

USE OF ICT TOOLS IN TEACHING SYNTAX OF UKRAINIAN LANGUAGE TO PHILOLOGY STUDENTS

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Summary

The paper highlights the psychological and pedagogical conditions for the use of ICT tools in teaching syntax and reveals the ways of introducing the experience of using them in the professional training of future language teachers within the course "Modern Ukrainian Literary Language: Syntax". The research literature on the didactic principles of ICT use in the educational process of future teachers, the application of ICT in the process of language training of students-philologists was reviewed. The study stresses the significant role of syntax in the linguistic hierarchy. Syntax helps students get aware of the laws of phrase and sentence structure, their expressive potential and means, and ways of their implementation in any discourse. It is important to follow the provisions developed by M. Zhaldak and S. Selian, N. Berger, Z. Dovedan. The paper outlines didactic principles, methods and techniques of ICT use in the professional training of future language teachers. The paper suggests some criteria for building a system of exercises and assignments with the help of ICT. It describes the ways of applying ICT tools in mixed and distance learning of students-philologists. A system of cognitive, training, research and creative exercises is presented. The study established that the use of digital narrative, mental maps, infographics, flashcards, electronic dictionaries in the training of future teachers of Ukrainian language and literature has a positive effect on students' mastering the educational material, it motivates and stimulates students; encourages students to apply self-cognition, self-learning, reflection, self-improvement; develops critical and creative thinking; offers them different strategies for memorizing information; enables interactive interaction between all participants in the educational process; provides the possibility of interval revision; makes the learning process active and interesting. The prospects of the research are determined in the study.

Keywords: information and communication technologies, infographics, mental cards, electronic dictionary, language and literature teacher training, syntax of the Ukrainian language, digital narrative, flashcard.

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1. Introduction

Problem statement. Nowadays, the development of the educational trajectory is connected with constantly evolving digital, information and communication technologies (hereinafter ICT), and their skillful application for training competitive and competent professionals. This is especially important for training future teachers for them to implement the educational strategy in practice.

Accordingly, in higher education institutions, students of philology should be acquainted with the ICT techniques and acquire the ability to use them not only in the process of mastering special disciplines ("Modern Information Technology", "Modern Information Technology in Philology", "Computer Systems and Technologies", etc.), but also while mastering professional disciplines.

For future teachers of Ukrainian language and literature it is important to master the syntax which is based on a synthesizing principle (it is connected with phonetics, vocabulary, morphology, etc.). The study of this section of language didactics (N. Golub, O. Goroshkina, M. Penteliuk, V. Melnychaiko, etc.) is associated with the use of competence, cognitive, communicative-cognitive, activity, personality-oriented, text-centric functional-stylistic approaches.

Analysis of recent studies and publications. The study of research literature shows that the use of ICT is an important component of the modern educational process of all levels of education, and higher education in particular. The countries of the Bologna process, as noted by D. Jimenez-Hernandez, V. Gonzalez-Calatayud, A. Torres-Soto, A. M. Mayoral and H. Morales (2020), show the homogeneity of digital learning, where motivation and self-awareness are the main factors influencing if ICT tools are used.

A. Hasudungan Lubis, S. Zulkarnain Sayed Idrus and A. Sargiu (2018) in their study assume that there is a correlation between the motivation to use ICT and their use, the level of knowledge about ICT and the quality of the educational process, which ensures the quality of teaching.

The typical correlation between different factors (self-efficacy of ICT, self-efficacy in the use of ICT, teachers' perception of cooperation within a team is related to the self-efficacy of ICT for educational purposes) is also discussed in the studies by I.K.R. Hatlevik and O.E. Hatlevik (2018) who emphasise that the use of ICT makes it possible to prepare teachers for the use of ICT in their own practice.

S. Kler analyses the factors (expansion of channels of perception, motivation, flexibility, autonomy, assessment), stages (creation of university-wide structure, effective pedagogical use with an emphasis on applicants, strategic use with regard to different target groups) of successful integration of ICT into the educational process. Moreover, the researcher identified barriers that arise among lecturers and higher institution administrations (Claire, S., 2014).

J. Anderson (2010) developed a model of interacting processes of learning and teaching with the use of ICT going through the stages from emerging (hereinafter, application, integration) to transforming, where the starting stage for a teacher is the use of effective means, and the final one is creating an innovative environment and managing it.

Theoretical and methodological features of training future teachers of various educational programs were studied by J. Anderson J., V. Bykov, O. Belous, T. VanWeert, L. Varchenko-Trotsenko, M. Zhaldak, R. Gurevich, A. Gurzhiy, O. Komar, N. Morse, L. Panchenko, S. Sysoeva, O. Spirin and others.

The preparation of future language and literature teachers for the use of ICT has been the subject of research conducted by O. Gorbachevskaya, O. Kucheruk, S. Karaman, O. Karaman, S. Protskaya, O. Semenog, S. Tsinko, etc. The formation of ICT competence of students was studied by N. Soroko.

Language aspects of computer language didactics in higher education institutions are analyzed from the following perspectives: using ICT in the study of linguistic disciplines (L. Zlatov (2014), N. Fominykh (2010), O. Semenog (2016)), forming grammatical competence of the future language and literature teachers using Web 2.0 technologies (T. Horokhova (2017)), language country studies (V. Karpyuk, O. Malakhina (2018), O. Vernigora (2019)), integrating ICT to teaching morphemes and derivation (N. Ryabovol (2015)), lexicology and phraseology (M. Greb (2016)). Covering the above-mentioned issues, the scholars mention the possibility of using electronic interactive sets, electronic educational resources, blogs and wiki resources, a single information space for an educational institution, online resources, electronic portfolio for subjects and methods, multimedia presentations, etc.

Important theoretical information on the teaching of syntax is reflected in the linguistic studies of I. Vykhoanets, M. Vintoniv, N. Guyvanyuk, A. Zagnitko, N. Ivanytska, G. Kobchenko, K. Shulzhuk, etc., language didactics (N. Golub, O. Goroshkina, T. Hnatkovich, L. Davydyuk, S. Karaman, O. Karaman, I. Kukharchuk, M. Pentelyuk, K. Plisko, S. Omelchuk, A. Yarmolyuk, etc.).

The educational process tends to be continuously upgraded and updated due to the use of ICT. The concept of a new Ukrainian school gradually acquires new features, therefore it is important to train modern teachers who are aware of modern technologies. In this regard, we share the opinion of O. Semenog who notes that the operational and competence component is gaining more significance, which includes the ability to create didactic materials using various media (electronic resources, visual aids, etc.) and use them in practice, analyse and interpret authentic teaching materials, etc. (Semenog, O., 2016: 124). To this end, university lecturers should not only talk about the possibilities of their implementation, but also implement ICT while teaching their subjects. Unfortunately, now despite the significant interest of scholars in digital technologies, we can observe limited and chaotic use of ICT in the educational process of students of philology, usually reduced to presentations, the use of electronic textbooks (e-versions of paper books), videos, e-mailing with students and using messenger applications (Viber, Telegram, WhatsApp), etc. Therefore, it would be relevant to describe ICT tools to be implemented in language learning, in particular the syntax, of future teachers of Ukrainian language and literature, remains relevant.

The purpose of the paper is a comprehensive analysis of scenarios for the use of ICT tools in teaching the Ukrainian syntax. The set purpose requires reaching the following objectives: 1) to outline didactic factors affecting the use of ICT tools while teaching syntax; 2) describe the practices of the use of ICT tools in the professional training of future teachers within the course "Modern Ukrainian Literary Language: Syntax".

2. Research methods

The main theoretical methods: the analysis of research literature on the use of ICT to train future teachers, including language and literature teachers; synthesis of educational and academic concepts on the use of ICT tools in the process of language training of future teachers of philology. Empirical methods: pedagogical observation of the educational process, self-observation, self-assessment.

The methods of research include the coverage of the authors' experience and its practical application during classes, independent work, tested by the authors in the process of teaching future language and literature teachers at Borys Grinchenko Kyiv University and Mariupol State University.

3. Research results

In the language hierarchy, syntax occupies the highest position where other levels are manifested directly or indirectly implemented, the communicative and cognitive functions of language are revealed, and the connection between language and thinking is embodied. It is during the study of syntax that students get aware of the structure of phrases, sentences, and text, their expressive potential and ways of its implementation in any discourse.

In most higher education institutions, syntax is studied within the discipline "Modern Ukrainian Literary Language" which begins with the study of morphology (syntactic properties of adjectives, numerals, etc.) and continues with a systematic course, which is usually taught over two, or sometimes three terms. Within the course, students study the syntactic units of the formal syntactic, semantic-syntactic, proper-syntactic, communicative character; analyse them and comment on linguistic facts; increase their speaking and writing skills.

The study of the papers by psychologists, psycholinguists, teachers and language didacticists gives grounds to assume that the effectiveness of the educational process depends on the teacher's consideration of the psychological and pedagogical characteristics of students.

Teaching syntax to future teachers of the Ukrainian language and literature is directly related to the cognitive processes of students of philology:

- awareness of the implementation of language norms, in particular syntactic ones in a speech act;
- understanding different approaches to the study of syntax in all perspectives;
- awareness of the synthesising nature of syntax (connection with phonetics, vocabulary, morphology, punctuation, etc.);
- determining the typological differences (for example, between a sentence and a phrase, complex and compound sentences) by indicating the subject of a clause is formed (simple and complex, one-member and two-member, complete and incomplete, extended and non-extended sentences);
- establishing relationships between components of syntactic units;
- ability to analyse syntactic units (phrases, sentences).

In our opinion, M. Zhaldaka's concept should be followed when building the educational process with the use of ICT, i.e. the use of ICT should be introduced into the educational process on the "principles of gradual and non-antagonistic integration <...> into the existing didactic systems, a harmonious combination of traditional and computer-oriented teaching techniques" (*Zhaldak, M., 2011: 4*). Provisions developed by Croatian researchers S. Selyan, N. Berger, Z. Dovedan are to be followed: to adhere to the purpose of training, think over the process of integration of all forms of communication and types of materials, be ready for difficult situations (in the case of technical and computer-caused issues), provide support to all stakeholders, involve students in decision-making (*S. Selyan et al., 2004*).

In view of this, modern professional training of future teachers of the Ukrainian language and literature while teaching syntax should be based on the feasibility and effectiveness of electronic educational resources, which will take into account the principles

of general didactics, lingual didactics, and specific syntactic and ICT principles. According to I. Ivanov (*Ivanov, I., 2011: 118*), the latter include the principles of expediency, observance of sanitary and hygienic norms, variability, systematic approach to the selection of teaching aids, minimisation of extracurricular information. In addition, it is significant that within his study, the author singles out the principles of the corpus approach to the analysis of language units and grammatical responsibility of the electronic text (*Ivanov, I., 2011*).

As practice shows, to master the syntactic material it is important to use different methods, techniques, and tools. In particular, technical devices for illustrating the material (computers, tablets, phones, projectors, smart boards, etc.) and ICT training tools; cognitive methods (information-receptive, dialogic, independent work with the textbook and other reference sources, "travelling" into the future/past, etc.), partially searching, PRES, microphone, games, reflection, etc.; exercises: cognitive, training, communicative, research and creative, "techniques: association, highlighting the key information, identifying the phenomenon, analysis, problem statement, generalization, analogy, definition" (*Golub, N.B. & Galaevskaya L.V., 2018: 19*), creation of information products, etc.

To design the electronic didactic materials the authors used the following criteria: 1) adaptive-and-functional (the use of electronic and digital teaching resources which are easy to use, available for all participants of the educational process and their functionality meets the teaching purpose); 2) scientific-and-informative (the use of learning cognitive information whose content is based on the exhaustive scientific-and-educational means); 3) thematic-and-content (operating texts, sentences which are excellent samples and enhance the development of communicative competence of the students and the formation of nationally conscious personality); 4) integrity criterion (designing and editing electronic and digital teaching resources based on the policy of academic integrity).

Among many electronic educational resources, the use of digital narratives, mental maps, infographics, electronic dictionaries and flashcards may be appropriate when teaching the syntax of the modern Ukrainian language.

Using the digital narrative. According to the authors of the manual "Digital Humanistic Pedagogy", the digital narrative is considered as "an original story that combines digital images, texts (verbal, video, music) and creates the most favorable conditions for communicating comprehensive information on the topic under study, and assimilating it by expanding channels of perception" (*Bykov, V. et al., 2017:95*).

B. Robin differentiates between three main groups of story-telling: personal as one of the most popular genres; digital stories telling about historical events; informative of educating stories. The researcher considers that the latter include stories reflecting the teaching materials in the fields of mathematics, teaching technique, etc. (*Robin, B. R., 2006*). For training teachers-to-be in the field of language and literature.

It can be implemented in any form of teaching (classroom, distance, mixed teaching) and organising the educational process: classes (lectures and practice), independent work. In lectures, students are asked to review the digital narrative and find out what they already know, and what needs to be clarified and learnt, which encourages students to self-study. For example, during a distance and mixed form of learning, the task can be formulated as follows: *Review the digital narrative by the link <https://youtu.be/JQVzxxhojE> or use a QR code. Remember what you already know. Use electronic sources (textbooks, manuals, etc.) to learn something about the new concepts. 2. Give examples of all types of the Subject (see fig. 1).* In a practical lesson, the digital narrative requires other forms of work, because it contains recommendations on how to do exercises. In particular, it contains some instructions: formulating the assignment – pausing

it – doing the exercise, and then making it active and checking. This form of work implies the student's self-control rather than assessment, while during classroom learning the performance can be assessed by the teacher.

Such assignments can be accompanied by different methods according to the teaching purpose, in particular, the most popular are the following methods: partially searching, PRES, microphone, work with textbook, games, formative evaluation, reflection.

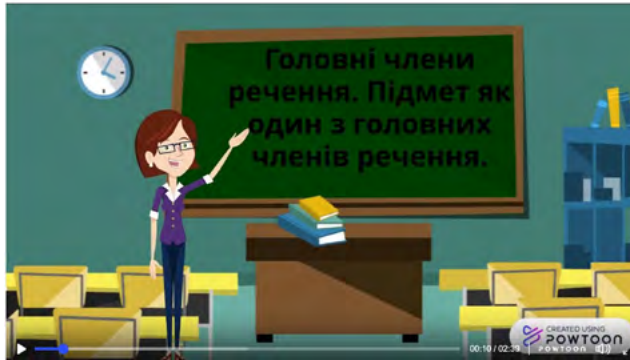


Figure 1. A fragment of the digital narrative used in lectures

Within the independent work students were asked to make digital narratives for a school course of Syntax, where it was important to keep to the recommendations on the creation of digital narratives developed by S. Tolisano (2009): writing, design, presentation, interviewing, solving problems, evaluation. In most cases, the created narratives are of quasi-pedagogical character, as the characters of these narratives are usually students and a teacher, which depicts the educational process of practicing a certain theme (see fig. 2). At the same time, future teachers not only create a means of visualization, describing the possibilities of its application, but also analyse the syntactic material presented in textbooks for general secondary education.

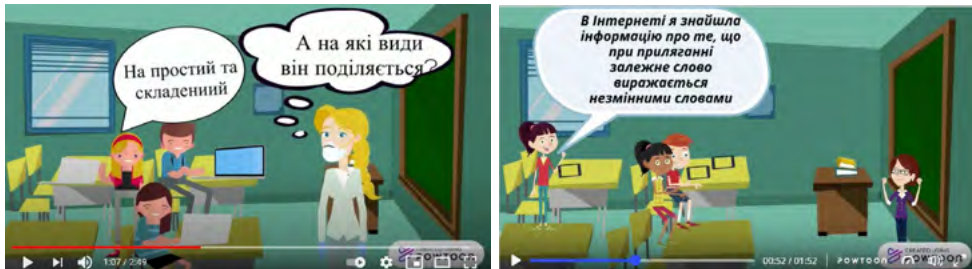


Figure 2. Example of digital narrative "The Subject and Ways of its Expression", "Adjunction". Developed by Kristina Zhurba and Ivanna Gleba under the guidance of M. Vintoniv, 2020

Such forms of work are designed to present concisely substantial material (the duration of digital narratives is usually from 2 to 10 minutes), which motivates students to search, study, discuss, learn certain aspects of the theme; build an individual trajectory of learning, because the amount and period needed to master it depend on the previous knowledge and skills of the students performing the cognitive activity.

Mind mapping. Mind mapping is another for future teachers of language and literature to deal with a significant amount of information and classifications. The perception is facilitated by structuring information by keywords (for example, terms, classification features, etc.). We agree with the opinion of R. Lacurezeanu, L. Stanca, A. Tiron-Tudor, S. Zagan (2021) that the use of mind maps offers students a strategy for storing information and interpreting it on their own (individual features of memorising). Besides, they make it possible to implement the following principles: saving time, motivation cognitive visualisation, individual/group creative work, structured, systemic and independent learning.

Mind mapping can be used while explaining a new theme, consolidating material, testing. In particular, it can be used during lectures to inform students about the syllabus, i.e. the structure of the course, thematic plan (course map); terminology of the subject; differentiate between some aspects of syntax (formal-grammatical, semantic-syntactic, actually semantic (logical-universal), communicative, pragmatic aspects); schemes of analysis of phrases, sentences (see Fig.3). In addition, mind mapping can be created during the lecture, using the method of association BUSH.



Figure 3. Fragments of mind maps used while teaching syntax

The use of mind maps during practical lessons involves assignments to reproduce and produce them. Students of philology studying syntax are required to know the schemes of phrase and sentence analysis, recommended by a university of school. For example, the task can be formulated as follows: *1. Take a look at the mind map and fill in the gaps with the missing information. Make a mind map of the classification given to students of secondary schools. 2. Analyze the phrases on the two mind maps: student-philologist, go on holiday, long before the set of exams far into the woods, a guy with a girl finished reading, a desire to win, reading out loud, morning fogs.*

In order to enhance cognitive processes of students, we think it advisable to use mind mapping for the team work, to create mental maps while summarising the information of a theme, for example, the views of linguists on the basic syntactic unit, common and distinctive features of phrase and sentence, a new doctrine on subordinate clauses, etc. After creating mind

maps, the group will comment on specific parts and reveal the issues raised, which helps the lecturer to assess the level of assimilation of material by students. For example, the assignment can be as follows: 1. *Imagine views of linguists on coordination and subordination in word-combinations. Comment.*

Infographics. Infographics is one of the tools that facilitates the perception and understanding of information, increases the ability to think critically. Researchers have proven that their use improves cognitive abilities (Damyanov & Tsankov 2018), builds up students' skills to see regulations and tendencies, makes interaction possible (Ibrahim & Maharaj, 2019; Yarbrough, 2019), makes it possible to do different types of exercises: modelling, re-coding information from one model to another, qualification types of assignments and modelling determining connections, generalising assignments for modelling genus-species and cause-result connections (Damyanov & Tsankov 2018). It should be noted that modern studies on language didactics, infographics is often associated with the teaching of Ukrainian literature (L. Bondarenko, J. Klymenko, etc.). In classes of syntax we offer different types of infographics: dynamic and static (see Fig. 4). The first one is interactive, because when you hover over the auxiliary marks (,) additional information appears: a text on the theme or a link to an abstract or an article, etc.

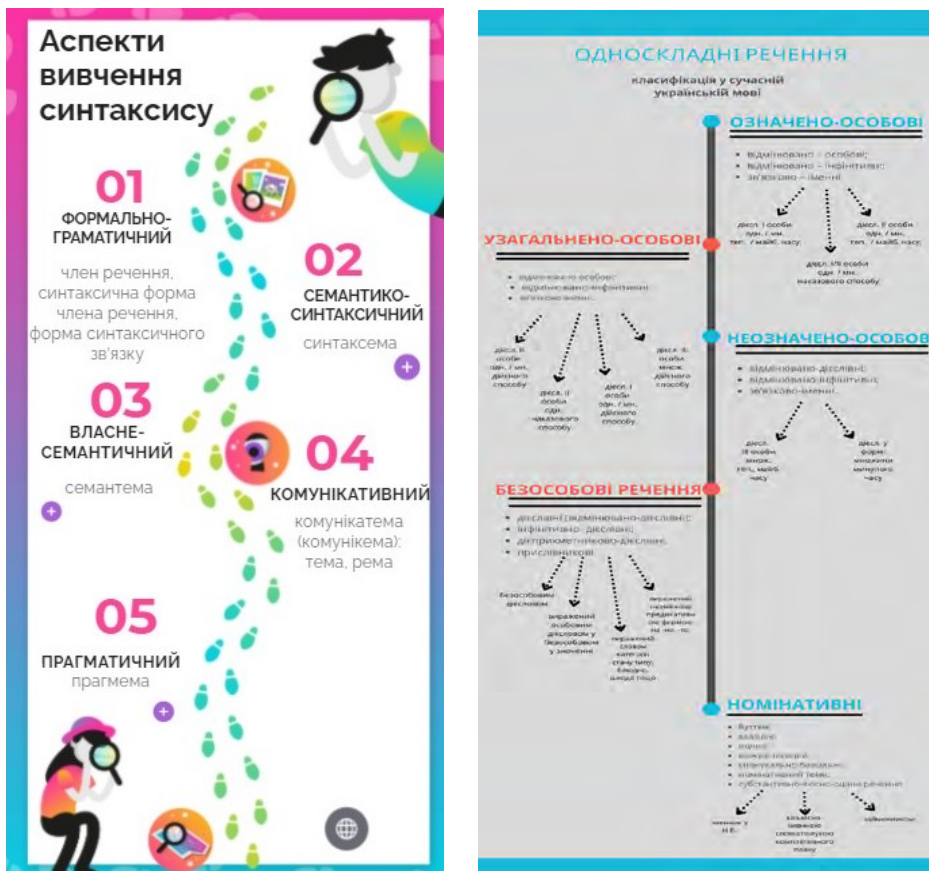


Figure 4. An example of infographics used to teach syntax

The use of infographics in lectures involves its analysis and active discussion. In this way students can say what they already know and what needs to be clarified; in practical classes we recommend it to be used for problem solving (searching for errors in infographics, substantiating the statements of linguists and language didacticists), and composing sentences on infographics given certain conditions. For example, assignments may be formulated as follows: *I. Read the infographics. Highlight the infographic fragments in three colours by the following principles: 1) I know and understand; 2) I know, but do not really understand (this material is difficult for me), 3) I do not know (this material is new to me).*

II. Study the infographic. Make a sentence with the given conjunctions, one sentence containing the conjunction which links homogeneous members of the sentence, and in another one it links parts of a compound sentence. Explain the punctuation.

III. Study the infographics "One-member sentences". Give examples for each type of one-member sentence with account of their morphological expression.

Future teachers are also encouraged to use the infographics for presenting the results of their individual work on the analysis of a passage from modern Ukrainian literature or fragments of texts that are different in style. Based on this, they compile an infographic that displays rather common types of sentences.

Flash cards. Flash cards are an effective way to memorise information. We recommend students to use them for independent work: learning the concepts of syntax (term – definition), such cards are designed by blocks related to a certain theme, for example "Syntactic units" (<https://cutt.ly/jWb1l6c>), "Sentence parts" (<https://cutt.ly/8Wb1fG6>) and others; training to remember the material, i.e. definitions of syntactic connections within a phrase (example of a phrase – syntactic connection) and types of sentences (example of a sentence – its type), etc. Following K. T. Wissman, M. Pyc, K. A. Rawson (2012), we think that flash-cards revision in intervals and self-control, and the latest seen should be a strategy of learning for students and help remember the information for a long time.

In practical classes, flash cards can be used for the techniques of "Microphone", "Incomplete sentence", "Catch a mistake", where students are asked to discuss complicated issues of syntax, correct the structure of phrases and sentences, and so on. For example, the assignment can be formulated as follows: *1. Complete the compound sentences with the maximum possible number of semantic relations. Define the semantic relations and the type of structure.* Thus the first page has some fragments of a sentence, and on the other side there is a teacher's version of the completed sentence. In distance learning, this exercise can be somewhat transformed: one side of the flashcard has a sentence, and the other has a semantic relation and its structural type, and the task is to find out which flashcards are correct and which are not. The information on the wrong flashcard needs to be corrected. *2. Find mistakes in sentences, edit them according to grammatical rules.* There is a sentence with an error on the front side, and the error is indicated on the back side (marked with any colour).

Electronic dictionaries are most often used to teach such branches of linguistics as spelling, Phonetics, Lexis (see O. Horoshkin, S. Karaman, L. Matsko, S. Omelchuk, A. Zarei, A. Gujjar, S. Yanti and others). However, we consider electronic lexicographic sources to be important for mastering Syntax, which is accounted for by the fact that examples given in the dictionaries are used as exemplary. It enhances the development of communicative competence of students, in particular, in the use of different types of syntactic structures in speech; secondly, thesaurus of linguistic terminology makes it possible to learn profoundly syntactic terms (synonymic, antonymic and variable), and broadens the notion apparatus in Syntax; thirdly, dictionaries help master the stylistic role and functions of syntactic units.

Within lecture courses, electronic dictionaries can be used to study the definitions of syntactic notions, to differentiate between their interpretations, observations of the functions of syntactic functions, specifics of their structure. A sample assignment:



I. Use the online dictionary Thesaurus of Linguistic Terminology (http://www.mova.info/mov_thes.aspx?l1=68) to study the notions in the word cloud. Define the notions for the students of 9th year could understand the definitions.

II. Use the QR-code to connect to the online dictionary A Frequency Dictionary of Ukrainian Publicistic Style – 2004, find out the cases when the conjunction “i” connects coordinate clauses. Based on the examples from the dictionary, formulate the rules of the use of punctuation marks to connect homogeneous parts of the sentence.

At the seminars, electronic dictionaries make it possible to realise the principle of selectivity and individual approach during the classes. They can be used for any form of studying (offline, online or mixed forms of education). Below are the examples of assignments:

Choose one of the assignments and fulfil it.

I. Using the Dictionary of Ukrainian Predicative Collocations (with the first element of “person”), make five extended sentences. Underline all parts of the sentence correspondingly. Find out the morphological expression of the parts of the sentence.

II. Using the Dictionary of Ukrainian Predicative Collocations (with the first element of “side”) make five extended sentences. Underline all secondary parts of the sentence correspondingly. Find out the morphological expression of each of them.

The following methods determine the applied character of the above-mentioned assignments: partially searching method bringing students closer to independent problem solution by training them to ask questions, make suggestions and conclusions; research method by developing a skill of independent analysis, making rules-explanations; problem training by using problem situations in assignments, active cognitive participation of students.

4. Conclusion and prospects for future research

The studied research literature made us confident that ICT tools are to be used in higher education to meet modern requirements of education. Introducing them into the system of linguistic training (offline, online and mixed), the didactic principles and functionality of ICT tools should take into account (see table. 1).

The use of ICT tools makes it possible to enhance students' perception (visual or sound images, the combination of both); create conditions for selectivity (the student controls the process of learning the material) and regulate the boundaries (creating exercises, describing the algorithm of doing them).

The use of the described tools during the training of future teachers of Ukrainian language and literature encourages students to self-cognition, self-study, reflection,

self-improvement; develops critical and creative thinking; offers them different strategies for memorizing information; enables interaction between all participants of the educational process (gamification); provides techniques of interval revision; makes the learning process lively and interesting, which has a positive effect on their studies. Moreover, it is constitutive that they may be used in open systems of teaching management (Moodle, Google Classroom).

The above exercises enhance profound and long-lasting knowledge of syntactic notions, theories, developing skills of identifying types of ways of representing subordinate connection, semantic-and-syntactic correlations; giving typological characteristics of syntactic phenomena; using methods of syntactic analysis; use different types of sentences in speech, considering synonymic potential of Syntax.

We consider that further research should be focused on the development and description of models of building syntactic competence of future teachers of Ukrainian language and literature using ICT tools; on the expansion of ICT tools used to train the students of philology, on testing them and covering in academic publications.

Table 1

Didactic features of ICT tools

| ICT tools | Characteristic | Principles | Functions |
|-------------------------|-----------------|---|--|
| Digital narrative | dynamic | – expediency; – availability of educational resources; – a systematic approach to the selection of training software; – computer visualization of thematic material; – interactivity. | Informative; Motivational; Incentive; Distributive. |
| Mind maps | static | | |
| Infographics | dynamic, static | | |
| Flash cards | dynamic | | |
| Electronic Dictionaries | dynamic | | |

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