Due to the profound revision of scientific, technical, and social processes, emerging awareness of the role of informational and communication technology (ICT) in education, they become a crucial factor in the development of the educational system and lay the foundation for the formation of the learning environment of a new type. The process of informatization of education includes extensive use of ICT in teaching/learning in elementary, secondary and higher educational establishments to foster, in the first place, communicative and cognitive development, formation of creativity, and framing certain conditions for self-education and self-development of personality.

The emergence of electronic devices that ensure access to knowledge, development of intellectual and creative skills of students on the basis of individualized education model, and intensify educational process necessitates the revision of the existing methods of teaching both foreign and native languages. This creates the demand for the teachers able to use ICT in order to form language, speech, and communicative competencies within different levels of language education. It has recently become obvious that the modern teacher should have not only professional knowledge of the subject, but also be aware of the role of the computer, networking, telecommunication technology in language education, be familiar with various forms, technologies, and approaches to learning Ukrainian as a
native and as a foreign language, as well as capable of using them effectively to address practical issues.

During the past decade, wide introduction of local and wide area networks, as well as system, applied and special-purpose software prompted the rapid development of computer linguodidactics as a new area of research.

A significant contribution to the research into the computerization of foreign language teaching was made by such Ukrainian and Russian scientists, as Bihych O., Bovtenko M., Bogomolov A., Bulakhova J., Hartsov O., Horodnycha L., Hrygorieva T., Karamysheva T., Kosovan O., Mors’ka L., Petraschuk O., Piotrovskaya K., Piotrovsky R., Polat E., Rudenko-Morgun O., Serdyukov P., Talyzina N. et al, who focused on psychological and educational, ergonomic, didactic, linguistic, and methodological features of new information technologies, ways of employing these to form communicative competence, as well as to prepare language instructors able to use effectively information and communication technology.

Analysis of the scientific literature suggests that foreign and Ukrainian scientists were able to reveal different aspects of information technology influence on the foreign language skills and capacities of prospective specialists. They also addressed the issues of information technology development and ways of its introduction into the educational process. In particular, scientists are now in a position to define the place and typology of electronic resources of foreign language teaching, propose various classifications of computer learning materials, determine the criteria for assessing the quality of educational software, prerequisites for efficient integration of computer technologies into the educational process.
Furthermore, conceptual framework of introducing information technology into the language learning is being established [1, 3, 4, 16, 22]. The theory of didactic projection of information technology education (including the purpose, principles of content structuring, required level of comprehension of teaching/learning material, etc.) was developed. Scientists also address the choice of computer and information media of instruction, as well as the methods and ways of learning [16].

Intensive development of new forms of communication generated by the information technology led to formation of a new trend in linguodidactics – computer linguodidactics (M. Bovtenko, O. Hartsov, E. Holovko, T. Karamysheva, T. Lomtieva, K. Piotrovskaya, R. Piotrovsky, Y. Polat, A. Rudenko-Morgun, N. Soroko, L. Struhanets et al.). The emergence of local and wide area networks, as well as applied and special-purpose software systems allowed to distinguish two trends in the computer-aided language teaching system: computer-aided teaching proper and on-line teaching. Scientists state that, as the nature of interaction between the instructor and the student under computer-aided teaching is different from that under on-line teaching, the methodology and technology requirements to the teaching software will be different [5, 13].

It is important to note that, at the present stage of the development of language teaching information and communication technology, modern language instruction is characterized by new forms, new content, teaching methods and aids, new relations between the subjects of the educational process. Therefore, such disciplinary field as computer linguodidactics is evolving within the educational environment. It provides theoretical and practical basis for language teaching in new information society. It is an interdisciplinary field of study and, as such, it unites linguistic, didactic,
methodical, and informational components into an integrated system and explores the characteristics and patterns of language teaching in new conditions of the information society [6]. However, this branch of linguodidactics is associated primarily with the methods of teaching foreign languages. This narrow interpretation of the role and place of computer/electronic linguodidactics in the system of language learning impeded the development of the theoretical and practical framework of the Ukrainian language learning and teaching both as a mother tongue and as a foreign language.

Since the intensive development of information and communication technology changes the content, features, functions, and nature of the educational process, the creation of modern concepts of the development and introduction into the practice of learning Ukrainian as a native and as a foreign language of information and communication technology and the continuous modernization of the information environment of learning Ukrainian are of importance. As a further matter, there emerges a task of training prospective secondary and higher educational establishments language instructors to operate in information society by means of developing in them relevant competencies in the sphere of computer/electronic linguodidactics.

The main objective of the article is to track the formation of electronic linguodidactics (e-linguodidactics) as an innovative scientific-methodological field of study in learning and teaching Ukrainian as a native and as a foreign language; to analyze the existing media of Ukrainian language e-learning; and to identify the main trends of further development of e-linguodidactics.

The term "computer linguodidactics" was first proposed by
K. R. Piotrovsky in 1991 and has been developing along with the evolution of computer technology and computerization of language teaching. According to the analysis of the Ukrainian and foreign scientific literature, computer-aided language learning was described in various terms during the later part of the 20th and beginning of the 21st Centuries: computer language teaching (D. Clement’yev, A. Nimm, G. Pashkova, A. Undozerova et al), language teaching with computer support (N. Belkin, A. Zubareva, O. Kuvakina, I. Makovetska et al), methods of computer language teaching (V. Harova, D. Clement’yev, T. Yamskih). Simultaneously, as mentioned above, in 1991 K. R. Piotrovsky introduced the term "computer linguodidactics". This term is still used by the following scientists: A. Arutyunov, L. Belyaeva, M. Bovtenko, A. Bohomolov, V. Vasilyev, B. Hershunsky, O. Holovko, T. Karamysheva, T. Lomtyeva, Y. Polat, K. Piotrovskaya, R. Piotrovsky et al. Moreover, for a long time, both in Russian and in Ukrainian linguodidactics, the term "computer linguodidactics" was connected primarily with the process of learning foreign language using the electronic media.

Theoretical and practical aspects of using information and communicational technology are reflected in scientific writings, development of many scientific schools, have been extensively discussed during numerous scientific conferences, symposia, seminars, etc. Due to the increased attention of scientists to the computer language training, computer linguodidactics became a separate branch of scientific knowledge with its terminology, subject and object, tasks, and methods of research.

Computer linguodidactics is considered to be a branch of linguodidactics that studies the theory and practice of using computers in language learning and covers the number of theoretical and applied
problems related to computer language teaching, from the methodological principles of program design and development to psychological and pedagogical aspects of using computers in language teaching [4, p. 7-12].

In the past few years, the subject of research in linguodidactics has become much wider, as it now includes on-line language teaching: "Computer linguodidactics is a branch of linguodidactics that studies the theory and practice of computer and network technologies in language teaching" [13, p. 7].

Further development of distance learning, improvement of computer learning environment, improvement of automated training systems, the need for the formation of professional and multimedia competence based on the information and communication technology, in aggregate, brought about the need for further development of informatization of linguodidactics, refinement of its terminology system, clarification of the subject, object, goals of research, development of innovative educational technologies in the modern global network. At the end of the last decade, with the development of electronic, digital, and communication technologies and the invention of the on-line learning, a new term "e-linguodidactics" has emerged. It was introduced by the Russian scientist O. Hartsov in 2009, who provides the following definition of this term: "E-linguodidactics is a scientific discipline that develops along with the evolution of electronic media, digital technologies and data networks. Its the main goal is to investigate the patterns of language teaching in the modern information environment, their theoretical integration and practical implementation in the system of innovative language learning" [5, p. 32].

The scientist also outlines an array of tasks associated with e-linguodidactics: advancement of the theory of foreign language learning
using new methods of research and teaching. The author considers this
disciplinary field to be an innovative scientific and methodological trend in
the didactics of foreign language teaching. O. Hartsov suggests ways of a
more rapid integration of information and communication technology into
methods of teaching Russian as a foreign language, developing an on-line
model of language teaching.

This term, in our opinion, is instrumental in revealing the essence of
the process of language learning in the current global information learning
environment. Obviously, this branch is promising and productive in the
Ukrainian linguodidactics. Theoretically sound technologies of developing
electronic media for various purposes and forms of learning the Ukrainian
language, introduction of the new generation technology into the
professional field will ensure intensive development of language, speech,
and communicative competences. Further development of theoretical
foundations of e-linguodidactics creates conditions for the extension of
national innovative language learning/teaching, promotes the Ukrainian
language on-line, and fosters the adaptation of teachers to work on-line.

However, according to the analysis of scientific and methodological
literature in this area, this trend in the theory and practice of teaching the
Ukrainian language has not come to the fore yet. Moreover, Ukrainian
scientists use the term "computer linguodidactics" very rarely. Computer
linguodidactics in Ukraine is mostly discussed in the context of the general
problems of computerization.

In general, the analysis of theoretical and practical materials on
information and communication technology in teaching languages in
Ukraine leads to the conclusion that theoretical and applied aspects of the
Ukrainian computer linguodidactics are represented by the following:
methodological problems of computer linguodidactics;
- psychological and pedagogical problems of creation and application of computer-aided language teaching;
- classification of language teaching/learning software;
- structuring the content of language teaching materials;
- opportunities and ways of creating language, speech, and communicative competences at different levels of language learning/teaching, etc.;
- experimental study of the development and use of teaching/learning software in accordance with the purpose, form, and content of teaching, age of students;
- methods and techniques of using teaching software in accordance with the goals, objectives, technological advantages, in-class or out-class.

The framework of the Ukrainian computer linguodidactics is set by Ukrainian and Russian philosophers, educators, and psychologists working on the theory of cognition. Among the key elements are personal and systemic approach to cognition, recognition of the role of the activity in the all-round development of an individual, theories of development and use of teaching methods and media, as well as their influence on learning outcomes (Yu. Babansky, V. Bondar, M. Danilov, I. Zyazyun, V. Lozova, P. Pidkasysty, I. Pidlasyyta et al); psychological and pedagogical concepts of learning and didactic aspects of the computerization of the educational process (B. S. Hershunsky, M. Zhaldak, V. Kremen, V. Lapinsky, Y. Mashbyts, P. Obraztsov, H. Selevko); main tenets of the theory of active learning (N. Bibik, B. Lozova, O. Savchenko); theory of e-textbooks and tutorials development (V. Bykov, M. Bovtenko, V. Madzihon, O. Rudenko-
Morgun); scientific approaches to designing educational software and the use of the hypertext technology at its development (V. Bykov, T. Sokolovska et al).

Building upon methodological and theoretical foundations, scholars justify the expedience of the use, define the role and place of modern information and communication technology in the formation of language, speech, and communicative competences of students, identify didactic capacity of computer-aided teaching the Ukrainian language at different stages of language learning (computer-assisted design, portfolio method, project method, computer game, presentation design method, testing, etc.) and its role in teaching and learning the Ukrainian language, identifying the most effective ways of computer language teaching. According to O. Kucheruk, "computer-aided teaching allows us to modernize the educational process, to increase its productivity, to ensure individualization, differentiation in achieving educational goals, and online interaction among students during class projects" [12, p. 75].

Wide utilization of the new technologies in the educational process, increased attention to the individual readiness to operate in the information society, development of information and communication culture add to the requirements for professional competence of teachers, who are expected to be able to address a wide range of professional and other tasks using the computer, communication technology, including mobile phones, the Internet, etc. Thus, all these determine the formation of the necessary competencies in the sphere of the Ukrainian computer linguodidactics. Scientists are aware of the need for highly qualified teachers and educators who have a high level of information culture (IC), are ready to use information and communication technology in the educational process and
the educational management, and actively participate in the process of informatization of language learning. Scholars are identifying the role and place of ICT in the linguistic and linguodidactic coursework of prospective secondary school teachers and university professors in higher educational establishments, are determining the content and methods of improving information and communication competence of students at all educational levels – Bachelor, Specialist and Master, are detecting basic components of knowledge acquisition methodology, skills and capacities of modeling information environment (V. Bader, T. Kotyk, Ye. Kravchenko, A. Nikitina, L. Struhanets, I. Khyzhnyak). Scientists are also searching for effective ways to improve the competence of school teachers in using ICT in teaching the Ukrainian language in primary school. Ways of creating and improving teachers’ competence in computer linguodidactics are being considered as well (S. Koloda). Among these are the ability to assess the quality of language learning software, being aware of the terminology herein, having skills to use software in order to organize their own research and preparation for classes with students, ability to work with various ICT, as well as to analyze and create computer language learning environment. Another aspect of teacher training, according to scientists, is distance language learning methods (S. Koloda), development of language learning computer awareness, and skills to select necessary teaching resources.

It is important to note that the issues addressed by computer linguodidactics "have become younger". Taking into consideration the importance of ICT in the development of preschoolers’ speech, T. Kotyk, a Ukrainian scientist, explores the main approaches to the development of the prospective teachers’ readiness to use ICT in the classroom and in everyday life to facilitate speech development in preschool children. With this purpose
in view, the scientist has developed and introduced the courses "Theory and Methods of Teaching Children Their Native Language in Preschool Educational Establishments" with the use of multimedia education; "Methods of Speech and Cognitive Development of Preschool Children by Means of ICT" [9].

Theoretical and practical principles of the creation and introduction of teaching software into the practice of teaching Ukrainian as a native and as a foreign language, training primary school teachers to develop software and teaching aids and use them in the practice of teaching the Ukrainian language in primary school are studied by the author of this article as well. For example, a course for prospective primary school teachers "Computer Workshop on Teaching the Ukrainian Language" is aimed at introducing students to the terminological apparatus of computer linguodidactics, existing didactic concepts of computer-aided teaching. It covers the technical and pedagogical, general didactic, psychological and pedagogical, linguistic and methodological functions of Ukrainian language teaching software for 1st – 4th grades; the role of teaching software in the development of listening, speaking, reading, and writing.

It should be mentioned that the syllabus also contains specific requirements to the teaching software used in universities: the requirements to teaching software used during lectures, practical, and laboratory classes; the requirements to the teaching software used during the independent work on "Teaching the Ukrainian Language in Primary School” (Master-level curriculum). The abovementioned course also discusses the methods and techniques of developing learning activities based on multimedia presentations MS PowerPoint; the use of multimedia technology during lectures, workshops, seminars and practical classes, and the development of
various forms of in-class sessions with the use of traditional and innovative teaching methods are the components of professional competence of primary school teachers, professors teaching linguodidactics in universities that are among the learning outcomes of this course.

Upon completion of the course, the students are expected to be able to: prepare texts for study in accordance with the requirements to electronic texts (content, structure, style of presentation, apprehensibility, ergonomics, etc.); improve the structure of the text for study; work with navigation panel and create hypertexts; develop scripts and sketches for various applications; develop different types of tests; develop units of practical assignments; select and use audio and video material; write a pedagogical scenario of learning software; apply adequate methods and techniques of using teaching software during Ukrainian language lessons in primary school.

Theoretical and applied aspects of the national computer linguodidactics are characterized by the emergence of various teaching software designed to organize the teaching and learning of the Ukrainian language at different levels: primary, secondary, and higher school. Modern theories of development of Ukrainian language e-textbooks and e-training systems are represented by the following scientists: V. Bader, V. Novoselova, Y. Ostaf, N. Semeniv, L. Skurativsky, H. Shelekhova, S. Chemerkin, S. Yermolenko, A. Ponomarenko, V. Shlyakhova, V. Shevtsova et al. Scientists discuss theoretical approaches to setting the goals of learning Ukrainian, both as a native and as a foreign language, principles of selecting and structuring the content of language and oral and written pragmatic communication teaching. Among the efficient approaches to the definition of the information technology-aided Ukrainian language learning content, scholars distinguish the linguo-cultural, approach based on
Ukrainian studies, communicative and pragmatic, functional and stylistic, personality-oriented, etc.

One of the first e-textbooks has been that in the Ukrainian language (scientific supervisor: Aleksiyenko Lyudmyla, Candidate of Philology, Associate Professor of Modern Ukrainian language of the Institute of Philology of Kyiv Taras Shevchenko National University; authors – Aleksiyenko L. A. (Morphology); Darchuk N. P., Candidate of Philology, Assistant Professor (Vocabulary, Syntax); Zuban’ O. M. Candidate of Philology, Assistant Professor (Phonetics, Morphemics, Word-formation); Sorokin V. M., (software development), Siruk O. B. (design and web editing.). The main goal of the textbook is to ensure comprehensive language learning for high school students, prospective and current university students, etc. This comprehensive learning system is intended for secondary schools pupils, prospective and current philology students of higher educational establishments, etc. (http://www.mova.info/pidruchn.aspx).

In 2006, an e-textbook "The Ukrainian Language in 10th – 11th Grades" was developed. It addresses the supervised and independent work in the Ukrainian language, speech standards and stylistics, rhetoric, speech development, improvement of language and speech skills, and is intended for secondary school pupils (authors: D. Shelekhova, V. Novosyolova, L. Skuratovsky, Y. Ostaf).

The scientists of the National Research Institute of Ukrainian studies S. Chemerkin, S. Yermolenko, A. Ponomarenko, V. Shlyakhova developed a concept of creating a Ukrainian language e-textbook on the basis of Ukrainian studies for philologists, Ukrainian studies experts, teachers of the Ukrainian language and Ukrainian studies, students and designed such
textbook. Its purpose is to help in learning the Ukrainian language on the basis of Ukrainian studies, promote the development of communicative skills through the use of audio and video information about the historical monuments of Ukraine. Audio materials about Ukrainian music and songs, its famous singers and artists supplement the theoretical linguistic material on the language system and contribute to the development of the coherent speech.

Creative team of scientists of the East Ukraine Volodymyr Dahl National University. (V. Bader, V. Dyadychev, V. Shevtsova) attempted to determine the theoretical basis for the creation of a e-textbook of Ukrainian as a foreign language. The scientists are studying theoretical approaches to defining the goals of Ukrainian language teaching, the principles of selecting and structuring the content of teaching oral and written communication by means of a e-textbook. Its content covers the basic information about the noun as a lexical and grammatical unit. Each of the 24 units has the following structural elements: a text and assignments to it, speaking assignments (students are prompted to talk using the text as a pivot), vocabulary tasks (learning the meaning, stress, pronunciation); mark the accent using on-line dictionaries; make up phrases using a scheme (by eliminating the unnecessary); building up sentences of the proposed words; listening assignments (defining the rhetorical modes of discourse, factual information, lexical meaning, identifying stylistic means, including idioms); minimum of theoretical information about the noun; correlation of the noun with its meaning, finding synonyms to the key nouns, cloze test, completing the sentence; concluding test in theory.

The audio content of the multimedia textbook "Ukrainian Language Grammar: Nominal Parts of Speech" includes audio textual materials and
famous Ukrainian songs that are thematically related to the audio materials and texts for reading. The use of song lyrics in language training promotes the linguo-cultural competence on the functional-stylistic basis, as well as allows students to learn the language at an appropriate level of linguo-cultural competence necessary for foreign citizens to communicate effectively in any sphere of public life in our country.

The Institute of Educational Information Technology created multimedia Ukrainian language textbooks for 5, 7, 8 grades. Educational software contains the most complete information about all aspects of the Ukrainian language, which are studied in accordance with school curriculum for these grades. The lessons include interactive exercises, dictations, texts for listening, sustained silent reading, tests and illustrations, animation pieces, tests assessing students’ learning outcomes across language skills, interactive resources, etc.

"Ukrainian language. Tests for Academic Performance Rating" for 5, 6, 7 grades software, prepared by H. Domaretska, is intended to help students in their preparation to continuous assessment and final module tests, improving their Ukrainian language skills. They can be used by language instructors and students of the universities as well. Various tasks that are proposed in the tutorial (correct answer choice, similarity establishment, grammar exercises, work with texts) are aimed at the language and communicative skills testing, raising pupils’ interest in studies, improvement of their computer skills.

Multimedia Ukrainian language tutorials for 1 - 4 grades (project manager: T. Crook) are focused on the creation of favorable conditions for computer support of traditional and innovative language teaching of primary schoolchildren. They contain such multimedia elements, as pictures,
photographs, text, animation, audio and video pieces, and are aimed at assessment of learning outcomes and formation of language and communicative skills. The use of this educational software (ES) improves students’ interest to their studies, provides a differentiated approach to learning the Ukrainian language, and raises the motivation to learn their native language.

Undoubtedly, the emergence of the educational software dictates the need for specialists able to determine the type of language learning/teaching software, evaluate the information and thematic content of the material, as well as the ways to achieve specific learning goals; make adjustments depending on whether the language studied/taught is native or not; what level of language and communicative skills can be reached by means of the proposed software; which language and communicative skills (reading, speaking, listening, writing) and competences are being developed, which age group it is intended for; as well as determine the structure of the software (presentation, training proper, training and testing, testing proper, combined), etc.

These requirements can be addressed only by introducing e-linguodidactics into the educational process of universities: familiarization of the future teachers and university professors with the methods and techniques of using information and communication technology to develop language, speech, and communicative skills, ways of designing and developing their own software, development of the skills and capacities to adequately evaluate the quality of the existing e-learning teaching aids, as well as those under development. These tasks can be achieved by the development of new, computer-oriented language learning systems, be it a native or a foreign language: new content of education, new media,
organizational forms, and methods of teaching, training, supervision, analysis, correction of the educational process, and educational management that are aimed at developing of independent, research-oriented, and creative learning on the basis of extensive use of, along with traditional, new computer-oriented learning technologies. Assumably, such methodological teaching system can and should be developed by experts in linguodidactics, especially e-linguodidactics.

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Бадер В. І. Електронна лінгводидактика: стан і перспективи

У статті досліджено проблему становлення електронної лінгводидактики як інноваційного науково-методичного напряму в навчанні й викладанні української мови – як рідної й іноземної; визначено основні тенденції подальшого розвитку вітчизняної електронної лінгводидактики.

Ключові слова: лінгводидактика, електронна лінгводидактика, комп’ютерна лінгводидактика, електронні засоби навчання, електронні підручники, інформаційно-комунікаційні технології навчання мови.

Бадер В. І. Єлектронна лінгводидактика: стан і перспективи

В статті исследується проблема становления электронной лингводидактики как инновационного научно-методического направления в обучении и преподавании украинского языка – как родного и иностранного; определено основные тенденции последующего развития отечественной электронной лингводидактики.

Ключевые слова: лингводидактика, электронная лингводидактика, компьютерная лингводидактика, электронные средства обучения, электронные учебники, информационно-коммуникационные технологии обучения языка.
Bader V. I. Computer Linguodidactics: Status and Prospects

The article describes the formation of computer linguodidactics as an innovative scientific and methodological trend in learning and teaching Ukrainian as a native, as well as a foreign language. Main prospects of the Ukrainian linguodidactics development are determined.

Key words: linguodidactics, computer linguodidactics, e-linguodidactics, electronic teaching aids, e-textbooks, information and communication technology of language teaching.

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