METHODOLOGICAL MODELLING OF INNOVATIVE COMMUNICATION FOR NEW KNOWLEDGE ACQUISITION IN THE GLOBAL DIGITAL REALM

The paper main focus is the inquiry into the methodological premises and models of comprehensive structuring of the innovative communication for new knowledge acquisition in the digital realm (innovative educational communication in the digital ambient as construed by the transformative neological strata of modern European and Oriental varieties of the English language of international communication). The problem of theoretical and methodological substantiation of cross-cutting principles, directions, mechanisms, and results of qualitative dynamics of linguistic macro-and microstructures of thesaurus in the realm of digital educational communication, as a consolidated linguistic object, is investigated in depth. Mosaic, simulation, and multidimensional approaches to understanding complex dynamic linguistic phenomena and entities, prioritized by this methodological context, allowed us to identify the ontological nature of lexical innovations of the globalized languages in the sphere of innovative educational communication. The ICT, e-learning, hybrid learning, digital competences thesaurus, that facilitates innovative educational communication, is structured to define and categorize the key components of innovative cyberterminology, instrumental to e-learning environment construction and functioning. Suggested is the ICT Thesaurus macro-, micro- and mega-structures modelling based on three groundwork principles: 1) Intranet educational anthroposphere (the anthropic environment within World Wide Web); 2) Outernet educational anthroposphere (e-reality components, functions outside the realm of World Wide Web); 3) Technogenic educational anthroposphere (transoriented anthropic environment components with an anthropic-for-congenous substituted ontological parameter). All units, listed and clusterised in the Thesaurus are supplied with a dominant or recessive conceptual marker or a combination of markers, indicative of the unit allegiance to the corresponding ontological categories of cyberanthropospheric e-learning environment.

The dynamic interaction of the structural tiers of the ICTs content plane within the strata of innovative educational communication is characterized by the anthropogenic parameters of the content plane, mediated by the subjective and collective cognitive experience of digital education stakeholders, mediated by the use of globalized languages.

Key words: innovative communication for new knowledge acquisition, ICT, e-learning, hybrid learning, digital competences thesaurus, logosphere, thesaurus modelling, phenomenological marker.

Introduction and state-of-the-art-overview. At the turn of the XX–XXI centuries, science acquires the status of extremely effective and dynamic tools of human activity, which determines the interest of scientists in pragmatic aspects and problems of cognitive theory to increase the effectiveness of scientific work by traditional classical means and innovative systems of artificial intelligence [2; 3; 4; 30].

The network of research space of modern linguistic explorations provides an opportunity to determine the problems of language coding, transcription and mapping of different spheres of actual and conditional reality in linguocognitive [50; 52; 51; 12; 14], linguistic and cultural [7; 23; 26; 40; 46], discursive-communicative [37; 40; 48], synergetic [33], activity [7; 8; 44] planes.

As an integral product of civilization, modern computer reality has become an independent being. Within it, electronic media act not only as a means of transmitting information or interaction, but also reveal their own world-creating, meaning-making, and, as a consequence, language-forming potential [29; 3; 6]. Computer being (CB – a term after V. Kutyriev [38; 39]) is defined as a complex,
multidimensional sphere of synthesis of reality, human experience, and activity, mediated by the latest digital and information technologies; it is the object of study of a wide range of humanities.

In philosophy, computer being is interpreted as a special type of substance – material and ideal reality in the aggregate of all forms of its development [4; 18; 29]; in anthropology – as an environment for the implementation of “post-humanistic” tendencies of anthropogenesis [7; 5; 8; 45]; in psychology – as a psychosomatic and emotional plane [20; 25]; in culturology – as a sphere of spiritual experience [17; 11; 9; 24], in sociology – as a system of multilevel, multidirectional social relations [1; 10; 32].

The linguistic aspect of the study of computer being at the turn of the century is determined by objective historical and geopolitical preconditions: cyberization, globalization, informatization of world society, Americanization of world culture, due to which modern English, mostly its American variety, is a priority linguistic and communicative environment of the primary language coding of elements of computer being and its mapping [15; 16], exported to globalized languages across the world.

The problem of theoretical and methodological substantiation of cross-cutting principles, directions, mechanisms and results of qualitative dynamics of linguistic macro- and microstructures of vocabulary in the realm of computer being, as a consolidated linguistic object, is still waiting to be studied. Consideration of this issue requires the involvement of the phenomenological perspective of the study of complex linguistic objects, given the definition of the main task of phenomenological epistemology – knowledge of the full system of facts of consciousness [43], constituting the objective world [30; 31; 21].

**Objective.** The paper overall objective is the inquiry into the methodological premises and patterns of comprehensive modelling of the innovative communication for new knowledge acquisition in the digital realm (generally understood as educational communication in the digital ambient as construed by the transformative innovative (neological) strata of modern European and Oriental varieties of the English language of international communication).

**Main findings.** The main hypothesis of the study is that the typological characteristics of innovative ICT, e-learning, HYBRID LEARNING, digital competences thesaurus as a macro-object of a phenomenological investigation determine the specificity of static configuration and dynamic interaction of formal and substantive constituents of its microstructure. 3157 of speech and linguistic units – innovations that relate to multi-substrat areas, objects and phenomena of computer being – in usage serve as research empirical database, selected by canvas sampling out of conventional lexicographic sources, specificized registers of lexicographic innovations of electronic format and English periodicals of the timespan from 2019 to 2021. Within the outlined methodological dimension, the “phenomenological” language unit is defined as its codifying ability to record the results of cognitive experience and manifestation (the term after V. Babushkin, [24]) in it the substantive characteristics of cognizable objects and phenomena.

The linguistic adaptation of the phenomenological approach to the theoretical and methodological understanding of the dynamics of the vocabulary of modern European and Oriental languages in computer life is based on the concept of the logosphere, synthetically understood as: 1) elements of different spheres of life [41]; 2) the zone of integration of thought-speech continuums (linguo) of cultures [27; 28].

The turn of the XX–XXI centuries is determined by a significant acceleration of the enrichment of the vocabulary of modern natural languages [15; 55; 33; 48; 52], which determines the need for holistic linguistic research of innovative industries.

The modelling of innovative educational communication in the digital realm is predicated on the following key premises: 1) the phenomenological nature of innovative communication in the field of acquiring new knowledge (education in the broader sense) in the digital environment involves an inseparable, mutual combination of its linguistic and substantive (ontological, epistemic and anthropological) aspects in the vertical plane of mutual expression of categories of essence ↔ phenomenon; 2) the innovative nature of communication in the field of acquiring new knowledge in the global digital environment is determined by the phenomenological consolidation of substantive (ontological, presuppositional/cognitive) characteristics of the macrostructure of communication in statics and end-to-end dynamic interaction of formal and semantic constituents and technological (digital) tools.

Within the phenomenological approach [49; 51] global semiotic integration of macro- and microstructures of innovative communication in the field of acquiring new knowledge in the global digital environment is identified as provided and implemented through deterministic interaction of multi-substrate (linguistic, spatiotemporal, essential, anthropological and social) parameters.
of this innovative communicative logosphere, given the significant synchronous density of rates and results of parallel development of verbal, ontological and anthropological continuums of the global digital environment [42; 43; 45].

The framework innovation of educational communication in the digital realm, thus (as a multidimensional, complex, dynamic system) is the most comprehensive quantitative and qualitative terms of language representation of the linguistic actualization of being, determined by a number of qualifying conditions of its emergence, existence and development, including: 1) exhaustive synchronization process of the object, phenomenological and anthropological field of computer being and development processes of the ICT meta-language; 2) exhaustive output of parameterization isomorphism of ontological (substance phenomenological), anthropic and digitized structures of reality; 3) flexibility, adaptability and dynamic potential of the vocabulary of the modern languages (heavily influenced by English hegemony) in correlation with the ICT sphere (that is fulfilled, in particular through info-capacity, sign hybridization, the evolution of the basic ontological and functional features of neologisms in relevant areas).

Given the features of digital logosphere as specific linguistic-ontological, phenomenological-linguistic and a linguistic-semiotic object, it is possible to distinguish the following typological characteristics of IECDR:

A) The ability to conditionally complete phenomenological realization of substantive identity of the cyberspace in significative characteristics of verbal units that constitute the relevant innovative logosphere. The following typological characteristics of ICL are to be phenomenologized, particularly at the level of the external form of discrete ICSL units. For example, paronymic unit elements of affixation paradigm based on formant dot- one that pertains to the Internet: dot-biz – legal body that implements its activities through Internet, dot-con – offender that performs fraud (con) through Internet (in these units is dot- verbal manifestation graphical point – [. ] – as semiotic marker recording Internet protocol address). A meta-term innovation 404 – to be offline for a long while (404 – a semiotic representation of protocol error on the results of an unsuccessful search Internet page). On the internal form level of discrete ICL units: sextuple-u – a metaphtonymic conventional transcoding of an Internet protocol address: www (where: three-double-u – initial transcoding → 3x2-u = -u 6 – a metaphtonymic correlate); 888 in Japanese (pronounced as ぱちぱちぱち, the sound of snapping or clapping) – an online communication formula.

Due to a combination of external and internal form configurations of discrete units ICL: for example, an innovation paradigm Web 2.0/Web.3.0/Web.4.0 – the newest visual and technological configuration of Internet space where the Web – Internet 2.0 (N.0) is an analogical representation of meaningful semiotic element “a new (improved) version” (operating system, software, software, etc.).

B) Structural density volume, uniformity and conditional completeness of innovative codification of multi-substrat configuration of digital communication.

The thesaurus of innovative communication in the field of education in the digital environment as a presuppositional and locative structure consists of such groups of components and their language implementation (information and communication technologies / digital tools, digital formats of cognition / learning, digital competencies). The thesaurus is structured to identify and categorize the key components of innovative cyberterminology that contribute to the construction and operation of the electronic learning environment / acquisition of new knowledge. Modeling of macro-, micro- and supra-structures of innovative communication in the field of acquiring new knowledge and their digital processing in the coordinates of three main dimensions is proposed:

1) **Intranet-heuristic anthroposphere of acquiring new knowledge** (anthropic communicative digital environment) – e.g. digital immigrant – a subject of innovative communication in the digital environment, for which it is not the primary communicative experience by age, twitterati (Twitter + literaty) – a professional communicator in digital social networks in the genre of “microblog”;

2) **Extranet-heuristic anthroposphere of acquiring new knowledge** (components of digital reality that function in the communicative environment outside the context of digital communication) – e.g. tradigital (traditional + digital) – a familiar object of the non-digital environment that incorporates digital technology, Zoomer, Generation Z(oom) – the subject of innovative communication in the digital environment as a social group for a set of features of communicative behavior; Zoomwear – a type of clothing suitable for digital video communication; al desko (Sp. Eng.) – the subject of innovative communication in the digital environment by type of location in real space;
3) **Technogenic anthroposphere of acquiring new knowledge** (reoriented components of the anthropogenic communicative environment with the replaced ontological parameter to the corresponding anthropic) – e.g. Webucation (acquisition of new knowledge, education, in a digital communication environment); word-of-blog – dissemination of information in the digital communication environment; Wikification – opening a data resource for the collaboration of communicators in the digital environment; destiny revolution (Ch. Eng.) – digital revolution of the communicative environment (according to the consonance of the pronunciation of hieroglyphs to denote the concepts of fate / destiny and digital).

The dynamic interaction of structural levels of ICT content in the layers of innovative communication in the field of acquiring new knowledge is characterized by anthropogenic and cognitive parameters of the content plane, mediated by subjective and collective cognitive experience of cognitive subjects in the digital environment embodied in digital transformation.

The Thesaurus of Innovative Communication in the field of gaining new knowledge in the digital environment as a presuppositional and locutive Structure reveals the phenomenological (nominative, reference, denotative, significant) ability to converge coding at the system level of its internal and external elements of all the above parameters. The specificity of the thesaurus of English-language innovative communication in the field of acquiring new knowledge in the digital environment is determined by the isomorphic nature of the integration of its external and internal structure and the integration of the macrostructure of innovative communication in the field of acquiring new knowledge in the global digital environment.

Specific differential features of the logosphere of innovative communication in the digital environment as a linguo-ontological, linguo-phenomenological object are: Normativeness arising from the parametric features of the concept of “logosphere” (while maintaining the characteristics of dynamic variation of the logosphere); Lingual substantiality – the phenomenological (“actualizing”) status of the shells of language signs and communicative actions in reality; The principle of isomorphism of the signified and signifier.

As a language macrostructure, innovative communication in the digital environment is modeled by the interoperability of language, cognitive (presuppositional) and communicative-activity parameters (Fig. 1):

As a structural macrocomponent of the digital environment, innovative communication in the field of acquiring new knowledge is modeled by interoperability and synthesis of technological and communicative-activity parameters (Fig. 2):

The process of digitalization of the linguistic and communicative space of global society, especially under the quarantine restrictions of 2020–2021, required the simultaneous use and intersection of such structurally and communicatively complex formats of new knowledge and visualization of the paradigm of relevant linguistic nouns to denote innovative formats: E-Learning 1.0 (direct synchronous distance communication in the field of acquiring new knowledge using digital technologies and tools); E-Learning 2.0 (mainly asynchronous communication in the field of acquiring new knowledge through digital technologies and tools; this nomen is part of a synonymous pair of innovations together with “networked learning”); E-Learning 3.0 (mostly asynchronous communication in the field of acquiring new knowledge using digital artificial intelligence technologies); B-(lended) -learning (personal communication in the field of acquiring new knowledge using asynchronous ICT-based methods, this innovation unit is part of the telescopic reduction paradigm according to the STL model (space / time / location) -learning: u (biquitous)

![Figure 1. Linguo-Cognitive Interoperability Model of Innovative Communication](image-url)
-learning, m (abundant) -learning); Hybrid learning (synchronous learning of present and personal subjects with the help of ICT).

Modeling the epistemic basis of innovative communicative activity and the transformation of cognitive experience of acquiring new knowledge into digital format, thus, is possible through the combination and synthesis of the following set of parameters: Time; Space; Communicative distance; Dependence on digital communication tools and digital infrastructure; Level of difficulty.

Given the above, the innovative logosphere of information and communication technologies, e-learning and digital competencies as a linguistic and presuppositional prerequisite for innovative communication in the field of acquiring new knowledge in the digital environment is defined as: a) syncretic, fixed in its semantic volume; are asymptotically (i.e. in an unlimited approximation) exhaustive incarnations of the basic and factual elements of the modern digital environment. b) vertically integrated at the macro and micro level set of digital technologies, communicative practices of e-learning, hybrid learning, thesaurus of digital and interdisciplinary competencies as a locative and presuppositional component of innovative communication, its typological specificity is relatively comprehensive phenomenological environment.

The application of various ICT tools, inherent to each type of educational communicative activity, allows to disclose the transformation procedure as a complex frame scenario of the dynamic actional or script type, meaning a structure, which presents procedural knowledge about the course of events [44]. The “frame” is information data, formed in a certain way, that reflects the acquired experience of knowledge about a certain stereotypical situation, which is perceived quite generally, because it can mean action, image, narration etc. [52]. Therefore, the framework scenario of Innovative Educational Communication transformation into digital format assisted by ICT tools, comprises of the following separate cognitive schemes:

1) **Agency scheme**: X (AGENT) [stakeholder of communication] => performs **EDUCATIONAL ACTIVITY** => [digital equivalent activity]

2) **Localization scheme**: X (AGENT) [stakeholder of communication] => performs activity **THERE** [locus] => [digital equivalent locus]

3) **Instrumental scheme**: X (AGENT) [stakeholder of communication] => uses **INSTRUMENT** => for **PURPOSE** [to perform educational activity] => [EQUIVALENT ICT TOOLS] for => [DIGITAL EQUIVALENT ACTIVITY]

4) **Object scheme**: X (INSTRUMENT) [ICT tool] => is APPLIED to **PATIENT** [educational activity / [digital equivalent activity] => for **PURPOSE** [educational goal].

The set of schemes for the transformation of innovative digital communication procedures have a complex basis based on the use of ICT tools and digital communication practices that meet different levels of cognitive goals (and corresponding illocutionary intentions) to obtain and transmit new knowledge in communication. Responsible technology [47] in the context of innovative communication in the digital environment is understood as anthropocentric technology and tools designed for real communication situations and scenarios, tested by assessing the most perlocutionary effective communication practices. Functional interpretation of responsible technology is the most optimal for the analysis of syncretic transformation of complex language-communicative scenarios in the field of acquiring new knowledge into digital format.

**Conclusions.** The scientific novelty of the inquiry is derived from the conclusions and generalizations and is that it identified and parameterized innovative communication in the field of acquiring new knowledge.
in the global digital environment as a consolidated macro- and micro-level object of analysis, which is qualified by specific phenomenological and dynamic features, properties and tools of implementation. In particular, for the first time in the study: the integrative theoretical and methodological bases of research of communication in the field of acquisition of new knowledge are defined; the innovative communication in the digital realm is parametrized in the conditions of global quarantine restrictions; the methodological framework of modeling of innovative communication in the field of obtaining new knowledge in the digital environment in the ontological, linguistic and cognitive planes is introduced; the macrostructure of innovative communication in the field of acquiring new knowledge is identified as a set of linguistic-communicative and instrumental innovations in the systemic semantic unity of their reference correlation with substantial (ontological, epistemic, anthropological, technological) dimensions and elements of the global digital environment, the manifestation of which determines the phenomenological originality of the studied linguistic-communicative sphere; the typology of linguo-cognitive scenarios of innovative communication in the field of acquiring new knowledge in the digital environment is defined. Perspectives for the study include to expansion of the scope of research to assess the parameters of digital literacy as a presuppositional and locutive component of innovative communication in the field of new knowledge for certain groups of languages, for different types of e-learning tools applied for acquisition and usage global communication languages. diagnostics of transdisciplinary tendencies of digitization of communicative formats in the countries of Asia, North and South America and the countries of Europe.

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Семеніст І. В., Махачашвілі Р. К. МЕТОДОЛОГІЧНЕ МОДЕЛЮВАННЯ ІННОВАЦІЙНОЇ КОМУНІКАЦІЇ У ГАЛУЗІ ОТРИМАННЯ НОВИХ ЗНАНЬ У ГЛОБАЛЬНОМУ ЦИФРОВОМУ СЕРЕДОВИЩІ

Основна увага в роботі зосереджена на дослідженні методологічних передумов та закономірностей комплексного моделювання інноваційної комунікації у галузі отримання нових знань в цифровому дискурсі (інноваційна комунікація в цифровому середовищі визначається трансформаційними неологічними шарами сучасних європейських та східних варіантів англійської мови міжнародного спілкування). Поглиблено досліджується проблема теоретичного та методологічного обґрунтування наскрізних принципів, напрямів, механізмів та результатів життєвої динаміки лінгвістичних макро-та мікроструктур тезаурусу у сфері цифрової освітньої комунікації, як консолідованого мовного об’єкта. Мозаїчний, симуляційний та багатовимірний підходи до розуміння складних динамічних мовних явищ та сутностей, визначені пріоритетом у цьому методологічному контексті, дозволили виявити онтологічну природу лексичних інновацій глобалізованих мов у сфері інноваційної освітньої комунікації. Тезаурс ІКТ, електронного навчання, гібридного навчання, цифрових компетентностей, що сприяє інноваційному освітньому спілкуванню, побудований так, щоб визначити та класифікувати ключові компоненти інноваційної кібертермінології, що сприяють побудові та функціонуванню середовища електронного навчання. Запропоновано моделювання макро-, мікро- та мегаструктури ІКТ-тезаурусу, засноване на трьох основних принципах: 1) Інтернет-освітня антропосфера (антропне середовище у Всесвітній павутині); 2) Зовнішня антропосфера освіти (компоненти електронної реальності, функціонують поза сферою всесвітньої павутини); 3) Техногенна освітня антропосфера (переорієнтовані компоненти антропогеного середовища із заміщенням онтологічним параметром антропним для вродженого). Усі підрозділи, перелічені та сгруповані у Тезаурі, мають домінуючий або рецесивний концептуальний маркер або комбінацію маркерів, що свідчить про прихильність одиниці відповідним онтологічним категоріям кібер-антропосферного середовища електронного навчання.

Динамічна взаємодія структурних рівнів площин змісту ІКТ у шарах інноваційної освітньої комунікації характеризується антропогенними параметрами площин змісту, опосередкованою суб’єктивним та колективним когнітивним досвідом стейкголдерів цифрової освіти, опосередкованою використанням глобалізованих мов.

Ключові слова: інноваційна комунікація у галузі отримання нових знань, ІКТ, електронне навчання, гібридне навчання, цифровий тезаурс компетентностей, логосфера, моделювання структур тезаурусу, феноменологічний маркер.