

УДК 811.111

DOI: 10.32342/2523-4463-2020-2-20-30

**L.A. DMYTRUK,**

*Doctor of Pedagogy, Associate Professor  
of the Department of Foreign Philology,  
Ukrainian Studies, Social and Law Disciplines*

*Mykhailo Tuhan-Baranovskyi Donetsk National University of Economics and Trade (Kryvyi Rih)*

## **LEARNING ENGLISH THROUGH THE INTEGRATION OF STUDENTS' EDUCATIONAL-COGNITIVE AND SELF-EDUCATIONAL ACTIVITIES**

Метою статті є теоретичне обґрунтування та презентація результатів експериментальної перевірки дидактичної моделі системи організації інтеграції навчально-пізнавальної та самоосвітньої діяльності майбутніх учителів іноземної мови.

Розроблена концепція інтеграції навчально-пізнавальної та самоосвітньої діяльності студентів, яка базується на різних дидактичних підходах та ключових положеннях теорії діяльності, передбачає: оптимізацію змісту професійної освіти майбутніх учителів іноземних мов з урахуванням професійно-особистісних потреб майбутніх фахівців і вимог сучасного суспільства; з'ясування форм і видів навчально-пізнавальної та самоосвітньої діяльності; урахування основних аспектів дидактичного процесу у вищій школі (мотиваційного, організаційного, технологічного) та забезпечення вирішальних компонентів (мотиваційно-ціннісного, змістового, процесуально-діяльнісного, рефлексійного); створення необхідних умов для саморозвитку, самоконтролю, самоосвіти та самореалізації майбутніх учителів англійської мови.

Дидактична модель інтеграції навчально-пізнавальної та самоосвітньої діяльності студентів-філологів поєднує п'ять основних блоків, що перебувають у функціональній взаємодії: цільовий, методологічний, концептуальний, формувальний, результативний.

Метою експериментальної роботи було з'ясування ефективності запропонованої системи організації інтеграції навчально-пізнавальної та самоосвітньої діяльності майбутніх учителів іноземних мов, піковою точкою якої є підвищення продуктивності рівня вказаної інтеграції, що й свідчить про новизну цього дослідження.

Апробована у процесі формувального етапу експерименту дидактична модель організації інтеграції навчання і самоосвіти спрямовувалася в цілому на вироблення у студентів стійкого вміння самостійно мислити, знаходити новий матеріал і творчо опрацьовувати його.

Результати педагогічного експерименту засвідчили, що впровадження розробленої нами дидактичної моделі в навчальний процес ЗВО з метою розвитку професійної компетентності студентів-філологів суттєво підвищує якісний рівень сформованості професійної компетентності майбутнього спеціаліста.

*Ключові слова: інтеграція, навчально-пізнавальна діяльність, самоосвітня діяльність, дидактична модель, професійна компетентність.*

Целью статьи является теоретическое обоснование и презентация результатов экспериментальной проверки дидактической модели системы организации учебно-познавательной и самообразовательной деятельности будущих учителей иностранного языка.

Разработанная концепция интеграции учебно-познавательной и самообразовательной деятельности студентов, основанная на различных дидактических подходах и ключевых положениях теории деятельности, предусматривает: оптимизацию содержания профессионального образования будущих учителей иностранных языков с учетом профессионально-личностных потребностей будущих специалистов и требований современного общества; выяснение форм и видов учебно-познавательной и самообразовательной деятельности; учет основных аспектов дидактического процесса в высшей школе (мотивационного, организационного, технологического) и обеспечение решающих

компонентов (мотивационно-ценностного, содержательного, процессуально-деятельностного, рефлексивного); создание необходимых условий для саморазвития, самоконтроля, самообразования и самореализации будущих учителей английского языка.

Дидактическая модель интеграции учебно-познавательной и самообразовательной деятельности студентов-филологов сочетает пять основных блоков, находящихся в функциональном взаимодействии: целевой, методологический, концептуальный, формирующий, результативный.

Целью экспериментальной работы было выяснение эффективности предложенной системы организации интеграции учебно-познавательной и самообразовательной деятельности будущих учителей иностранных языков, пиковой точкой которой является повышение производительности уровня указанной интеграции, что и свидетельствует о новизне данного исследования.

Апробированная в процессе формирующего этапа эксперимента дидактическая модель организации интеграции обучения и самообразования направлялась в целом на выработку у студентов устойчивого умения самостоятельно мыслить, искать новый материал и творчески обрабатывать его.

Результаты педагогического эксперимента показали, что внедрение разработанной нами дидактической модели в учебный процесс вузов с целью развития профессиональной компетентности студентов-филологов существенно повышает качественный уровень сформированности профессиональной компетентности будущего специалиста.

*Ключевые слова: интеграция, учебно-познавательная деятельность, самообразовательная деятельность, дидактическая модель, профессиональная компетентность.*

**Introduction.** Higher educational institutions are called to meet the needs of society in active, creative, educated specialists, who can quickly and qualitatively develop their own potential and improve their professionalism under current conditions.

Perfect knowledge of a foreign language has become an important component in specialists' training, since the time and changes in the minds of people dictate their rules (it is connected with the necessity of performing international military tasks of cooperation by the armed forces of Ukraine, as well as Visa-free regime, due to which travelling to Europe is becoming topical, and considering the question of compulsory preparation for English testing in terms of external independent assessment in 2018, along with the procedure of awarding the academic ranks for obtaining Certificate in accordance with European language education recommendations (at the level not lower than B2). In the course of the specified problem, a qualitatively new approach to the professional training of future English teachers acquires special relevance, because they will develop, educate and teach foreign languages to future generations. The new approach, as we believe, is the integration of self-educational and cognitive activities of future specialists, which will influence their professionalism.

**Analysis of recent research and publications.** A lot of research is devoted to the problem of students' self-directed work organization according to credit-modular system (Ye. Zaika [1]); organization of students' educational and cognitive activity control in higher educational establishments of Ukraine (Kh. Onasko [2]); methodological principles of intensification of students' educational and cognitive activity (M. Smetanskyi [3], Holme R. [12]); psychological and pedagogical aspects of intensification of students' educational and cognitive activities (Ye. Tanko [4], Anique B.H. de Bruin, Jeroen J.G. van Merriënboer [10]); consideration of relevant literature in the field of cognitive style, which affects individual, professional and organizational training (R. Pithers [5]); the structure, criteria and levels of future specialists' self-education competence formation (T. Yavorska [6]); content and structure of higher technical educational establishments students' self-educational activity (T. Kvitka [7]) and others.

**The objective of the article** is a theoretical substantiation and presentation of the results of experimental verification of the didactic model of the system of organization of integration of educational-cognitive and self-educational activity of future foreign language teachers.

**The principle of the proposed methodology.** Having started with guidance on objective, certain tasks, summarising theoretical provisions, substantiation of content, functions, forms and types of activity, determining directions of activity optimization, we have designed the didactic process.

The conception of students' educational-cognitive and self-educational activities integration, which relies on various didactic approaches and key provisions of the theory of activity, includes: optimization of the content of professional education of future Foreign languages teachers,

taking into account professional and personal needs of future specialists and demands of modern society; specification of forms and types of educational-cognitive and self-educational activities; taking into account the basic aspects of didactic process in higher school (motivational, organizational, technological) and provision of key components (motivational-value, semantic, procedural-active, reflexive); creation of the necessary conditions for self-development, self-control, self-education and self-realization of future English teachers.

Among the main tasks raised in the study, the most important are: students' tendency to use local didactic environment and the Internet resources; formation of skills to analyze, systematize and generalize the material studied, prepare for verbal and written answers independently; improving skills to achieve facts and arguments independently in order to develop such students' cognitive abilities as curiosity, observation, active approach to gaining and using knowledge; development of initiative, responsibility, readiness to self-development, self-realization, diligence, which are necessary for future specialist.

The emphasis of attention in our methodology was put on the forms of discussion of specific situations, business role-plays in the basic educational-cognitive activity, individual and microgroup creative tasks, the method of brainstorming and sensitive training and on test tasks. Such an approach is widely used in many European countries and gives a positive result. "In today's foreign language education of future teachers of humanities specialties are considered relevant for the methods that are successfully used in foreign countries. Yes, Oxford, Cambridge, Longman, MacMillan publications are particularly valuable, and it is appropriate to use an interactive method of modeling situations where situations of social status relations, role relations (role play), situations of relationships of joint activity (group work, exchange) are used as experience in the situation of moral relations" [11].

Based on the methods, singled out by O. Pometun and I. Sokolova (Interactive techniques of cooperative learning; Interactive techniques of collective-group training; Interactive techniques of situational modelling; Techniques of controversial issues discussion [9], the following methods of Interactive Training have been applied: discussion, work in small groups, imitation, talk shows, rotary threes.

The examples of issues intended for discussion in small groups in order to state one's own opinion are as the following: Are you a saver or a spender? What makes some people mean or generous? Should home economics be taught at school? Should people of your age know how to do the following: set up a bank account, buy things online, shop around, invest money, and take faulty goods back to the shop? Why? How important is a healthy diet to you? What are the disadvantages of eating in fast food restaurants? Why do you think so many young people want to be celebrities in the future? What would you spend your first salary on? Would you say that regular tests motivate learners to study harder? Do you prefer spoken or written exams?

The didactic model of integration of educational-cognitive and self-educational activities of Philology students combines five basic blocks, which are in functional interaction: target, methodological, conceptual, formational and resulting.

In order to test the model of the whole system of integrating students' educational-cognitive and self-educational activities, the program of its experimental realization was developed, which traditionally contains several stages: stating, forming and controlling.

The purpose of experimental work was to clarify the effectiveness of the proposed system of organization of integration of future foreign language teachers' educational-cognitive and self-educational activities, the crucial point of which is the increase of productivity level, that grounds the novelty of this research.

**Experimental verification and empirical results of the methodology effectiveness.** In order to identify the initial level of professional competence of future teachers of the English and German languages the following methods of research were applied: monitoring of communicative activity, thematic debates, testing; survey adapted to the method of polar scales simulation of professional communication as well as the method of design.

Due to the supervision of students' activities in the educational process the obtained results were recorded, which reflect the motivational basis of value attitude to professional activity and the degree of satisfaction of the level of its formation. The coefficient of gratification was calculated by the formula:

$$I = \frac{(+1)n_1 + (+\frac{1}{2})n_2 + (0)n_3 + (-\frac{1}{2})n_4 + (-1)n_5}{N},$$

where I – the coefficient of gratification, n1 – the number of fully satisfied; n2 – the number of satisfied; n3 – the number of those who did not answer the questions; n4 – the number of dissatisfied; n5 – the number of completely dissatisfied; N = n1 + n2 + n3 + n4 + n5 – the total number of respondents.

With the adapted variant of the method of polar scales it has been found out that the satisfaction coefficient is  $C_s = A/B$ , where A is the number of positive answers by one of the points polar scale; B – the the number of negative responses from the same item. If  $C_s > 1$ , then this reason was considered significant; if the  $C_s < 1$ , this reason is considered to be significant and if  $C_s = 1$ , then – the neutral one.

To determine the presence or absence of discrepancies in the level of professional competence of the experimental group, that is, to check the average values in all samples, the statistical Student's t-criterion was used. In all cases, the requirements for normal distribution of the feature studied (by Gauss) were observed. The following parameters are used to describe this distribution: the average M and the standard deviation S. The following formula was used:

$$t = \frac{(m_x - m_y) - (M_x - M_y)}{\sqrt{S_x^2/n_x + S_y^2/n_y}},$$

where  $m_x$  and  $m_y$  – the average of two independent samples;  $M_x - M_y$  is the hypothetical meaning of the difference between the two average indices of the initial totality;  $S_x$  and  $S_y$  – the dispersion of variable x and Y (dispersion is a square of any standard deviation of S2, reflecting the degree of data distribution in a sample);  $n_x$  and  $n_y$  – the volume of samples.

To calculate the dispersion variables, the following formula was used:

$$S_x^2 = \frac{\sum(x - \bar{x})^2}{n-1},$$

where x is the variable;  $\bar{x}$  - is the average value of variables; and n is the sample volume. The figure of degrees of freedom was determined by the formula

$$v = (n_x + n_y) - 2.$$

If  $t < t_{cr}$ , the observation data is consistent with a zero hypothesis ( $H_0$  – indicators of professional competence of different experimental groups do not differ, variable value in general population is distributed under normal law) and do not give any reasons to reject it. In case when  $t > t_{cr}$ , the null hypothesis is rejected, and an alternative hypothesis is adopted.

In order to clarify the statistical relationship between the components of professional competence, the Pearson Linear Correlation ( $r_{xy}$ ) coefficient was used, which was calculated by the formula:

$$r_{xy} = \frac{n \sum x_i y_i - \sum x_i \sum y_i}{\sqrt{[n \sum x_i^2 - (\sum x_i)^2][n \sum y_i^2 - (\sum y_i)^2]}}.$$

The research of interrelation between individual components of professional competence was provided in each group of respondents. The value of the  $r_{xy} = 0.8 - 0.9$  is considered high.

The specific character of the system of credit-modular training was considered while criteria development. We have applied the calculation of the conversion coefficient of the educational material, developed by Yu. Babanskyi [8] to determine the level of performance of students' educational-cognitive and self-educational activities while performing tests and projects, writing essays and official letters.

$C = \frac{\text{sum of correct answers}}{\text{the number of tasks}}$ , where C is a coefficient.

Taking as the basis the principle of formula construction proposed by Yu. Babanskyi, we have summed up the generalized formula of calculating the estimated coefficient of students' professional competence, which is determined by the ratio of the number of responses to maximally possible ones:

$$C = \frac{NSP}{MPNP}$$

where the NSP is the number of scored points, and MPNP – the maximum possible number of points. You can set the knowledge ratings scale of the entire group by C coefficient. It is accepted to consider, if it equals 0.75, the answer is estimated in 3 points, from 0.75 to 0.85 – 4 points, from 0.85 to 0.90 – 5 points, below 0.60 – 2 points.

Having conducted the calculation of the factor of mastering the theoretical material on the basis of the performed tasks of the test papers by each student of the group (they were two (EG and CG)), it made it possible to establish the average coefficient. It totalled 0.74 in EG and in CG – 0.65.

To determine the indicators describing the effectiveness of the influence on system of organization of integration for the students-philologists, the members of experimental and control groups (52 in total, of which: 26 – Control Group and 26 – Experimental Group) were proposed to do complex tests, which were separated by blocks: motivational-valuing; cognitive; operational-active. They were also offered tests of language professional character, both on vocabulary and grammar check. One example of the test is on the topic “Computers” [13]:

Complete each gap in this text with a suitable word from this list.

<i>patient's</i>	<i>efficiency</i>	<i>expert</i>
<i>more</i>	<i>and</i>	<i>enables</i>
<i>features</i>	<i>multimedia</i>	<i>computers</i>
<i>enhances</i>	<i>getting</i>	<i>security</i>
<i>devices</i>	<i>environments</i>	<i>human</i>
<i>systems</i>	<i>educational</i>	<i>example</i>
<i>machine</i>	<i>video</i>	

*Not only is computing equipment .....<sup>1</sup>smaller, it is getting more sophisticated. ....<sup>2</sup> are part of many machines and .....<sup>3</sup> that once required continual .....<sup>4</sup> supervision and control. Today, computers in .....<sup>5</sup> systems result in safer .....<sup>6</sup>, computers in cars improve energy.....<sup>7</sup>, and computers in phones provide.....<sup>8</sup> such as call forwarding, call monitoring, and call answering.*

*Multimedia.....<sup>9</sup> are known for their .....<sup>10</sup> and entertainment value – which we call edutainment .....<sup>11</sup> combines text with sound .....<sup>12</sup>, animation, and graphics, which greatly .....<sup>13</sup> the interaction between user and .....<sup>14</sup> and can make information .....<sup>15</sup> interesting and appealing to people. ....<sup>16</sup> system software .....<sup>17</sup> computers to ‘think’ like experts. Medical diagnosis expert systems, for .....<sup>18</sup>, can help doctors pinpoint a .....<sup>19</sup> illness, suggest further tests .....<sup>20</sup> prescribe appropriate drug.*

All the tasks were evaluated in accordance with the scale well-known to the teacher.

By focusing on the indicators of certain levels of professional competence formation, it is established that future foreign language teachers have the low level of the specified qualities of 10%, average of 80%, high of 10%.

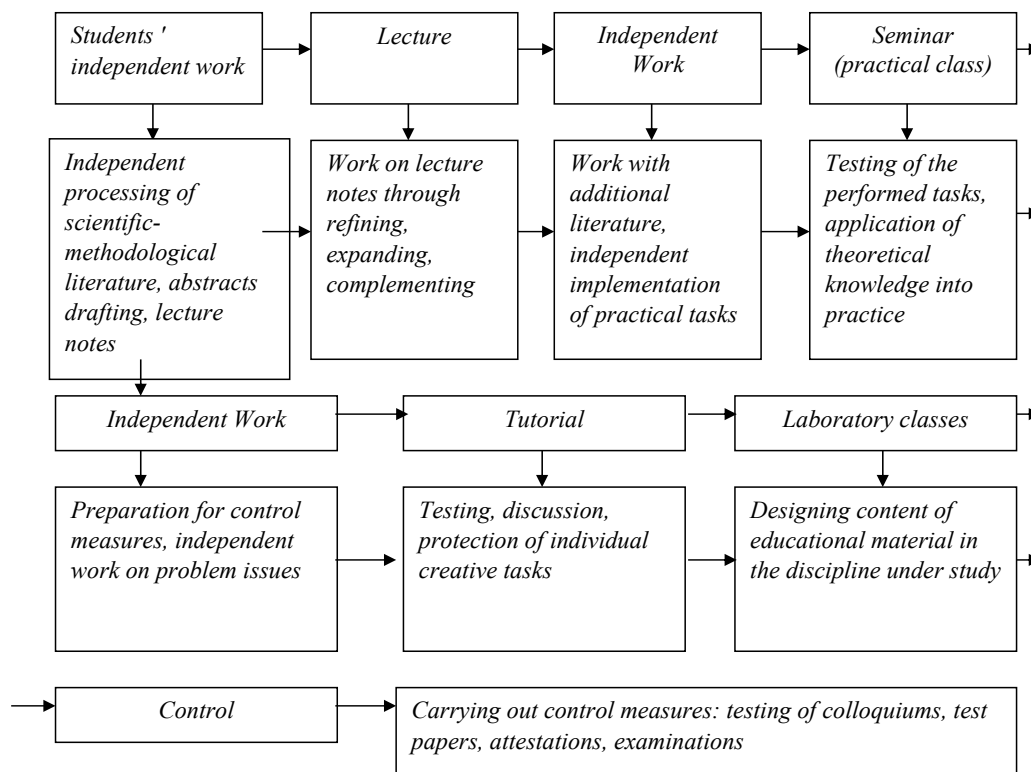
The training work at the preparatory stage of the experiment was preceded by a certain methodical and organizational work: development of plans, tests, texts, etc. Later the development of students’ professional competence in Experimental Group was conducted on the basis of our model.

The experimental classes were conducted according to credit-modular technology, among the main modern methods were: heuristic conversation, didactic game, testing, etc.

The list of first semester topics with the number of hours is shown in the following table:

	Theme Name	Number of academic hours			
		lectures	seminars	self-directed work	total
1	<i>Success in Life: Risk or Planning</i>	2	2	6	10
2	<i>Search for Happiness: Inside or Outside?</i>	2	2	6	10
3	<i>Escaping from Reality: Pros and Cons</i>	2	2	6	10
4	<i>Escaping into Wilderness as a Means of Relaxation</i>	2	2	6	10
5	<i>The Influence of Relationships on our Lives</i>	2	2	7	11
6	<i>How to Build Confidence and Become One's Own Hero</i>	2	2	7	11
7	<i>Is There a Border Between Security and Privacy?</i>	2	2	7	11
8	<i>Crime: Reasons For Committing And Ways Of Punishment</i>	2	2	7	11
9	<i>Pros And Cons Of Living In A Technological World</i>		4	7	11
10	<i>How Our Jobs Shape Our Identity</i>		4	7	11
11	<i>How To Maintain A Work-Life Balance</i>		4	7	11
12	<i>Health Problems And How To Eradicate Them</i>		4	7	11
13	<i>It's Not The Winning, It's The Taking Part, Isn't It?</i>		4	7	11
14	<i>Is Getting A Degree Worth It? Pros And Cons Of Higher Education</i>		4	7	11
		16	40	94	150

These subjects were proposed to study according to the following scheme:



Verified in the process of the forming phase of the experiment, the didactic model of organization of learning and self-education was, in general, directed on the development of students with stable ability to think independently, to produce new material and to process it creatively.

By comparing the statistical indicators of the level of professional competence components to students from experimental and separate control groups separately at the beginning and after the finishing phase of the experiment, we can state the fact of low efficiency of traditional learning in comparison with experimental based on our didactic model.

The level of the professional competence components:

<i>Level of the professional competence components</i>	<i>Experimental Group (BEFORE)</i>	<i>Experimental Group (AFTER)</i>	<i>Control Group (BEFORE)</i>	<i>Control Group (AFTER)</i>	<i>Difference</i>
<i>High</i>	4	7	5	5	3–0
<i>Average</i>	17	18	16	16	1–0
<i>Low</i>	5	1	5	5	4–0
<i>Total</i>	26	26	26	26	–

The statistical analysis of experimental activity results confirmed the probability of conclusions and assumptions.

The results of the pedagogical experiment have shown that implementation of the didactic model in the university educational process with the purpose of development of professional competence of students-philologists raises the qualitative level of formation of the future specialist' professional competence significantly.

**Conclusions and prospects for further research.** Thus, in order to interiorise professional knowledge, the creation of projects, organization of authentic conversations and public presentations, portfolio drafting, creation of projects, organization of public presentations and use of cases were effectively applied. A particularly promising way of learning a foreign language is the solution of speech problems, which are embodied through the system of exercises by the level of creativity. Analysis, synthesis, induction, deduction, pedagogical observation, questioning, interviewing, experiment, methods of mathematical statistics were the basic methods of experimental efficiency verification of the developed model.

The general results of experimental training give grounds to assert that the hypothesis, developed model, chosen system of forms and methods are progressive, effective and forward-looking.

### Bibliography

1. Заїка Є.В. Ігровий тренінг пізнавальних процесів учнів: ігри та вправи: навчальний посібник / Є.В. Заїка. – Харків: ХНУ імені В.Н. Каразіна, 2013. – 256 с.
2. Онасько Х.О. Особливості проведення екзаменів і заліків у вищих навчальних закладах України (20–30-ті роки ХХ ст.) / Х.О. Онасько // Актуальні проблеми державного управління, педагогіки та психології. – 2013. – Вип. 2. – С. 348–351.
3. Сметанський М.І. Шляхи удосконалення педагогічної підготовки майбутніх учителів / М.І. Сметанський // Шлях освіти. – 2002. – № 4. – С. 36–39.
4. Танько Є.В. Моніторинг як складова контролю самостійної роботи студентів в університетах Великої Британії / Є.В. Танько // Засоби навчальної та науково-дослідної роботи. – 2014. – Вип. 43. – С. 193–203.
5. Pithers R.T. Critical Thinking in Education: A Review / R.T. Pithers, R. Soden // Educational Research. – 2000. – No. 42. – P. 237–249.
6. Яворська Т.М. Структура, критерії та рівні сформованості самоосвітньої компетентності у майбутніх фахівців економічної галузі / Т.М. Яворська // Професійна освіта: проблеми і перспективи. – 2014. – Вип. 7. – С. 56–61.
7. Квітка Т.В. Зміст та структура самоосвітньої діяльності студентів вищих технічних навчальних закладів / Т.В. Квітка // Педагогіка вищої та середньої школи. – 2014. – Вип. 41. – С. 68–73.

8. Бабанский Ю.К. Педагогика: учебное пособие / Ю.К. Бабанский. – М.: Просвещение, 1988. – 468 с.
9. Пометун О. Сучасний урок. Інтерактивні технології навчання: науково-методичний посібник / О. Пометун, І. Соколова. – К.: А.С.К., 2006. – 193 с.
10. Anique B.H. de Bruin. Bridging Cognitive Load and Self-Regulated Learning Research: A complementary approach to contemporary issues in educational research / B.H. Anique de Bruin, J.G. Jeroen van Merriënboer // *Learning and Instruction*. – 2017. – Vol. 51. – P. 1–9.
11. Onishchuk I. Characteristics of Foreign Language Education in Foreign Countries and Ways of Applying Foreign Experience in Pedagogical Universities of Ukraine / I. Onishchuk, M. Ikonnikova, T. Antonenko, I. Kharchenko // *Revista Romaneasca pentru Educatie Multidimensionala*. – 2020. – Vol. 12. – Issue 3. – P. 44–65.
12. Holme R. Cognitive Linguistics and the Second Language Classroom / R. Holme // *TESOL Quarterly*. – 2012. – Vol. 46. – Issue 1. – P. 6–29.
13. Cambridge Dictionary [Електронний ресурс] / ed. by P. Neacock. – Режим доступу: <https://dictionary.cambridge.org> (останнє звернення 28.09.2020).