication are components that are perceived to play a critical role especially in defining how people cope with meaning making in the current society. It is not just the technical ability to use the tools, which due to authors such as Sung and Hung (2012) and Jones and Hafner (2012) refer to as digital literacy. This idea can be especially important in sociolinguistic perspective because digital literacy includes not only such skills as the ability to use the particular software tools and applications, but also reading and writing skills in different media forms of texts as texts in digital media context are not only the written

texts, but also images and other semiotic means (Lankshear & Knobel, 2008). In contrast, multimodal communication occurs when a number of modes of interaction are used, for instance, when visual, acoustic, and written facets are utilized in the same conversation (Kress, 2010). It is important to note that, in digital spaces, people use multiple modalities as texts are combined with emojis, images, videos and hyperlinks to mean more (Jewitt, 2009). Such practices allegories contemporary communication practices as new norms of meaning making where semiotic resources are put concurrently into use. It is therefore important to grasp the two ideas of digital literacy and multimodal communication in relation to language change because they both point out the fact that meaning-making in the contemporary society is multifaceted and layered.

III. Linguistic Features of Digital Communication

In the present ways of flexible communication that PC nowadays provide, people observe new standards of written language. A very obvious and one that has been worsened by the advancement of information technology and communication is the relaxation in the use of abbreviation of different words and phrases including acronyms as evident by the phrases: LOL and BRB; Crystal (2006). In addition to such textual shortcuts, emojis have become a means of making emotional and paralinguistic connotations of the messages, which in other cases may be difficult to convey through communication that is based on texts (Danesi, 2017). Basically emojis are used as illustrations of what would be written using symbols and at times act as additional information that complements the written symbols to form more elaborate messages which are referred to as Mult semiotic messages (Evans, 2017). These new linguistic forms are not arbitrary; they are restricted by new norms that the users regulate and follow in as per their convenience on the particular media. The changes that these norms exhibit perfectly demonstrate the dynamics that characterizes language and its propensity to conform to the opportunities and challenges presented by the media technologies and hence digital media forms part and parcel of media technologies, a rich breeding ground for language innovations.

These restrictions along with character limits, the conversational features of instant messaging have impacted the nature of language in computed communication influenced. Sites such as twitter over the years from the initial character limit of 140 (now 280) characters forced users into certain ways of writing and reasoning and thus required language condensation (Tagliamonte & Denis, 2008). This has also contributed to the use of only what is necessary, thus enhancing the use of what can be referred to as telegraphese, that is, structures that in one way or the other tend to produce what could be termed as 'telegram' kind of language that does not stress on producing grammatically correct sentences (Squires, 2010). A kind of conversation called instant messaging has also continued to define new language use given that it involves lots of quick exchanges thus supporting informal, conversational language forms that are closer to spoken language than the standard written forms (Baron, 2008). These platforms have also created new sentence structures and punctuations for example, the use of an Ellipsis to express an interrupted thought, forgetting capital letters to express a lay back tone (Crystal, 2006). These features of digital characterization show how linguistic practices can undergo systematic change when new technologies of communication are introduced, thus inculcating the fact that the current digital communication practices are still a growing factor to the shaping of language.

Synchronizing or the use of more than one language in a post or in a conversation has also emerged and is common practice and widespread indicating flexibility in the use of language in the new media. Communication media available nowadays like social networks and messaging applications can present an environment where the speakers of different Ls can communicate with each other and therefore, the use of different languages can intertwine in a

single conversation or even a single message (Androutsopoulos, 2015). Code-switching – the process where individuals move from one language to another – is usual in such computer-mediated exchanges and does depend on the topic, partners or the type of CMC the individuals are using (Gumperz, 1982). This means that users can slide in between different cultures as well as social relations you learn that the use of language in the social media age is quite fluid and dynamic (Sebba et al., 2012). Furthermore, what can be noted is that bilingual or multi-lingual interlocutions often throw light on the fact that language blending, that is, the use of elements of different languages within the same sentence or within a single word has become characteristic of Internet communication. This phenomenon is indicative of the users' linguistic resources as well as of cultural hybridity that can be observed in online contexts (Danet & Herring, 2007). Code-switching and language mixing in contexts of CMC provide a rich understanding of how computer-mediated communication encourages formation of new language styles which are best described as the negotiations and amalgamation of a number of linguistic forms.

IV. Social Implications of Digital Language Use

Language is central to the construction and portrayal of identity in cyberspace, as people are able to selectively represent different parts of personal identity to multiple referent other in web sphere. Specifically, the concept of 'identity tourism' which Turkle describes means that users can easily manipulate their avatars, their personas, and sometimes merge real life situations with virtual ones in accordance with the specific context of a given community. For instance, the choice of language, tone, the kind of emojis or slangs used are likely to affirm the cultural or social group to which one belongs to hence; strengthening one's identity in the respective groups (Page, 2012). In addition, digital communication means the ability to present multiple selves, as a user is constantly switching between platforms and audiences and how he or she acts linguistically in each context (boyd, 2014). This flexibility is indicative of the constructs of identity as process-bound and performatively situated in the digital media age, of which sociology and linguistics stand as central means. The analysis of identity in the context of online interaction is therefore gives important information about how people might use language for the creation and continuation of their socially relevant roles in the increasingly complex environment of mediated communication.

The dialects developed online are language varieties that are particular to specific identity, interest or functional online groups comprised of persons with similar objectives. These are Digital dialects which have features of vocabulary, style and usage in line with the community's norms, tune and personality (Herring, 2001). For instance, youths in the gaming subculture have their camps of words, acronyms and jokes that can only be understood by members of the subculture and it is efficient for communication as well as a subcultural capital (Tagliamonte & Denis, 2008). Likewise, cultural references in fandom communities could be approximately same phrases and modes of communication which would emphasize their identity and oppose to a different group (Barton & Lee, 2013). These cases demonstrate how new dialects are created through the process of sociolinguistic change that is characteristic of the given online communities, where people engage in the linguistic construction of the social world that they create and inhabit. That's why studying these dialects gives the idea about how language and community are connected during the time when people are getting involved in the internet.

Technology has changed the social interactions among people thus bringing a new way of interacting and maintaining relationships despite barriers in space and time. The nature of social media has made it easier for people to remain connected with one another and with friends, family, or even folks one may not know particularly well, due to decrease in the importance of

geographical proximity (Baym, 2015). Nonetheless, the type of interactions that take place in CYB are usually not the same as traditional interpersonal communications because the latter are usually more in-depth and less frequent (Walther, 1996). It has brought about new ways of relating socially particularly in work places where social ties are brief, periodic and often through social networking sites referred to as ''weak ties '' by Granovetter (1973). Although these connections can generate valuable social capital, it has been argued that the strength of the connection of a tie is weakened by digital communication: While it is easy to maintain these weak ties endlessly, any particular tie will not deepen into a closer friendship over time, rather, such relationships are displaced through technology by more substantial offline ones (Turkle, 2011). However, social isolation is just one negative aspect of the Digital communication, in the same way, this technology has helped in the formation of new communities like support networks especially for those people who are prone to be alone in their day to day life.

V. Evidence From Case Studies

Hashtag and language use especially in micro blogging sites like twitter and Instagram has emerged as an area of interest in sociolinguistic studies as the platforms have an impact on how communication occurs. Originally, the characters were limited on Twitter which dictated formation of the shortened forms, innovative approach to hashtags, the usage of the symbols and emojis as the primary tools for the diverse messages' communication (Zappavigna, 2015). This constructiveness is in addition compounded by the fact that Twitter is an open platform and creates a fluidity of language purposely used to establish solidarity with a specific group or cause as noted by Page (2012) on the performative nature of Language. Instagram, unlike twitter and its text-based platform, involves a different kind of interaction with language as captions, hashtags and comments are written and combined with images to form multiple presentations in a single post (Lee 2020). Here the language is less formal and is more geared towards creating an ad and as such compliments the visual content; this is synonymous with the platform's curating of lifestyles and personal influence. The two platforms show how technological contexts impact on linguistic decisions and are part of the include/discuss the formation of norms and practices in technogenic in online communication.

The language incorporated by the participants of online gaming and virtual worlds provides a good ground for understanding how such settings develop special patterns of languages and interactions. Specifically, within these contexts, language is both a way of negotiating meanings and an object through which immersed contexts within the game's storyline and sociotype are constructed (Gee, 2003). Players of games create subculture with terms and language that comprises both jargon and acronyms and slang words that allow for efficient language during gameplays (Reinhardt, 2019). For instance, professional multiplayer video games like World of Warcraft or Fortnite, participants are always involved in 'in-game' chats, which contain educational instructions or straightforward chatting as well as competition purposes (Peterson, 2016). Further, many virtual worlds are open for cooperation and represent closely-knit communities in which language practices strengthen the feeling of belonging to a particular group. These features of voice chat, text messages, even gesture in these games speak louder of the integrated nature of human communication in computer mediated environments where they are forced to manage social relations using verbal and non verbal forms.

Cross cultural analysis of language in the context of new media unveil sharp differences in different linguistic community's ability and propensity to embrace new media languages. These studies demonstrate another layer of co-constructed interaction between global and parochial digital platforms and local bureaucratic and linguistic cultural practices that shape the use of language on the internet (Androutsopoulos, 2015). For instance, only the studies of social media usage in comparing the western and the eastern contexts have shown that although

English imposes dominance over international practice of discourse, other languages and regional boundaries influence the content and language styles considerably (Danet & Herring, 2007). In China, mandarin language usage is traditional in WeChat similar to English language and in addition, Martian language, a racy character also graced in social platforms as a symbol of creativity and identity of their groups (Zhang & Wu, 2017). As it was established earlier, research also reveals that in multilingual contexts such as India, social media interactions entail shift between English and local languages because of the country's diverse linguistic environment (McClung & Jenkins, 2018). Such comparisons highlight the need to want for cultural and linguistic difference in understanding the management of digital language in the global arena.

VI. Challenges and Criticisms

Technology has been widely embraced in the new millennium and one of the major issues that has been raised over the use of technology in communication particularly through the use of digital media is that the use of technology in particular is bound to lead to the deterioration of language. Some scholars pointed to the fact that the possibility to write only up to 140 characters at a time, which is characteristic of platforms such as Twitter, as well as the writing of texts in Instant Messaging or Texting profoundly distorted traditional language skills, including grammar, spelling, and vocabulary (Squires, 2010). The shortening of words and phrases through the use of abbreviation, acronyms and emojis is another common lament that these constitute this degradation since they aid in simplification of complex concepts and impoverishment of language (Crystal, 2006). However, there is a fear that due to the leading position of English in different forms of interaction, the prevalence of this language is leading to the erosion of other languages and reducing the use of additional languages (Thurlow & Mroczek, 2011). Such concerns raise important questions that call for a balanced view as to how such digital language can be used positively to enhance innovation while at the same time minimizing the potential harm that digital language may pose to the expressiveness of language. The positive effects of digital communication on language include the development of new types of communication while it is proper to evaluate the effect of digital communication on the large linguistic area and the richness of language traditions.

The term 'digital divide' is used in relation to a group of people with access to specific technologies and those without it creates difficulties in delivering linguistic resources and individuals' presence to the digital sphere. This division is usually based on socio-economic status whereby a vulnerable group of individuals is often denied an opportunity to use internet as well as the language it offers (Warschauer, 2004). Thus, scholars claimed that people without any Internet connection will be locked out from the new language and possible linguistic development in the new media platforms; in this way, those already on the social and linguistic peripheries of society are pushed further out (Hargittai, 2003). In parallel, digital divide can increase language unfairness since well-established languages such as English or Spanish among others present in a lot of digital applications, media and communication tools more than the smaller languages, the later will also be less equipped, supplied and sponsored by related tools, contents and communities (Graham and Hogan 2020). It is also necessary to discuss the concept of the digital divide as the question of how to assist populations in achieving greater access to technology and how to support digital platforms that would encourage diverse languages to flourish are also pertinent issues.

Several ethical concerns are thrown up by research that examines language use on the internet, especially where issues of privacy, consent, and participants' portrayal are concerned. Because people are communicating through technology and inversing more of their personal lives online, the process of analyzing digital communication raises a question of whether or not it is

more appropriate to categorize such Kind of communication as private or public data (Markham & Buchanan, 2012). One of the limitations in online research is getting informed consent from the participants especially in large group, social sites where user identities are fake or the fake identities are used (Zimmer, 2010). Besides, another critical issue is that ethical issues in linguistic analysis are apparent when the researchers analyze language for marginalized or vulnerable communities because such representation in studies can have a social impact (Eynon et al., 2009). Researchers face these dilemmas to resolve them by proposing efficient ways of conducting this research with full respect to the autonomy and privacy of the participants though achieving significant contributions to understanding practices of digital languages. Ethical research practices are very important for the validity of scientific research in the digital context especially for the relationship that researchers build with the online communities.

VII. Future Directions

Thus, with the passage of time it will remain possible to consider that digital spaces remain active areas that allow creating new linguistic forms and practices. The constant advancement in the technologies like AR and VR change the ways people communicate and hence generate the new possibilities to reform the language use or create the new language combinations which will allow the users to interact through the spoken and written effects, as well as the ones which are based on the correct usage of the graphics. As voice recognition and real time translation increases in the use of multimodal communication tools this will eventually give rise to hybrid language and dialects as a result of the interconnectivity (Danesi, 2017). Furthermore, as digital platforms incorporate more context-sensitive mechanisms of personalization we can expect further evolution of code-switching and language mixing for fulfilling the needs and adopting to users' identities in real time by means of different digital media platforms (Androutsopoulos, 2015). These potential developments demonstrate that language is far from becoming static in digital media which still has an open potential for newly invented linguistic creativity.

Language is getting influenced more today by AI and Machine Learning in general and in particular through the techniques of natural language processing (NLP). Such technologies as automatic translation services, voice recognition systems and text prediction are not only changing the ways people interact but are also playing a role in language development with translator and machine learning not only as byproducts of such technologies but also as languages in their own right (Halevy, Norvig, & Pereira, 2009). With capabilities to learn from the amounts of data, AI systems can learn about the new emerging trends in linguistic and can disseminate the same at a much faster pace across languages and geographies, as far as new words, phrases, and grammatical structures are concerned (Bender & Koller, 2020). Thus, while human-AI collaborative interaction in language resources means standardization of some forms of language use and may result in exclusion of other, non-mainstream forms, questions of linguistic diversity and minority languages' protection are emerging (Birhane, 2021). Thus, it is clear that the contribution of AI to the future development of language will be highly important so that both sociolinguists and IT specialists should pay proper attention to this particular aspect.

The constant shift in new media language and the introduction of new technology in communicational tools shape sociolinguistic study and learning. For researchers, the task will be to find the ways to enhance the methodologies which could reflect the specifics of digital communication; analyze the multimodal data; consider the influence of AI on language practices (Blommaert, 2018). This shift will call for more investment on interdisciplinary theories ensuing from linguistics, computer science and communication studies in an endeavor to explain how language changes in the digital environment (Tagliamonte, 2016). As for

education, more attention is being paid to seizing new media literacy and critical language awareness within programmers and curricula that would prepare students for understanding and interpreting the new global and local language use as a communicative practice (Jones & Hafner, 2012). Teachers will have to integrate and discuss the ethical and social aspects of AI in language use therefore helping students to respond to how technology shapes and impacts communication and their identity. Since the role of digital communication is only set to grow in the future, so too must sociolinguistics and each field has to remain relevant to and functional in societies of the present time.

VIII. Conclusion

This chapter has discussed, how new media has facilitated and impacted the change and development of communicative language and showed innovative opportunities as well as problems associated with digital media. Research data shows that technology has greatly influenced conventional linguistic standards in the sense that, new forms of language have emerged including abbreviations, emojis and a fused hybrid language to capture the dynamic online response nature of the new and multiple media language (Crystal, 2006; Danesi, 2017). The examination of language practices used in social networks, in connection with gaming communities shows that such environments encourage innovative uses of language and create new dialects which reflect the social relations of these media spaces. Finally, the chapter has also responded to the issues of language degradation and digital divide, called for integration of multilingualism and for equal availability of technology resources (Squires, 2010; Warschauer, 2004). In conclusion, the study highlights that the relationship between technology and the language is vast and consequently, there is need for more research in order to facilitate understanding of these issues.

As we will see from the examples in this article, language is not a rigid medium which has not changed when people moved from the era of using writing products to digital and social media. The novel findings and intents demonstrated that the linguistic behaviors depend on the digital technologies, which form more essential components of the daily experiences; thus, language remains dynamic to meet the demands of that context while incorporating a synchronizing conventional and newly-emerged digitally-mediated features (Baron, 2008). This evolution raises questions for studying the future of language since it has fast evolved within a short period and brings up issues with how closely it is glued to invention or how much the variations in languages are valued (Herring, 2001). When it comes to the language, people always have concerns that the language is degrading, whilst acknowledging the creative possibility of the new media technology in terms of redefining the ways individuals express their identity and engage with others (Page, 2012). It may therefore be said that the digital age has therefore emerged as a formative phase in language learning and use with affordances and constraints that must not be taken lightly by linguists, educators and policy makers.

Further research should attempt to sustain the discussion of digital language use in the light of the new tendencies such as AI and auto-learning. Studying how these technologies may intersect with the standardization and creativity and/or diversification of language will be important for understanding how these technologies may cumulatively change our use of language (Bender & Koller, 2020). Furthermore, it is possible to mention the comparative analysis of findings obtained in different cultures and languages that outline both general and culture-specific patterns of using social media and CMC (Androutsopoulos, 2015). Researcher should also consider the ethical issues involved in the analysis of online language and these are evident in the issues of privacy, informed consent and diverse communities (Markham & Buchanan, 2012). By addressing these areas, the future research can help to enhance the

understanding how technology and language interact, and help to make the technology mediated communication continue to be the site of language innovation and linguistic variety.

References

1. Androutsopoulos, J. (2015). Networked multilingualism: Some language practices on Facebook and their implications. International Journal of Bilingualism, 19(2), 185-205.
2. Baron, N.S. (2008). Always on: Language in an online and mobile world. Oxford University Press.
3. Baym, N.K. (2015). Personal connections in the digital age (2nd ed.). Polity Press.
4. Bender, E.M., & Koller, A. (2020). Climbing towards NLU: On meaning, form, and understanding in the age of data. Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics, 5185-5198.
5. Birhane, A. (2021). Algorithmic injustice: A relational ethics approach. Patterns, 2(2), 100205.
6. Blommaert, J. (2018). Durkheim and the Internet: On sociolinguistics and the sociological imagination. Bloomsbury Academic.
7. boyd, d. (2014). It's complicated: The social lives of networked teens. Yale University Press.
8. Boyd, D.M., & Ellison, N.B. (2007). Social network sites: Definition, history, and scholarship. Journal of Computer-Mediated Communication, 13(1), 210-230.
9. Crystal, D. (2006). Language and the internet (2nd ed.). Cambridge University Press.
10. Danesi, M. (2017). The semiotics of emoji: The rise of visual language in the age of the internet. Bloomsbury Publishing.
11. Danet, B., & Herring, S.C. (2007). The multilingual internet: Language, culture, and communication online. Oxford University Press.
12. Eckert, P. (2000). Linguistic variation as social practice: The linguistic construction of identity in Belten High. Blackwell.
13. Evans, V. (2017). The emoji code: The linguistics behind smiley faces and scaredy cats. Picador.
14. Eynon, R., Schroeder, R., & Fry, J. (2009). New techniques in online research: Challenges for research ethics. 20th Annual Conference of the Association of Internet Researchers (AoIR), Milwaukee.
15. Gee, J.P. (2003). What video games have to teach us about learning and literacy. Palgrave Macmillan.
16. Graham, M., & Hogan, B. (2020). Digital divides and the future of linguistic diversity. Internet Policy Review, 9(1), 1-19.
17. Granovetter, M.S. (1973). The strength of weak ties. American Journal of Sociology, 78(6), 1360-1380.
18. Gumperz, J.J. (1982). Discourse strategies. Cambridge University Press.
19. Halevy, A., Norvig, P., & Pereira, F. (2009). The unreasonable effectiveness of data. IEEE Intelligent Systems, 24(2), 8-12.
20. Hargittai, E. (2003). The digital divide and what to do about it. In D.C. Jones (Ed.), The new economy handbook (pp. 821-839). Elsevier Academic Press.
21. Herring, S.C. (2001). Computer-mediated discourse. In D. Tannen, D. Schiffrin, & H. Hamilton (Eds.), The handbook of discourse analysis (pp. 612-634). Blackwell.
22. Jewitt, C. (2009). The Routledge handbook of multimodal analysis. Routledge.
23. Jones, R.H., & Hafner, C.A. (2012). Understanding digital literacies: A practical introduction. Routledge.
24. Kress, G. (2010). Multimodality: A social semiotic approach to contemporary communication. Routledge.
25. Labov, W. (1994). Principles of linguistic change, Volume 1: Internal factors. Blackwell.
26. Lankshear, C., & Knobel, M. (2008). Digital literacies: Concepts, policies and practices. Peter Lang.
27. Lee, C. (2020). Multimodal communication on Instagram: Semiotic resources and language play in the construction of digital identities. Discourse, Context & Media, 35, 100379.
28. Markham, A.N., & Buchanan, E. (2012). Ethical decision-making and internet research: Recommendations from the AoIR ethics working committee. Association of Internet Researchers.

29. McClung, S., & Jenkins, H. (2018). Language and identity in Indian social media: A study of multilingualism on Facebook. Journal of Multilingual and Multicultural Development, 39(4), 331-345.
30. Milroy, L., & Milroy, J. (1985). Linguistic change, social network, and speaker innovation. Journal of Linguistics, 21(2), 339-384.
31. Page, R. (2012). Stories and social media: Identities and interaction. Routledge.
32. Peterson, M. (2016). Learner interaction in a massively multiplayer online role-playing game (MMORPG): A sociocultural discourse analysis. ReCALL, 28(1), 122-138.
33. Reinhardt, J. (2019). Gameful second and foreign language teaching and learning: Theory, research, and practice. Springer.
34. Sebba, M., Mahootian, S., & Jonsson, C. (2012). Language mixing and code-switching in writing: Approaches to mixed-language written discourse. Routledge.
35. Squires, L. (2010). Enregistering internet language. Language in Society, 39(4), 457-492.
36. Tagliamonte, S.A. (2016). So sick or so cool? The language of youth on the Internet. In Teen talk: The language of adolescents (pp. 106-127). Cambridge University Press.
37. Thurlow, C., & Mroczek, K. (Eds.). (2011). Digital discourse: Language in the new media. Oxford University Press.
38. Trudgill, P. (2000). Sociolinguistics: An introduction to language and society (4th ed.). Penguin Books.
39. Turkle, S. (1995). Life on the screen: Identity in the age of the internet. Simon & Schuster.
40. Turkle, S. (2011). Alone together: Why we expect more from technology and less from each other. Basic Books.
41. Walther, J.B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. Communication Research, 23(1), 3-43.
42. Warschauer, M. (2004). Technology and social inclusion: Rethinking the digital divide. MIT Press.
43. Zappavigna, M. (2015). Searchable talk: The linguistic functions of hashtags. Social Semiotics, 25(3), 274-291.
44. Zhang, Q., & Wu, Y. (2017). The creation and dissemination of Martian language in Chinese digital communication. Journal of Language and Politics, 16(4), 536-554.
45. Zimmer, M. (2010). But the data is already public: On the ethics of research in Facebook. Ethics and Information Technology, 12(4), 313-325.