

# The Formation of English-Language Lexical Competence of Future Specialists of Information Technologies

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**Abstract:** The article investigates the principle of information technology specialists' competence formation in the conditions of globalization and integration economic processes. In the course of the study, the factors determining the necessity of IT specialists' fluency in foreign languages, in particular in English of professional communication, are identified. Such processes are analyzed on the basis of the theoretical grounding of the researchers on this topic. The relevance of the article is due to the needs of today's globalized society in the context of the development of informatization and digitalization.

The study clarifies the essence of English-language lexical competence of future specialists in information technology, identifies the pedagogical conditions, the theoretical rationale, practical development and experimental testing of the methodology for forming English-language lexical competence in future specialists in information technologies within the framework of masters' degree programmes.

The stages of formation of such competence in future IT specialists were determined, a system of tasks for forming English-language lexically competence (ELC) in professionally oriented written communication (POWS) was substantiated and concluded, a linguodidactic model was designed, an algorithm of collective preparation of a written product was proposed.

Importantly, the article interprets the results of the experiment in order to verify the effectiveness of the developed method of forming their ELC.

The method of analysis, synthesis, research and comparative generalizing method, problem solving method and information and communication method were used for research, a methodical experiment was conducted.

On the basis of the obtained data the hypothesis about the effectiveness of the methodology of ELC formation in the POWS of future IT-specialists is confirmed.

**Keywords:** *written communication; master's program; IT-specialists; linguodidactic model; foreign languages; collective training algorithm.*

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## Introduction

Nowadays, many aspects, including globalization and integration processes and requirements of the labour market for information technology specialists (IT specialists), necessitate their fluency in foreign languages, including English for professional communication. Professional roles and functions of IT specialists include various forms of foreign language professionally oriented communication; among them, in addition to oral communication, a significant place is occupied by written communication, including formal, semi-formal and informal correspondence with customers, suppliers, colleagues and management. The specifics of the work of the information technology specialists include correspondence in English, because Ukrainian IT companies mostly provide services to foreign customers. Therefore, company documentation must be correct grammatically, lexically and stylistically. In this regard, the requirements for foreign language training of future IT specialists in higher education institutions are significantly increasing, in particular, the formation among future IT specialists of ELC in POWC.

Various aspects of forming foreign-language lexical competence have been studied by such scholars as I. Zymnya (2001), A. Kotlovsky (2017), Onishchuk et al. (2020), Sheremet et al. (2019), Gerasymova et al. (2019) and others. Nowadays, F. Batsevych (2004), O. Selivanova (2008) and others deal with the problems of communicative linguistics and intercultural communication. Features of the application of different approaches to teaching foreign languages, as well as the principles of teaching, have been analyzed by O. Leontiev (1979) et al. O. Tarnapolsky & S. Kozhushko (2008) and others have studied professionally oriented communication of non-philology students. At the same time, theoretical and methodological principles of teaching foreign languages for special purposes have been justified by O. Bykonya (2017), Z. Korneva (2018) L. Morska (2012), Martynova (2004) and others determined the features of communication with the use of ICT.

However, today the method of forming ELC in POWC of future IT specialists remains undeveloped. This, as well as the social order of society for high-quality foreign language training professionals of IT sphere, led to the choice of the topic of this article.

**The hypothesis** assumes that a high level of ELC in POWC of future IT specialists during master's studies can be achieved by using experimental methods based on the terms of competency-based, communicative, activity-related, socio-cognitive, personality-oriented and

integrative approaches; it provides the gradual formation of ELC in POWC with the involvement of the appropriate subsystem of exercises, problem-solving methods and algorithm for collective preparation of a written product.

**The aim** is based on theoretically substantiate, practical development and experimentally test the methodology of forming English-language competence in lexical direction in professionally oriented written communication for future specialists in IIKT - technologies within the framework of masters' degree programmes.

### **Methodological foundations of the study**

Methodological foundations are key in the context of the conducted research, as they interpret the indicators of forming English-language competence in future information technology specialists (Hill, 2012). The study used a systematic comprehensive research method to determine the essence of English-language lexical competence, as well as IT - technologies.

The scientific views of the researchers are summarized, which was the basis for clarifying the concepts: "English lexical competence"; "information and communication technology specialist", "foreign competence in speech and communication context", "technologies of speech competence formation".

The methodological basis is a study of theoretical foundations for the formation of English-language competence in IT specialists and methodological experiment, which lasted during the 2019-2010 academic year at Ivan Franko National University of Lviv, Poltava State Agrarian University, Zhytomyr Ivan Franko State University, Taras Shevchenko National University of Kyiv, Kharkiv National University of Internal Affairs.

The article aims to verify the hypothesis regarding the effectiveness of the developed methodology of ELC formation in the POWS of future IT-specialists. The objectives of the experiment covered:

- 1) determining the nature and structure of the methodological experience;
- 2) conducting a pre-experimental assessment of ELC levels in POWS in the respondents to divide them into experimental group (EG) and control groups (CG);
- 3) implementation of the methodology of formation of ELC in POWS in the experimental group;
- 4) post-experimental evaluation of ELC levels in POWS in EG and CG to interpret the obtained data and verify the hypothesis (Bäckman, 2012).

The sample of the experiment was the 1st year undergraduate students (96 participants in the experiment), they were classified into EG and CG of 48 students in each, which made up the experimental pair.

In order to test the hypothesis of the study, a two-level mathematical calculation of the obtained data was performed using frequency histogram of data distribution with theoretical normal Gauss curve, Kolmogorov-Smirnov test, as well as the Mann-Whitney U-test and the Wilcoxon signed-rank test.

**Methods.** Research and descriptive methods were applied. In order to summarize the results, the method of generalization was applied.

### **Prerequisites for forming English-language lexical competence in professionally oriented written communication in future information technologies specialists**

In this research, English-language lexical competence in professionally oriented written communication is interpreted as an integrated quality, which allows one to apply the knowledge, skills and abilities related to using English vocabulary in writing while creating written products in accordance with communicative situations in the IT sphere. The ELC in POWC consists of lexical knowledge, skills and awareness, as well as writing skills (Hill, 2012).

The genres of ELC in POWC include private and business correspondence via e-mail, exchange of messages (chats, forums), posts on electronic bulletin boards and memes (Sklyarenko, 2012). In the context of the main situations of English-language POWC of IT specialists (correspondence with customers, suppliers, colleagues, managers, reporting on assignment), certain functions of English-language POWC of IT specialists are implemented: contact, information, motivation, coordination, cognitive, emotional, influential, function to keep relationships, problem solving and task achievement.

Students are immersed in the situation of POWC using problem-solving methods, including analogy, “brain storming”, “distribution and victory” and so on. The effectiveness of such methods depends on the level of time management skills and the elimination of distractions.

The approaches ensuring methodological validity of forming ELC in POWC in future IT specialists include competency-based, communicative, activity-related, socio-cognitive, personality-oriented and integrative (Glendinning & McEwan, 2011). Competence determines the goals, content, organization and result of the process of foreign language training of future IT specialists in University, in particular, provides a comprehensive

formation of such specialists with targeted competencies. Communicative-cognitive approach provides the formation of the ability to make meaningful selection and use of lexical units (LU), the formation of lexical awareness and the ability to explain the selection of LU in POWC; students' awareness of how effectively they can self-assess their levels of target competence. Communicative-active approach is realized through the prism of involving students into active English-language writing activities and involves mastering the rules of English-language writing and speaking activity and characterized by mastering of rules searching English-language LU, grammatical structures (GS), speaking models while mastering their communicative-speech function, thus enhancing the activity of this process. Sociocognitive approach actualizes social and cognitive factors, that are involved in the formation of future IT specialists ELC in POWC; emphasizes onto integration of social and emotional spheres of this process with cognitive, takes into account biological and cognitive trends in learning English as a foreign language. In the context of the person-centered approach, the acquisition of English lexical knowledge and skills is realized in the process of students' expression of subjectivity while they create an English-language professionally oriented written product (Esteras, 2007). The integrated approach to the formation of future IT specialists in ELC of POWC involves the integration of all components of this process.

The most important principles underlying this process are general didactic and methodological (activity, strength, reliance on lexical rules, variability), as well as specific to this research (effective writing and immersion into communicative situations of professionally oriented written communication).

### **Methods of forming English-language lexical competence in professionally oriented written communication in future information technologies specialists**

The contents of the formation of ELC in POWC of future IT specialists is structurally represented by subject and procedural aspects, selection of educational material, subsystem of exercises for the formation of ELC in POWC of future IT specialists. The subject aspect includes: linguistic-pragmatic features of professional written discourse of IT specialists; areas, types, functions of IT specialists; roles of IT specialists; POWC situations; communicative goals and intentions; means of communication; knowledge of word formation and structure; declarative knowledge of writing: rules of spelling and syntax, different genres, socio-cultural specifics of professional communication in the field of IT

(Bäckman, 2012). The procedural aspect of the ELC formation content in POWC of future IT specialists is represented by: lexical skills (receptive and productive) and awareness; knowledge of standards for various genres characteristic of professional discourse in IT; organizing one's own statements, using interphrase communication; formulation and design of own statements, ensuring compliance with style and genre, compliance with the compositional correctness; formulation of difficult statements by means of simpler language means.

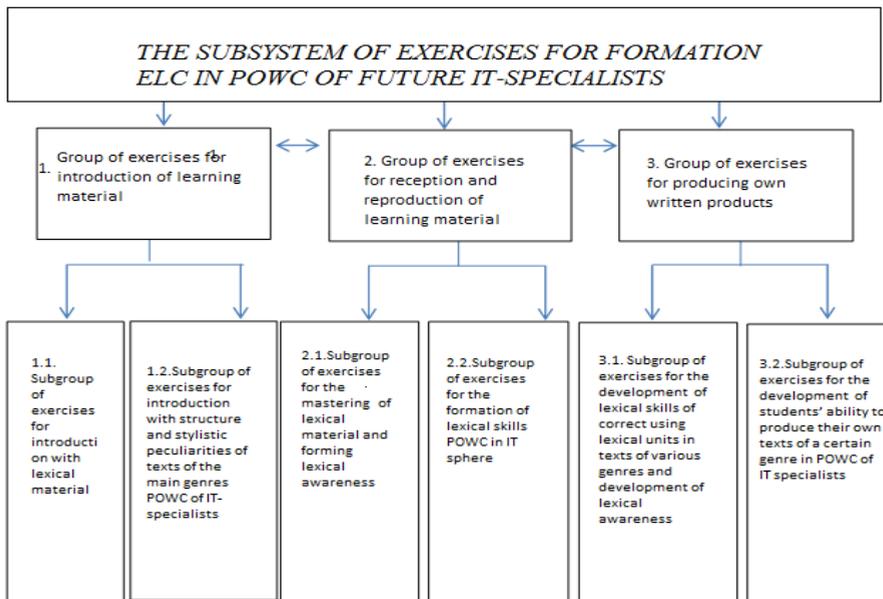
Because the texts of various genres that dominate in the POWC IT specialists (private and business email correspondence, chats, forums, memos), perform in the process of producing subjects of their own statements reference and auxiliary function, their together with LU are accepted as units of selection of educational material for formation of ELC in POWC of future IT specialists (Bäckman, 2012). The selection of LU was carried out in thematic fields taking into account the professional needs of students studying foreign languages based on oral and written English authentic texts. In the process of selecting LU and compiling a minimum vocabulary, we were guided by criteria stemming from analyzing the functions of educational material, as well as analysis of scientific research on criteria for selecting vocabulary for learning English for professional purposes, namely: semantic value as the ability to express important IT specialists concepts; stylistic correspondence to certain dominant genres of IT specialists of POWC; compatibility as the ability of LU to combine with other LU in the samples of VOWC IT specialists; frequency of use in the samples of IT specialists. The selection of texts relied on authenticity, structural and stylistic reference, compliance with the prevailing communicative situations in the field of IT, compliance with the genres of ITS specialists, authority of selected sources.

The volume and complexity of the texts are determined by depending on the level of ELC in the POWC formation of future IT specialists.

The effective formation of ELC in POWC of future IT specialists should be organized sequentially in three stages: *receptive* (acquaintance with the semantics of words, their written form, means of stylistic expression, sociocultural coloring, syntactic and lexical compatibility, word rules, word formation, word structure, texts which are reference samples of different genres of POWC of future IT specialists); *receptive-reproductive* (forming both receptive and productive lexical skills; teaching students to create systems of lexical knowledge and comprehend the formation of lexical competence; formation of skills of recognition and use of LU, understanding of

peculiarities of their functioning; formation of knowledge of spelling and syntax rules, GS, means of speech stylistic features of POWC texts by IT specialists of different genres and types, socio-cultural features of POWC IT specialists, competence of writing standards of texts of different genres and types characteristic of their professional discourse, the formation of graphic, orthographic, grammar skills of writing, skills of using means of interphrase communication); *productive* (formation and development of skills in writing: formulation and design of own statements, ensuring their integrity, coherence, completeness, addressability and compliance with the characteristics of professional discourse of IT specialists; compliance with style and genre; compliance with the compositional correctness of the text structure; formulation of difficult statements by means of simpler language ones) (Castells, 1992; Kendal, 2012).

The developed subsystem of exercises for the formation of ELC in POWC of future IT specialists corresponds to certain stages of formation of such competence and includes three groups and six subgroups of exercises (Fig. 1).



**Fig. 1.** *Subsystem of exercises for formation ELC in POWC of future IT-specialists*  
Source: the author's own conception

Below you can find some examples of exercises.

**Exercise 1** (subgroup 1.1.)

*Practical aim:* introduction with terms of IT-sphere. *A type of exercise –* receptive non-communicative.

*Instruction.* Match the words in the left column with their definitions in the right column.

automation	creation of the industry for the Internet using ICT technologies for users
cloud	a defined term for the development and completion of material intended for use
sprint	sprint creation and application of algorithm for IT process
backlog	systematization and compilation of the list of needs in the IT sphere

*Source: the author's own conception*

**Exercise 2** (subgroup 1.2.)

*Practical aim:* acquaintance with the structure and content of the text-reference sample of the letter-request. *A type of exercise -* receptive-reproductive conditional-communicative.

*Instruction.* Read the letter of enquiry and answer the questions.

<i>Heading of the letter</i> Sender's address Date Receiver's name Receiver's address	L. Crane & Son Ltd. 21 Mead Road, Swansea 17 <sup>th</sup> November 2020 The manager Basic Solutions Wide Road Wembley
<i>Greeting</i>	Dear Sirs,
<i>First paragraph</i> ( <i>Opening remarks</i> ) The state is the cause of your curiosity	We liked your software that you posted online, which highlights the latest advances in IT.
<i>Middle paragraph(s)</i> ( <i>Main body</i> ) Post an explanation of	Our company provides printing services, so we need it An IT company that will be more secure for

the need for your question	accounting. We have problems with ordering magazines, we constantly have software failures, so we need an updated software package "Microforce Hypernamic" as the best for our work.
<i>Final paragraph (Closing remarks)</i> Encourage further correspondence	We look forward to receiving you reply.
<i>Complimentary closing</i> Sender's name	Yours faithfully, L. Crane

1. What does L. Crane need?
2. What does the software package mean?
3. Why does the printing company need renovation?
4. What words in the letter explain advertising, improvement, work, expectations?

*Source: the author's own conception*

### **Exercise 3** (subgroup 2.1.)

*Practical aim:* mastering of lexical units that are often used in semi-official and official POWC of IT specialists. *A type of exercise* - receptive-reproductive non-communicative.

*Instruction.* Match the words in the left and right columns to make up the corresponding combination.

- |                    |                |
|--------------------|----------------|
| 1) choose          | a) software    |
| 2) the next        | b) version     |
| 3) expand          | c) signs       |
| 4) know completely | d) information |
| 5) perfect         | e) selection   |

*Source: the author's own conception*

### **Exercise 4** (subgroup 2.2.)

*Practical aim:* formation of skills of using established expressions in structural and compositional parts of business letters. *Type of exercise* - reproductive conditional-communicative.

*Instruction. Complete the expressions using the options*

I'm sorry, but...  
Maybe we could ...  
Could you please ...  
Can you learn about ...  
Text me for help if you need it.

<i>Contents of functional phrases</i>	<i>Formal</i>	<i>Informal</i>
Initial contact	I'm writing to let you know that ..	
Offering	will be satisfied if you need...	
Create a query	thanks if you can help...	
Apology	sorry if something is wrong...	
Completion	For additional help and questions, do not hesitate ...	

*Source: the author's own conception*

**Exercise 5** (subgroup 3.1.)

*Practical goal:* formation of skills of using lexical units in POWC of IT sphere. *Type of exercise* - reproductive conditional-communicative.

*Instruction.* Read the text below and choose the correct answer, marking the option with the appropriate letters A, B, C or D.

Hello to all,

During recent sprints, the production service has put a lot of effort into the PRTG to adjust the sensors (1) ....., settings, thresholds and groups.

Each band has a separate PRTG notification room, the condition is alerts\_ <range name>. Each time the sensor is triggered, it will send a message to this free room.

You need to be in this free room and respond quickly by following the steps below:

1. check the problem
2. solve the problem / (2) (. threshold or confirm with an appropriate message within a limited time.
3. update the status (what action was taken) in the weak room.

Don't wait until someone else asks you to check what's going on, be proactive and give your best (3) .... There are many sensors that work continuously, so to speak - this is not the right way to work with alerts (4)...

Each range must work on its own sensors and fix them, bring the system into (5) ... a state so that we can see when things are going badly, and respond quickly.

This is very important, as in our work (6) (. there are so many frequent changes in production that it is impossible to catch in (7) ... without compromising speed.

Thanks

1.	A	notifications	B	features	C	signs	D	ends
2.	A	repair	B	adjust	C	Tune	D	conform
3.	A	Agility	B	ability	C	visibility	D	tranquility
4.	A	Sprint	B	platform	C	Field	D	system
5.	A	Working	B	going	C	moving	D	feeding
6.	A	state	B	environment	C	venue	D	domain
7.	A	ahead	B	Abreast	C	advance	D	amid

*Source: the author's own conception*

### **Exercise 6** (subgroup 3.2.)

*Practical aim:* development of competences to product by students own texts of the official business letter-request on the basis of a plan. *Type of exercise* - productive conditional-communicative.

*Instruction.*

*Your IT company needs the services of another IT company testing Devops. The infrared network cannot connect to the database. You need to create a joint request letter in pairs. Everyone chooses and creates a draft of the main paragraph for the leading American companies located in Ukraine. Next, you need to combine the paragraphs, attach the opening and closing notes, upload the letter made in pairs to the group chat for cross-checking.*

*Item 1: (introductory word): congratulations; indicate how you learned about the company.*

*The main forces*

*Step 2: Provide information about your company and describe your current problem.*

*Item 3: Ask about the terms, obligations, terms and methods of payment.*

*Item 4 (closing remarks): Express your hope for further cooperation.*

*Free closing*

*Source: the author's own conception*

The effectiveness of the ELC in POWC process formation of future IT specialists is provided by the appropriate linguodidactic model, the

components of which are: target-methodological, organizational-semantic and effective.

The algorithm of collective preparation of a written product is offered in the context of realization of a technique of formation of ELC in POWC of future IT specialists and successfully combines the forms of the organization of training defined by the educational and working programs of training of foreign languages on a professional direction in a master's program (practical classroom lessons and independent work), appropriate ways and techniques, involves the application of the algorithm of collective preparation of a written product, the latest ICT, involves the appropriate levels of student autonomy and ways of managing learning during independent work (Wang, 2012).

### **The effectiveness of forming English-language lexical competence in professionally oriented written communication in future information technologies specialists**

The effectiveness of the method of formation of ELC in POWC of future IT specialists was proved in the process of conducting a methodical experiment during 2019-2020 academic year at Ivan Franko National University of Lviv, Poltava State Agrarian University, Zhytomyr Ivan Franko State University, Taras Shevchenko National University of Kyiv, Kharkiv National University of Internal Affairs. Its goal was to test the hypothesis about the effectiveness of the author's methodology for forming ELC in POWC in future IT specialists. The tasks of the experiment included: 1) determining the nature and structure of the methodical experiment; 2) conducting a pre-experimental assessment of ELC levels in POWS in the respondents to divide them into experimental group (EG) and control groups (CG; 3) the implementation of the method of formation of ELC in POWC in the experimental group; 4) post-experimental evaluation of the level of ELC formation in POWC in EG and CG to interpret the obtained data and verify the hypothesis.

The sample of the experiment was the 1st year undergraduate students (96 participants in the experiment), they were classified into EG and CG of 48 students in each, which constituted the experimental pair.

The nature of the methodical experiment is defined as natural, basic, vertical-horizontal. The varied conditions of the experiment were: the contents of the formation of ELC in POWC, the selected material, methods of solving problems. The invariant conditions of the experiment include: its duration, quantitative and personal student and teaching staff of EG and

CG, different tasks for pre- and post-experimental assessment of ELC levels in POWC, criteria and indicators of the formation levels.

Assessment of the levels of ELC in POWC (both pre-experimental and post-experimental) was carried out in accordance with the defined (with a focus on the Common European Framework of Reference for Languages) levels, criteria, their indicators and developed descriptors. Autonomous level (C1) is defined as the target level of ELC formation in POWC of future IT specialists, because at the time of entering the master's programme future IT specialists must speak English as a foreign language at an advanced level (B2), Krogh E. (2017). Thus, the advanced level of formation of English-language communicative competence of future IT specialists serves as a starting point for the formation and further development among them ELC in POWC. The developed descriptors of the formation of ELC in POWC of future IT specialists are represented by a system of certain criteria (knowledge, skills and abilities as the components of ELC in POWC) (Table 1).

**Table 1.** *Descriptors of ELC formation in POWC of future IT specialists*

Criteria for the level of formation ELC in POWC of future IT specialists	Descriptors of criteria of level of formation ELC in POWC of future IT specialists
<p>correct general lexical construction of written expression;</p> <ul style="list-style-type: none"> <li>• demonstration of correct grammatical use of LU;</li> <li>• ensuring the correct lexical construction of the compositional correctness of the structure of the text in accordance with the style and genre;</li> <li>• correspondence of the used vocabulary of style and genre of written expression to the</li> </ul>	<ul style="list-style-type: none"> <li>• students perform written lexical exercises of high-level complexity on certain topics and problems in the field of IT;</li> <li>• students form grammatically correct statements on certain topics and problems in the field of IT;</li> <li>• students create multi-genre written discourse when writing different-format works and demonstrate the correct compositional structure of the text and its lexical construction;</li> <li>• students create written expression of certain styles and genres using functionally colored vocabulary</li> </ul>

<p>communicative purpose and situation of POWC;</p> <ul style="list-style-type: none"> <li>• Demonstration of compensatory skills of LU use in the process of information transfer.</li> </ul>	<p>under the given communicative purpose;</p> <ul style="list-style-type: none"> <li>• students demonstrate fluency in compensatory skills regarding the use of LU in information transfer.</li> </ul>
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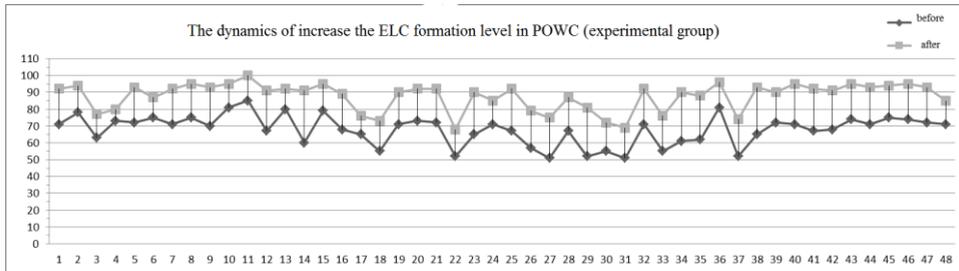
*Source: the authors' own conception*

These criteria and descriptors were used in the process of pre- and post-experimental assessment of ELC levels in POWC in future IT specialists.

As shown by the results of assessing levels ELC in POWC in first-year master's students (96 participants in the experiment), they were divided into experimental and control groups (48 students each). At the stage of implementation of experimental methods in EG, students fully made sets of exercises from the proposed subsystem of exercises, they had enough practice to participate in chats and forums, write drafts and final versions of texts in dominant genres of professionally oriented written communication in the field of IT. In CG training was carried out according to the method adopted at the Lviv National University named after Ivan Franko.

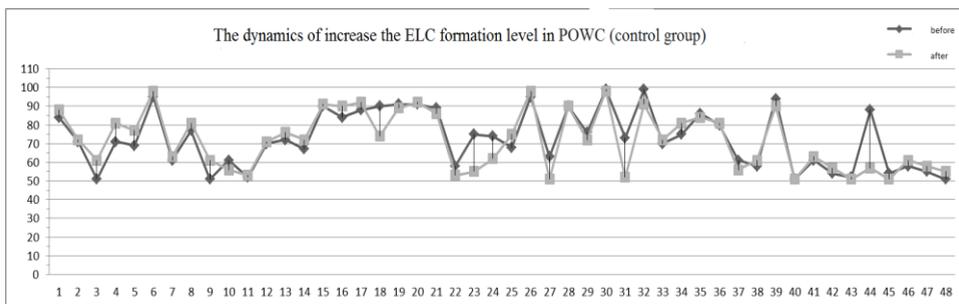
In order to test the research hypothesis, a two-level mathematical calculation of the obtained data was performed using a frequency histogram of data distribution with a theoretically normal Gaussian curve, Kolmogorov-Smirnov test, as well as the Mann-Whitney U-test and the Wilcoxon signed-rank test. At the stage of pre-experimental evaluation, the difference between the indicators of ELC formation in POWC in two independent samples of EG and CG was statistically insignificant (the Mann Whitney U-test). At the stage of post-experimental evaluation, the difference between the indicators of ELC formation in POWC in two independent samples of EG and CG was already statistically significant (the Mann Whitney U-test). The difference between the indicators of ELC formation in POWC in the two dependent samples according to pre- and post-experimental evaluation in CG was statistically insignificant, and in EG - statistically significant (the Wilcoxon signed-rank test). The obtained data allow us to state that at the stage of pre-experimental evaluation of average indicators for ELC levels in POWC among EG and CG students was the same. But, at the stage of post-experimental evaluation of the increase of ELC in POWC of EG students was statistically significant, the average level of ELC in POPS increased to autonomous (C 1), which was achieved by EG students and was the main aim of experimental training. In the control

group, the increase in ELC levels in POWC had no statistical significance, and the average level of ELC in POWC remained at the same level. Graphs in fig. 2 and 3 clearly demonstrate the trajectory and dynamics of increase of the ELC level formation in professionally oriented writing (POW) among EG and CG students.



**Fig. 2.** *The dynamics of increase the ELC formation level in POWC of students (experimental group)*

*Source: the authors' own conception*



**Fig. 3.** *The dynamics of increase the ELC formation level in POWC of students (control group)*

*Source: the authors' own conception*

Thus, on the basis of the received data the hypothesis about efficiency of a technique of formation of ELC in POWC of future IT specialists is confirmed.

In this research, English-language lexical competence in professionally oriented written communication is interpreted as an integrated quality, which allows one to apply the knowledge, skills and abilities related to using English vocabulary in writing while creating written products in accordance with communicative situations in the IT sphere. The ELC in POWC consists of lexical knowledge, skills and awareness, as well as writing skills.

The approaches ensuring methodological and methodical validity of forming ELC in POWC in future IT specialists are competency-based, communicative, activity-related, socio-cognitive, personality-oriented and integrative. This process adheres to general didactic and methodological principles (activity, strength, reliance on lexical rules, variability), as well as to ones specific to this research (effective writing and immersion into communicative situations of professionally oriented written communication) (Andrade & Valtcheva, 2009).

The structure of forming relevant competencies consists of substantive and procedural aspects. The substantive aspect involves areas, types, functions and linguopragmatic features of professionally oriented communication in the field of IT; professional roles of IT specialists; professionally oriented communication situations in the field of IT; communication goals and intentions. The procedural aspect includes corresponding components of ELC in POWC in future IT specialists: lexical skills and awareness; writing skills.

The texts of prevailing genres in professionally oriented written communication in the field of IT, as well as lexical units, are viewed as units of selecting educational material to form ELC in POWC in future IT specialists. Criteria for selection of texts and reference samples are defined as follows: authenticity, structural and stylistic standardization, correspondence to prevailing communicative situations and genres. Criteria for selection of lexical units are semantic value, stylistic correspondence to prevailing genres in the field of IT, compatibility.

The main steps of forming ELC in POWC in future IT specialists, determined based on research by O. Bigych (2000), N. Borisko (2001), N. Sklyarenko (2012) in accordance with the objectives of this process, are: receptive, receptive-reproductive and productive. ELC in POWC is gradually formed by future IT specialists during their making of sets of exercises of the development of acquaintance with the subsystem exercises that is formed of three groups. In order to increase effectiveness of using subsystem of exercises for formation of ELC in POWC of future IT specialists we use an algorithm for collective preparation of one's written product with the use of decision-making techniques.

The effectiveness of forming ELC in POWC in future IT specialists has been verified based on natural, basic, vertical-horizontal methodical experiment. The reliability of its results is proved by using a set of mathematical statistics methods, such as data distribution histogram, the Kolmogorov-Smirnov test, the Mann Whitney U-test and the Wilcoxon signed-rank test. We have decided to implement this methodology of ELC

formation in the POWC of future IT specialists in the process of their foreign language training in University.

## Conclusions

Therefore, the main components of ELC in POWS of future IT-specialists are lexical knowledge and skills, as well as forming the basic principles of the competence approach to future professional activity of students.

It has been established that the main stages of ELC formation in POWS of future IT-specialists, in accordance with the objectives of this process, are: receptive, receptive-reproductive and productive, where future specialists get the task of forming the lexical competence in the context of practical exercises.

The results of the methodological experiment determined the difference between the indicators of ELC formation in the POWS in two independent samples of the EG and CG was already statistically significant. The difference between the indicators of ELC formation in the POWS in the two dependent samples according to pre- and post-experimental evaluation in the CG was statistically insignificant. At the same time, it was statistically significant in the EG.

The obtained results show that at the stage of pre-experimental evaluation, the average indicator of ELC levels in POWS among EG and CG students was the same. However, at the stage of post-experimental evaluation, the increase in ELC level in POWS among students was statistically significant, the average indicator of the level of ELC formation in the POWS increased to autonomous (C 1), achievement of which by EG students was the purpose of the experimental training. In CG the growth of the level of ELC formation in the POWS had no statistical significance, and the average index of the level of ELC formation in the POWS remained on the same mark.

Such indicators testify to the effectiveness of the conducted methodological experiment, where a set of exercises forming lexical English-language competence in future IT specialists was developed.

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