

# **Ecolinguistic Explorations of Computer-Mediated Communication in Language Learning**

**Alina Andreea Dragoescu Urlica and Marta Bogusławska-Tafelska\***

**Abstract:** In the present paper, we formulate the working hypothesis that computer-mediated communication (CMC) used for the purpose of language learning, as well as communicative processes via a selection of popular technological devices, activates the multimodal communication mechanism in human communicators. This study draws on the background of several basic features of interpersonal communication we explored in previous studies (Bogusławska-Tafelska 2013, 2015; Bogusławska-Tafelska, Dragoescu Urlica & Malenko 2020). The theoretical proposal is followed by a concise presentation of the research results collected in a pilot study in the student community of the USAMVBT ‘King Michael I of Romania’ from Timișoara, Romania.

**Keywords:** computer-mediated communication (CMC), ecolinguistics, multimodal communication, evolution

## **INTRODUCTION**

Computer-mediated communication (CMC) has been receiving attention from researchers across domains of study due to the recent rise of virtual learning, as well as a wider popularity in western communities of communicators. An unprecedented peak has undoubtedly been reached during the year 2020, as a result of the global lockdown and of the epidemiological safety procedures undertaken internationally. The most prevalent applications employed worldwide include the synchronous networking of computers, which has enabled many-to-many communicator exchanges; this was a

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\* Alina Andreea Dragoescu Urlica (✉)

Banat University of Agricultural Sciences and Veterinary Medicine of Timișoara, Romania

e-mail: andreeadragoescu@yahoo.com

Marta Bogusławska-Tafelska (✉)

Łomża State University of Applied Sciences, Poland

e-mail: martabogusławska@o2.pl

primary modality for learning during the better part of the experimental year 2020. This also serves as the setting for our experimental research and qualitative analysis with groups of university students using real-time applications to learn English for Specific Purposes during their first year of study.

Scientific research in electronic communication – initially in formal, business communication – goes back to the 1980's (Gimenez 2012). The first studies in electronically-mediated communication (EMC) were more technical in focus so as “to establish the communication ‘capacity’ of the new medium” (Ibid, 3). After these first explorations, Enterprise Social Networking (ESN) such as YouTube, Twitter and Facebook became the research topics as well. When the research intensified, starting in the 1990's, linguists were addressing such theoretical linguistic and communicational aspects of CMC as professional discourse realised via electronic devices, communication patterns in CMC, discursive strategies, and the pedagogical implications.

More recent research widens the scope of reference to include not only structural and formal aspects of texting and electronic messaging, but also psycholinguistic and ecolinguistic research on how processes work to establish emotional or intuitive bond between communicators. The present paper addresses the very topic of the interpersonal communicative bond and overall communication success in CMC. Specifically, we will look at the possibility of the non-cognitive communication modalities (Boguslawska-Tafelska 2016, 2017, 2020a, 2020b) being the active mechanisms in electronically-mediated communication; and allowing the psycholinguistic and emotional connection to be successfully established between the communicators engaged in CMC.

This paper presents the results of our preliminary study done in the community of students of the Banat's University of Natural Sciences USAMVBT ‘King Michael I of Romania’ from Timisoara, Romania. The study sets out to explore if and how the cognitive and non-cognitive communication modalities manifest themselves in this type of communication. The pilot study we present below is aimed at opening the discussion in ecolinguistic language studies about the evolutionary changes in interpersonal communication styles and possibilities accelerated by the recent ecosystemic changes. Specifically, we intend to delineate a research pathway to explore the ecolinguistic multimodality model of human communication, in which

material forms of the language system are not predominant but only co-generating communication signs. The system of language, as we re-envision it, is to be replaced by the life process of relating; or ‘*linguaging*’, which is proposed by some other ecolinguists (Cowley 2018; Thibault 2018a, 2018b; Bogusławska-Tafelska, Wyciński & Malenko 2021).

*Linguaging* is a notion introduced by Swain in relation not just to language use, learning, and processing, but also as meaning-making, i.e. producing meaningful output while negotiating meaning (Swain 2006). Furthermore, through collaborative dialogue turned ‘*plurilogue*’, learners acquire a deeper understanding and engage in ‘*knowledge building*’ (Swain 2010).

The ecolinguistic model of human communication goes deeper into the grid of life processes; and places the language and communication studies in-between the material paradigm (and structuralism and cognitive linguistics in it), and the holistic paradigm of local and non-local communication among living systems (Bogusławska-Tafelska 2013, 2016; Bogusławska-Tafelska, Dragoescu Urlica & Malenko 2020). Traditional formalism of the main stream of linguistics will not handle well the communication processes we notice in CMC due to the lack of theoretical/analytical tools, which may be why so many mainstream scholarly voices are critical about the present changes in communication preferences of the young generation. This criticism, we assume, comes from the lack of the epistemological and methodological devices to study the phenomena in CMC.

## INTERPERSONAL COMMUNICATION IN THE NEW GENERATION OF COMMUNICATORS

In the mainstream research as well as in the collective perception a concern is verbalised about a degeneration or regress of the communicative abilities of the young generation of communicators, who instead of personal face-to-face communication use electronic devices like smart/iPhones, or various internet applications (Kuru 2016). Scholars, teachers and parents claim that the young ‘hide’ themselves behind the screens and prefer virtual reality to the real life interactions (Kaltwasser et al. 2014; Zenner et al. 2014).

Our proposed modification of the perspective is founded on the working hypothesis that the cognitive communication modalities are less active in this type of communication, generally as a consequence of the communication occurring outside the linear framework of space

and time and not obeying the traditionally recognised rules of communication, i.e. the physical proximity of the interlocutors. At the same time, though, the complementary (non-cognitive) communicational mechanisms step up in the process and become more prominent. The former type of communicational modalities control and navigate systemic/formal aspects of language as a code of conventional forms and structures, as well as nonverbal and body communication and all aspects of the vocal colouring, i.e. prosodic features of linguistic forms. While, the non-cognitive communication modalities are an extension of this model (Boguslawska-Tafelska 2013, 2015). One theoretical assumption applied in our research is that humans are communicating systems not only through their mental/neurological faculties, but through other organismic subsystems as well, i.e. intracellular, inter-cellular and other communicational processes down the systemic organisation of the communicator as a living being (Ofner & Walach 2020). These non-cognitive modalities operate on both the local/classical level, as well as the nonlocal/quantum level of communicative interactions (cf. Walach & Stillfried 2011; Vitiello 2001). The processes in all cells of the human body exhibit communicational functions. In recent studies, it has been shown that “antenna-like structures” on the surface of mammalian cells receive signals from other cells and from the environment, while also eliciting cellular response (Michaud & Yoder 2006, 6463). These sensorial antennae appear to be “essential in the regulation of key extracellular signaling systems” (Prodromou et al. 2012, 4297). To complement the model we reach for in this analysis, the nonlocal/quantum dimension of communication is hypothesized to happen in deep intracellular structures/processes, in quantum-electric conjugations of tubulin dimers in a cell’s microtubules (Boguslawska-Tafelska 2013, 2016).

Hence, in the cross-fertilising fields of ecolinguistics and biosemiotics, we enter the new paradigmatic terrain characterized by post-reductionism (Dragoescu Urlica & Stefanovic 2018). From this widened theoretical perspective, human language starts to be more than a (neuro)cognitive process or a system of material forms and structures; it starts to be defined and studied as a life process on other organismic levels as well. This approach locates language itself and language studies within a new interdisciplinary holism, more practically resulting in an expanded treatment of human language understood as a multidimensional mechanism, on some levels formally determined, while on other levels underdetermined, following the

rhythm of the communicational creativity of the human communicator. This theoretical perspective has been more thoroughly discussed and explored in our previous publications.

Furthermore, the transpersonal theoretical assumption is that the interconnectivity between living systems in the planet's ecosystem does not recognise the physical boundaries of the organism; the contours of the body or the surface of the skin are not marking strict interorganismic individuation, as assumed by mainstream models of the biological sciences; and are not delineating the communication sign producers. In the ecolinguistic theoretical model, communication emerges situationally and transpersonally within a given communicational space, while all communicational signs and messages emerge and recede in the rhythm of this particular communicational event. Cognition and convention are present but not supreme (the model is developed in other publications, i.e. Bogusławska-Tafelska 2013, 2016, 2020a, 2020b).

## RESULTS AND DISCUSSION

The pilot study was conducted in the community of university students and it reflects the general direction of our more extensive research in ecolinguistics and ecological communication (Urlica Dragoescu & al. 2018; Bogusławska-Tafelska 2013, 2015, 2016). In this section we put to analysis the feedback collected in the research project. The full report and expanded conclusions from the on-going research are to be published at a later point. Further systematic studies are planned in order to explore the phenomena which our current study has set out to identify. In the subsequent larger project, we will also include another community of university students, with a view to identifying universals and regularities in the processes under observation.

When addressing the core topic of this paper, CMC, we put aside the well-known argumentation of everyday (neuro)cognitive and social hygiene, i.e. the natural need to move, to go outside and be in constant contact with nature and the local community, the need to limit the use of electronics for the sake of general health concerns. Leaving all these reasonable aspects aside as unquestionable, we contend that communication through the electronic media: a) represents a higher developmental phase in human evolution working towards the interconnectedness of humankind; b) stands as a propitious pointer to the emerging activation of non-cognitive communication modalities in the upcoming generations of communicators.

Our model builds on the theoretical tenet that all humans are phylogenetically equipped with both *cognitive communication modalities* – acknowledged and studied by contemporary mainstream (eco)linguistics; and *non-cognitive communication modalities*, which are generated by communicative processes on other layers of the systemic organisation of communicators across living systems. Still, it is the (neuro)cognitive modalities which are more amply studied and given attention to, according to the currently prevailing western paradigm, as substantiated in overall collective awareness and in the mainstream language sciences. Although we possess other communicational levels, always active in us, we do not pay conscious attention to the messages that come from them; we only focus on messages we produce and receive through our visual-auditory channels, which belong to the cognitive communication modalities. This narrowing of the process results from our cultural modeling.

The ecolinguistic multimodality model is employed in this analysis as a theoretical prism through which we look at electronics-mediated communication mechanisms. From this paradigmatic stance we notice an increase of the overall quality of communication (Boguslawska-Tafelska 2020b), which is not a commonly recognized truth among contemporary researchers. Even researchers and practitioners of the expanded approach in current western sciences do not always forgo conventional linear thinking when discussing communication via electronic channels:

[...] electronic media have established virtual communication paths that can be detrimental [...]. Children and adolescents who prefer impersonal communication may be deprived of the ability to develop social skills and competencies that are vital for mutual understanding. Acquiring the competencies to decipher emotions, communicative signs, behavioural clues, etc. and developing the ability to listen carefully are the functional and communicational building blocks of human society' (Kaltwasser et al. 395).

In this study, we formulate a theoretical assumption regarding the new communicative modalities which may be seen as an actual shift effected by a whole generations of communicators from the linear paradigm of materialistic reductionism into the 21<sup>st</sup> century holistic paradigm of transpersonal, fluid, nonlinear and nonlocal processes (cf. Boguslawska-Tafelska 2013, 2016, 2020a). As the post-classical paradigm still remains novel territory for contemporary western

sciences, at least in terms of methodology and epistemology, the present research aims at opening a space for discussion and inciting further exploration.

The research was initially conducted in the community of the Banat's University of Natural Sciences USAMVBT 'King Michael I of Romania' from Timisoara, Romania. Data for the study were collected by means of questionnaires during the second semester of academic year 2020 and the first semester of 2021. The analysis displays some indications of the non-cognitive modalities being activated in electronics-mediated communication and presents the preliminary discussion of the collected data. The results we have tabulated are further discussed in the subsequent section.

The questionnaire employed in the research sets forth the following task: Choose one or more answers which best describe yourself and your communication. For the purpose of this analysis, question no 1, question no 2 and question no 3 are explored in the discussion.

1) Question no 1: I usually communicate with my friends:

- a. personally face-to-face
- b. through SMS
- c. through e-mail
- d. I use Whats Upp or Messenger
- e. other:

2) Question no 2: I like most:

- a. face-to-face chatting
- b. messaging and texting
- c. other, please specify

3) Question no 3: I can easily 'feel' the person I text with:

- a. yes
- b. no
- c. not always
- d. other, please comment:

To reiterate the ground hypothesis put forth at the outset of the research, many linguistic parameters characteristic of the communication situation are not present in electronically-mediated communication, i.e. there is often no time axis organising communication; there is no physical contact or actual space sharing with peers. However, the lack of these parameters does not prevent the

interpersonal bond to be formed between communicators, thus the communicational goals can be achieved.

## CONCLUSION: THE ECOLINGUISTIC MODEL OF MULTIMODALITY COMMUNICATION – AN EXPANDED PARADIGMATIC PERSPECTIVE ON ELECTRONICS-MEDIATED COMMUNICATION

For the reasons discussed above, the preliminary conclusions we have formulated below may also function as our working hypothesis for further research, as presented in the following concluding remarks:

### 1. *The Law of Economy*

When asked how they usually communicate with their friends, 69% of the respondents pointed to WhatsApp or Messenger, 39% chose also the answer ‘other’. While SMS or e-mail messaging has a very low preference rate, together these tools reach only 12% in the questionnaire. These results indicate that the respondents in the research tend to reach for those electronic communication means which reduce the time of the communicative interaction and, secondly, the overall formal layout of the exchange. Writing e-mail messages still requires considerable time, and involves using more forms of the system of language (along with the lexis, the grammatical constructions, some text structure rules, etc. combined with the energy expenditure put into typing). In short, the economy of communication – with reference to time and effort – is the primary meta-rule we notice in the research data.

### 2. *The Visual Contact and the Visual Channel of Communication*

There is a change noticeable in the communicative preferences of your generations of communicators. Nevertheless, the questionnaire responses exhibit a smooth transition rather than an abrupt shift in the ways they maintain communication with peers. Specifically, there are communication parameters regarded as ‘traditional’, to which the respondents still cling; i.e. the parameter of the visual contact and visual channel of messaging. The main indication of this aspect is the high percentage of 94% of respondents declaring that they prefer personal face-to-face communication. At the same time, the high percentage of responding students using WhatsApp or Messenger, making up 69% of all the respondents, indicates that the students have shifted from the traditional space-shared face-to-face contact towards the face-to-face contact through CMC.

Among the feedback received for question 3 on whether the students can *feel* the interlocutor, one respondent regards the lack of physical contact as a hindrance to genuine communication. The student's additional remarks recorded under question 3 says: "I can't *feel* the person I text, because when you talk face to face you build relationships, you can feel what the other person say and when you speak on the phone through messages you can't resonate with the person." Although further research is needed to confirm these observations, we may hypothesise these remarks to be the indication of a traditional linguistic preference to have the visual channel open and active in communication.

### 3. *The Communication Relation Reformulated*

The pilot study we have conducted hypothesized that the newly introduced virtual communication practices may be able to rapidly generate an expansion of human communicative capabilities. We are currently facing a transition from the linear, material communication model of the language speaker-hearer to the complex human communicator operating on a multilayer communication plane: both linear and nonlinear, local and nonlocal, synchronously adapting to an increasingly complex environment and new learning possibilities.

The results support the working hypothesis that electronics-based communication allows building a communicative relation between the communicators. The traditional elements of the communication process that are still present include the visual, auditory channel and the message itself. The traditionally studied by linguists (i) forms of the language system and (ii) the pace of the process belong to the shifting communicational aspects in CMC. The communication sign – in its abstractness – in the electronics-based exchanges seems to be co-generated by the auditory language forms together with the facial (body) communication, maybe the prosodic features of the voice; and as we hypothesise some nonlocal complementing mechanisms.

Despite the fact that the forms of language and the overall material format of the communication process gets considerably reduced, the general communication outcome and success is achieved. Respondents do form communicative relations and exchange the intended messages with each other, according to the research results. So, we assume that there must be other mechanisms active in the process which compensates the redundant aspects. The methodology to register this nonlocal dimension of human communication is a complex topic for future ecolinguistic research to address.

The data collected in the research indicate that there is a communication bond forming between the communicators through the virtual communication modalities discussed above. Apart from the purely intellectual, content-related aspect of the exchange, there are also the social-emotional aspects, which are to be inquired into in future studies. Young people manage to achieve this bond, as the feedback to question no 3 indicates the existence of a fair degree of positive relatability within communicative relations, despite novelty and other challenges.

Finally, it ought to be mentioned that the positive evolution in communication processes detected in the research results also implies the overall temporal and economic aspects of the interchange. The subjects in the study do make use of and benefit from electronic devices and networked channels of communication which ensure instant contact, quicker feedback and effortless information processing.

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