Г. Н. ПЕТУХОВА

АНГЛИЙСКИЙ ЯЗЫК

ОСНОВЫ
АННОТИРОВАНИЯ И РЕФЕРИРОВАНИЯ
НАУЧНЫХ ТЕКСТОВ

Практическое пособие

для магистрантов

УДК 811.111(076)
ББК 81.432.1я73
П29

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Рекомендовано к изданию научно-методическим советом
учреждения образования «Гомельский государственный
университет имени Франциска Скорины»

Петухова, Г. Н.

П29   Английский язык. Основы аннотирования и реферирования
научных текстов : практическое пособие / Г. Н. Петухова ;
Гомельский гос. ун-т им. Ф. Скорины. – Гомель : ГГУ
им. Ф. Скорины, 2020. – 42 с.
ISBN 978-985-577-648-3

    Целью практического пособия является обучение лексико-
грамматическим и стилистическим правилам составления аннотаций
и рефератов, отличительными чертами которых является
использование лексики специальной области знаний и
грамматических конструкций, типичных для такого вида письменных
и устных произведений.
    Адресовано магистрантам вузов.

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ОГЛАВЛЕНИЕ

ПРЕДИСЛОВИЕ

Практическое пособие предназначено для эффективной оптимизации контроля понимания иноязычного текста и умения извлекать информацию из аутентичной научной литературы по специальностям. Оно содержит теоретические материалы, тексты, разнообразные по тематике и охватывающие широкий круг вопросов, а также задания к ним. Материал пособия соответствует учебной программе по английскому языку для магистрантов.

В издании представлены задания, предусматривающие работу с абзацами текстов, группами абзацев, с определением логической структуры текста. Использование пособия поможет магистрантам лучше понимать текст при чтении, определять его основной смысл, а затем кратко изложить его в форме реферата или аннотации. Кроме того, что предлагаемая автором информация будет способствовать контролю правильности, полноты и глубины понимания прочитанного, данный подход носит обучающую функцию, поскольку в нем содержатся задания, построенные на смысловом анализе отрывков из прочитанного и задания, связанные со смысловой интерпретацией текста. Система контролирующих заданий синтезирует ранее усвоенный материал и приобретенные умения, обеспечивает их повторение и закрепление.

Подобранные тексты расширяют активный запас профессиональной лексики, знакомят с грамматическими структурами, широко используемыми в текстах такой направленности.

Предложенный материал способствует глубокому овладению изучаемым языком, расширению кругозора и эстетическому воспитанию магистрантов.

UNIT 1. SOME WAYS TO COMPRESS ENGLISH TEXT

Text is defined as the written words in a book, magazine, etc., not the pictures.

When writing scientific literature reviews and abstracts, actions should be taken to transform the text. The main purpose of this operation is to present an extensive scientific material on a specific topic in a short and concise form, deleting irrelevant information, while preserving the main idea of the source text, without distorting the facts.

When reconstructing the text, according to A.A. Weise, it is necessary to perform the following operations:

a) material exclusion;

b) quoting, that is, preserving certain parts of the original text in the same form;

c) moving individual segments;

d) addition, for example, in the form of a generalization of conclusions to the text...;

e) thickening or compression of what is detailed or concretized in the original;

f) replacing one content with another, equivalent in meaning.

Rephrasing takes an important place in the semantic reduction of the text. Rephrasing can be grammatical, lexical and lexico-grammatical. In grammatical rephrasing, complex sentences can be divided into simple sentences.

In lexical rephrasing, it is possible to make replacements completely identical to the original variant or to maintain the general orientation of both variants.

Lexico-grammatical rephrasing is based on the use of conversions. Conversions are forms that express the same meaning based on broad semantic correspondences [14].

To attract the reader's attention to information, various techniques are used, for example, logical connectives, abbreviations, repetitions, italicized words, etc.

This is the list of the most commonly used logical connectives (table 1) [1]. When writing Scientific Literature Reviews and abstracts, constructions in the active and passive voices are widely used.

Table 1 – Most commonly used logical connectives

Goals	Logical connectives for joining independent sentences / paragraphs	Logical connectives for connecting simple sentences / parts	Logical connectives of mixed type
Introduce additional information	In addition, additionally What is more Furthermore Moreover, again Besides Also Too In the same way Over and above that	And Or	Another +noun Not only…but also In addition to… Added to this… As well as
Compare related ideas	Similarly Likewise Equally In comparison The former…the latter Analogously	Compared with Both… and As…as On a par with Neither… nor Just like the same as	Be alike/similar There is no difference
Contrast Ideas	On the one hand On the other hand In contrast On the contrary Nevertheless Conversely Instead However	Whereas Yet Although Though While Not only…but Unlike However	In spite of Despite Differ from Unlike Be dissimilar
Organize ideas	First, second, third Next, last, finally First of all Now, then, soon Firstly, secondly, thirdly In the first place After that	After When While As soon as As before Since Until	The first step In the second step The first stage The next stage
Show result	As a result/ consequence Therefore Consequently Thus Hence Accordingly	So that So	Result in The reason for

end of the table 1

Goals	Logical connectives for joining independent sentences / paragraphs	Logical connectives for connecting simple sentences / parts	Logical connectives of mixed type
Make conclusions	All in all Above all To sum up To conclude In conclusion In brief In short Indeed All things considered Finally Lastly		This shows… These examples illustrate Show It is clear that

Pay attention to the List of clichés used in annotation and abstracting for the following tasks:

1. List of the main issues in active and passive voices.

The author considers, describes, analyzes, expounds, highlights, reveals, shows, reports, investigates, assumes, presents.

Smth is described/considered/investigated, analyzed, discussed, presented, studied.

2. Classification of specific problems, issues.

The author defines (gives a definition), enumerates (properties, characteristics, features), characterizes, compares, gives a comparative analysis/review, formulates.

Smth is defined/characterized/formulated/enumerated/reviewed /analyzed.

3. Enumeration of the questions accompanying the main idea.

The author touches (on, upon), points out, broaches a question, mentions. It is pointed out, it is mentioned.

4. Particular emphasis on the main thoughts of the original source.

The author points out, underlines, dwells (on), focuses, concentrates on, pays serious attention to.

It may be started, it is pointed out, it is shown, it is highlighted, most attention is lavished on, focus is made on, stress/emphasis is placed on, special/serious attention is paid to, it is should be born in mind.

5. Summarizing.

In conclusion, it is concluded, a conclusion is drawn, to sum up, summing up.

The author concludes, draws a conclusion, generalizes, summarizes, is summing up.

6. Conclusions and evaluation of the abstract.

Finally, it should be pointed out, the main advantage/merit of the work is, the indisputable/absolute merit of the author, the essential demerit/disadvantages of the work

These clichés will be useful when writing annotations and essays.

Exercise 1
Match the definitions below with the words in the list.

1)	to advance	a)	to work together for a common purpose
2)	to benefit	b)	complex, intricate
3)	comprehensive	c)	to recognize the validity of smth
4)	equity	d)	wide in scope or in content
5)	essential	e)	the quality of being fair or impartial, fairness
6)	indispensable	f)	to further the development, progress or prospects of smth
7)	research	g)	to get smth that promotes well-being
8)	solution	h)	to advance in rank or position
9)	sophisticated	i)	of considerable use or importance
10)	to acknowledge	j)	to stimulate by guidance, approval etc
11)	to contribute	k)	absolutely necessary; relating to the essence of a thing
12)	to encourage	l)	an answer to a problem
13)	to promote	m)	careful or patient study of subject in order to discover or revise facts, theories, principles [2].

Exercise 2
Translate the following sentences, paying attention to the ways of transferring English passive voice.

1. Every computer on the Internet is identified by a unique number known as IP address.

2. These cookies are deposited on your hard disk by organizations that compile and market the information.

3. The term spyware is used to describe a wide range of programs that are designed to secretly record and report an individual's activities on the Internet.

4. Objects with negative stability are called unstable.

5. Charles Rolls was a British aristocrat and businessman, who was especially interested in cars.

6. Traditional commerce is typically limited to standard business hours when the seller is open.

7. E-banking services are delivered to customers through the Internet.

8. The US special envoy arranged a talk on European problems, it was stated yesterday.

Exercise 3

Translate the following sentences, paying attention to the meaning of combinations of modal verbs with the passive infinitive:

1. A supply of hydrogen must be kept in darkness.

2. A similar explanation can be offered for the melting of a solid.

3. Some words may be added about the course of the reaction.

4. At these frequencies oscillation can be prevented.

5. E-banking can be offered in two main ways.

6. This form of banking can be done outside business hours.

7. Identity theft is a growing problem, and can be financially devastating if you are a victim [10].

Exercise 4

Translate the passive constructions:

1. It was found that the substance was radioactive.

2. It has been shown that a number of species produce aminoacids.

3. It is assumed that the derivative has a constant value.

4. It was thought that the cells passed two main phases during their growth.

5. It is known that they will arrive tomorrow.

6. It is expected that the Conference will take place in Minsk.

7. It is hoped that the new edition of this book will be of no less interest to the reader.

8. It will be noticed that these poems are of quite a different character.

9. It has been shown in the above examples that the sense of the sentence often depends on the order of words.

10. It is sometimes said that the Nile is longer than all the rivers in the eastern and western hemispheres.

11. It will be seen from the following tables that the sounds do not coincide in quality [10].

Exercise 5

Translate the following sentences using the reverse word order:

1. Numerous classifications have been used.

2. A more careful approach is needed.

3. Separate coefficients of viscosity are used to establish stresses.

4. Information on the volume of reservoir is required.

5. The large disagreement between the various published data is discussed [10].

Abbreviations

Abbreviations are also used to transmit information in a compressed form. They are found in different languages of the world and play a huge role in the scientific literature. An abbreviation is a word that is formed by the abbreviation of a word or phrase and read in the alphabetical name of the initial letters or sounds. Some of the most popular abbreviations are NATO – North Atlantic Treaty Organization, UNO – United Nations Organization, UNESCO – United Nations Educational, Scientific Organization, V.I.P – very important person, Mr – mister, Mrs – mistress, B.Sc. – Bachelor of Science, Ph.D. – Doctor of Philosophy.

Exercise 6

Analyse the abbreviations and give your own examples.

1. Bit (binary digit):   Each 1 or 0 is a bit; short for binary digit.

2. Computer-aided   design/computer-aided   manufacturing (CAD/CAM) system: Knowledge work systems that run programs

to integrate the design and manufacturing activities. CAD/CAM is widely used in manufacturing automobiles.

3. File transfer protocol (FTP):   Internet service for uploading and downloading files.

4. iOS: Previously known as iPhone OS, mobile operating system developed for Apple's iPhone, iPod Touch, and iPad.

5. Mac OS: Operating system designed for Macintosh computers.

6. DNA, or deoxyribonucleic acid, is the hereditary material in humans and almost all other organisms.

7. The Grand Duchy of Lithuania (GDL) was a European state that lasted from the 13th century to 1795.

Exercise 7

Latin abbreviations are an integral part of writing: they help make writing easier by simplifying the writing of certain expressions and phrases.

Analyse the abbreviations:

etc. et cetera [et'setrə] – *Meaning:* and so on, and other things/ и так далее; и другие;

e.g. exempli gratia [ɪg,zemplɪˈgreɪʃə] – *Meaning:* for example / например;

i.e. id est [,ɪdˈest] – *Meaning:* literally, precisely, it is / буквально, в точности, то есть;

vs. versus [ˈvəːsəs] – *Meaning:* against, compared to, as opposued to / против, в сравнении с, в сопоставлении с;

c., ca., ca.,cca. circa [ˈsəːkə] – *Meaning:* around, approximately / около, приблизительно;

p.a. per annum [pərˈænəm] – *Meaning:* through a year, yearly / за год, ежегодно;

i.a. inter alia [,ɪntərˈeɪlɪə] – *Meaning:* among other things / между прочим;

cf. confer [kənˈfəː] – *Meaning:* compare / сравните;

C.V. curriculum vitae [kərɪkjuləmvɪːtaɪ] – *Meaning:* course of life / краткое описание жизни и профессиональных навыков (резюме);

A.D. Anno Domini [,ænəuˈdɔmɪnɪ] – *Meaning:* In the year of the Lord / в год Господа (нашей эры) [4].

Exercise 8

Read these sentences and pay attention to the Latin abbreviations

1. This is a shop which sells cards, calendars, wrapping paper etc.

2. We have numerous problems to deal with before reforming welfare policies, e.g., the trade deficit, Medicare, and social security.

3. The film is only open to adults, i.e. people over 18.

4. You know, people always point the presidents to sort of look at how they've changed, at the beginning of their term vs. end of their term.

5. Shortly after Henry IV seized the throne from Richard II, Geoffrey Chaucer died (c.1400 A.D.), perhaps due to old age.

6. The prevailing interest rate of the country – also to be used for discounting – is 14 % p.a., for investments through a bank or other financial institutions.

7. The paper discussed, i.a, political, economic, and social issues [4].

Exercise 9

Check to see if you can find the abbreviations for the following words and expressions. Consult the dictionary if necessary.

A Disk Jockey, a Very Important Person, a Personal Computer, an Undefined Flying Object, a Personal Assistant.

And others, through a year, for each one hundred, after what has been written, namely, limited, note well, inch, foot

Exercise 10

Translate the sentences into English.

1. Автор рассматривает и анализирует технологические процессы.

2. В статье были сформулированы основные идеи изобретения.

3. Особое внимание уделяется экономической эффективности.

4. В заключение следует отметить, что данная технология должна применяться при обработке металлов.

UNIT 2. ABSTRACT

An Abstract is an extremely short summary of the main content of a text, book or article. The abstract gives a brief description of the topic or the problem considered in the original source and emphasizes the novelty of the information provided. The abstract does not disclose the full content of the document, but it allows specialists to form an opinion on the desirability of a more detailed study of the source and indicates to whom this material may be useful and interesting.

Abstract writing is the process of creating summary that allows identifying the scientific and practical significance of the material presented. This is a process in which you should analyze the text of the original document, isolate problems and important information, evaluate it, and then present the material in a condensed form. This is a creative process that requires a common understanding and reproduction of the main content, as well as the ability to properly draw up an abstract.

There are various approaches to the classification of abstracts. Scientists generally adhere to the following classification. Abstracts are divided into short and detailed in terms of volume.

A *brief Abstract*, as a rule, characterizes the document in a certain aspect: clarification of the thematic content, decoding or replenishment of the title, assessment of the level of material and so on.

A *detailed Abstract* is often an enumeration of the headings of the original document. It is compiled in cases when the document is of significant scientific interest, as well as in the description of multi-aspect documents (textbooks, reference books, collections, etc.).

Abstracts are also divided according to the following criteria:
– in content and purpose;
– the completeness of coverage of the content of the annotated document and readership.

1. According to the content and purpose, abstracts are divided into reference and recommendatory.

Reference Abstracts, which are also called descriptive, or informational, characterize the subject of the document, provide any information about it, but do not give a critical assessment of it.

Recommended Abstracts characterize the document and provide an assessment of its suitability for a certain category of consumers, taking into account the level of preparation, age and other characteristics of consumers.

2. By the completeness of coverage of the content of the annotated document and the readership, abstracts are divided into general and specialized.

General Abstracts characterize the document as a whole and are designed for a wide range of users.

Specialized Abstracts characterize the document only in certain aspects and are designed for a narrow circle of specialists.

A kind of specialized abstract is an analytical Abstract that characterizes a certain part or aspect of the content of a document. Such an abstract gives a brief description of only those chapters, paragraphs and pages of a document that are devoted to a specific topic. Specialized Abstracts are often for reference only.

There are review Abstracts (overview).

Overview Abstract is an abstract containing a generalized description of two or more documents that are similar in subject.

For reference overview Abstract, a combination of information about what is common for several books (articles) on one topic is characteristic, with clarification of the features of the interpretation of the topic in each of the annotated works.

The *advisory review Abstracts* provide differences in the interpretation of the topic, the degree of accessibility, details of the presentation and other information of a recommendatory nature.

An abstract usually consists of three parts:

1) the *introduction*, in which all the necessary output data of the source are given;

2) the *main part* (text of the abstract) in which two, three or more basic provisions of the source are reported.

3) the *final part*, in which certain features of the presentation of the content of the source are given.

The abstract should not repeat the title of the original source, but rather disclose it, specify it. When compiling the Abstract, redundancy of information should be avoided, in particular, its repetition, unnecessary phrases, introductory words and sentences, complex subordinate sentences.

An abstract is easier to write using a plan for the source document. For maximum concise presentation, you need to take the main provisions of the plan and reduce them to a minimum number of points by combining them.

The volume of abstract is 500 characters. Reference (descriptive) Abstracts should not exceed 800–1 000 typed characters. The key fragments of the original are not used in the abstract, but the wording of the author of the abstract is given.

The logical presentation of the material in the abstract text causes the widespread use of passive constructions, impersonal sentences with an infinitive.

The choice of lexical tools and syntactic constructions should contribute to the achievement of a high degree of conciseness, generalization, accuracy and logical presentation of the material in the text of the abstract.

Abstracts are usually written in your own words. A high degree of compression of the text requires the author of the abstract to have a sufficient degree of abstraction and generalization of the material and then the wording in the text of the abstract is not without subjective assessment.

Complete the following tasks.

I. This is the algorithm of training actions during text compression:

1. Read the entire texts 1 and 2 to get an idea of their main content.

2. Break it into semantic segments (in paragraphs).

3. Find in each paragraph supporting (key) words and sentences that reveal the meaning of the text.

4. Highlight the main point in each paragraph.

5. Give a heading to the paragraphs.

6. Transform complex sentences that reflect the basic thoughts of the paragraph.

7. Summarize (write) the content of each paragraph.

8. Write a text outline.

9. Make a resume or abstract to the text.

10. Give a general assessment of the text (express a personal attitude to the text).

Text 1. Careers in IT

Disaster recovery specialists are responsible for recovering systems and data after a disaster strikes an organization. In addition, they often create plans to prevent and prepare for such disasters. A crucial part of that plan is to use storage devices and media in order to ensure that all company data is backed up and, in some cases, stored off-site.

Employers typically look for candidates with a bachelor's or associate's degree in information systems or computer science. Experience in this field is usually required, and additional skills in the areas of networking, security, and database administration are desirable. Disaster recovery specialists should possess good communication skills and be able to handle high-stress situations.

Disaster recovery specialists can expect to earn an annual salary of $70,000 to $88,000. Opportunities for advancement typically include upper-management positions. With so many types of threats facing organizations, demand for these types of specialists is expected to grow [5].

Text 2. Ancient science

Chemistry is the science of matter and the changes it undergoes. Chemistry is concerned with the composition, behavior (or reaction), structure, and properties of matter, as well as the changes it undergoes during chemical reactions.

Ancient Egyptians pioneered the art of synthetic wet chemistry 4,000 years ago. Wet chemistry is a term used to refer to chemistry generally done in the liquid phase. By 1000 BC civilizations were using more complex forms of chemistry such as using plants for medicine, extracting metal from ores, fermenting wine and making cosmetics.

The genesis of chemistry can be traced to the widely observed phenomenon of burning that led to metallurgy – the art and science of processing ores to get metals. The greed for gold led to the discovery of the process for its purification.

The earliest pioneers of chemistry, and inventors of the modern scientific method, were medieval Arab and Persian scholars. They introduced precise observation and controlled experimentation into the

field and discovered numerous chemical substances. The emergence of chemistry in Europe was primarily due to the recurrent incidence of the plague and blights there during the so called Dark Ages. This gave rise to a need for medicines.

Chemistry indeed came of age when Antoine Lavoisier, developed the theory of Conservation of mass in 1783; and the development of the Atomic Theory by John Dalton around 1800.The discovery of the chemical elements has a long history from the days of alchemy and culminating in the discovery of the periodic table of the chemical elements by Dmitri Mendeleev and later discoveries of some synthetic elements.

Modern disciplines within chemistry are traditionally grouped by the type of matter being studied or the kind of study. These include inorganic chemistry – the study of inorganic matter, organic chemistry – the study of carbon based matter, biochemistry – the study of substances found in biological organisms, physical chemistry – the study of chemical processes using physical concepts and analytical chemistry – the analysis of material samples to gain an understanding of their chemical composition and structure.

Many more specialized disciplines have emerged in recent years, e.g. neurochemistry the chemical study of the nervous system [6].

II. The algorithm for writing abstracts:
1. Read the texts 3 and 4.
2. Answer the questions:
a) What is being reported?
b) What is described in detail?
c) What is briefly reviewed?
d) What is paid special attention to?
3. Make a descriptive abstract based on the answers to the questions.
4. Read the text again.
5. Answer the questions:
a) What is the essence of the issue (problem)?
b) What is this construction (method, technology, concept)?
c) What are the features (technical characteristics) of the principle of work, method, method, phenomenon, fact?
d) What is their purpose and application?

6. Analyze the information received.

7. Reduce all non-relevant information that is not relevant to the topic.

8. Summarize the information received in a single coherent text.

9. Make a summary based on the information received.

Text 3. Nanotechnology

Nanotechnology (sometimes shortened to «nanotech») is the study of manipulating matter on an atomic and molecular scale.

Nanotechnology may be able to create many new materials and devices with a vast range of applications, such as in medicine, electronics, biomaterials and energy production. But also nanotechnology raises many concerns about the toxicity and environmental impact of nanomaterials, and their potential effects on global economics.

Nanotechnology is the engineering of functional systems at the molecular scale. In its original sense, nanotechnology refers to the projected ability to construct items from the bottom up, using techniques and tools being developed today to make complete, high performance products.

One nanometer (nm) is one billionth of a meter. By comparison, a DNA double-helix has a diameter around 2 nm. On the other hand, the smallest cellular life-forms, the bacteria of the genus Mycoplasma, are around 200 nm in length. By convention, nanotechnology is taken as the scale range 1 to 100 nm. The lower limit is set by the size of atoms (hydrogen has the smallest atoms, which are approximately a quarter of 1 nm diameter) since nanotechnology must build its devices from atoms and molecules. The upper limit is more or less arbitrary but is around the size that phenomena not observed in larger structures start to become apparent and can be made use of in the nano device.

Two main approaches are used in nanotechnology. In the «bottom-up» approach, materials and devices are built from molecular components which assemble themselves chemically by principles of molecular recognition. In the «top-down» approach, nano-objects are constructed from larger entities without atomic-level control.

Areas of physics such as nanoelectronics, nanomechanics, nanophotonics and nanoionics have evolved during the last few decades to provide a basic scientific foundation of nanotechnology [6].

Text 4. Electronic commerce [7]

Electronic commerce, also known as *e-commerce*, is the buying and selling of goods over the Internet. Have you ever bought anything over the Internet? Probably, you have. Shopping on the Internet is growing rapidly and there seems to be no end in sight.

The underlying reason for the rapid growth in e-commerce is that it provides incentives for both buyers and sellers. From the buyer's perspective, goods and services can be purchased at any time of day or night. Traditional commerce is typically limited to standard business hours when the seller is open. Additionally, buyers no longer have to physically travel to the seller's location. For example, busy parents with small children do not need to coordinate their separate schedules or to arrange for a baby sitter whenever they want to visit the mall. From the seller's perspective, the costs associated with owning and operating a retail outlet can be eliminated. For example, a music store can operate entirely on the Web without an actual physical store and without a large sales staff. Another advantage is reduced inventory. Traditional stores maintain an inventory of goods in their stores and periodically replenish this inventory from warehouses. With e-commerce, there is no in-store inventory and products are shipped directly from warehouses.

While there are numerous advantages to e-commerce, there are disadvantages as well. Some of these disadvantages include the inability to provide immediate delivery of goods, the inability to «try on» prospective purchases, and questions relating to the security of online payments. Although these issues are being addressed, very few observers suggest that e-commerce will replace bricks-and-mortar businesses entirely. It is clear that both will coexist and that e-commerce will continue to grow.

Just like any other type of commerce, electronic commerce involves two parties: businesses and consumers. There are three basic types of electronic commerce:

– *Business-to-consumer (B2C)* involves the sale of a product or service to the general public or end users. Oftentimes this arrangement eliminates the wholesaler by allowing manufacturers to sell directly to customers. Other times, existing retail stores use B2C e-commerce to create a presence on the Web as another way to reach customers.

– *Consumer-to-consumer (C2C)* involves individuals selling

to individuals. This often takes the form of an electronic version of the classified ads or an auction.

– *Business-to-business (B2B)* involves the sale of a product or service from one business to another. This is typically a manufacturer-supplier relationship. For example, a furniture manufacturer requires raw materials such as wood, paint, and varnish.

III. These are the examples of abstracts for scientific articles [11]:
Analyse them, pay attention to the use of grammar structures and scientific vocabulary. What science does this vocabulary belong to?

Features of teaching students intercultural communication in the context of a professional and business environment

The article considers the problem of teaching intercultural communication in the context of a professional and business spheres. The author explains the idea that the speech activity of a foreign language speaker is defined by the ethnopsychological peculiarities characteristic to a particular sociocultural environment. The author proposes to organize the teaching of intercultural communication in accordance with the orientating and performing stages. At the orientating stage, students study the ethnopsychological peculiarities of the native speaker of the target language. At the performing stage, the development of interaction skills with a foreign-language speaker takes place. It is proposed to use the assignments aimed at teaching effective intercultural communication which can be used at both stages of training.

Keywords: intercultural communication, ethnopsychological peculiarities, foreign language culture, orientating stage, performing stage, cultural assimilator.

Physiological assessment of the dynamics of physical fitness of students of the Belarusian-Russian University

The data of testing the level of physical fitness, development of motor skills and physiological indicators in students of the first and second year of basic, preparatory squads of the Belarusian-Russian University were analyzed in the article. The trend of steady improvement in the studied parameters was established.

Keywords: comparative analysis, physical preparedness, physical education, control standards, motor qualities.

Historiography of legal regulation of transport insurance in Russia and Belarus

The author of the article focuses on the study and analysis of transport insurance historiography in Russia and Belarus. It is noted that the issues of legal regulation of the contract of transport insurance of goods are not sufficiently discovered in the research literature of the Republic of Belarus, as well as on the territory of the Russian Federation. Such problems of legal support as insurance in the sphere of transport services and the necessity to separate transport insurance into an independent type of insurance require their theoretical understanding. The current state of transport insurance of cargos at the international and domestic levels, the expansion of domestic and foreign judicial practices make it necessary to update the study of theoretical and practical issues of the chosen topic.

Keywords: insurance contract, legal regulation of insurance, cargo insurance, legal norms, transport insurance historiography.

Problematic issues of development and support of small innovative enterprises in the Republic of Belarus

The article deals with topical issues hampering the development of small innovative businesses on the territory of the Republic of Belarus and suggests their solution through the development and implementation of small innovative enterprises in practice of a number of activities, the gradual implementation of which in the future will allow them to develop and function successfully.

Keywords: innovations, scientific and technical potential, intellectual potential, scientific research, start-up projects, ventures.

The activities of the Minsk Military Industrial Committee on the evacuation of industry in 1915–1916

The participation of the Minsk Military Industrial Committee in the preparation and conduct of the evacuation of the equipment of plants and factories working for the defense from the city of Minsk and the county to the central and southern provinces of Russia is

investigated. The process of relocation of industry and the resumption of its activities in new locations is considered. The spontaneous nature and limited extent of the evacuation, the difficulties of its implementation are shown.

Keywords: war, front, military district, military-industrial committee, industry evacuation, allowances, loans, equipment.

The role of the German theoretical and aesthetic concepts of the late XVIII – early XIX centuries in the development of a romantic current literature in Belarus

The influence of theoretical and aesthetic concepts of German pre-romanticism and romanticism on the establishment of the romantic principles for reality representation in the literature of Belarus in the early nineteenth century is investigated. The theoretical works by J.G. Herder and A. Mickiewicz are analyzed and universal and specific ideas in their approach to the problem of national features in literature are revealed.

Keywords: romanticism, concept of a nation, national literature, historism, romantic poetry.

The accumulation and transfer coefficients of ^{90}Sr and ^{137}Cs in the organism of fish of various trophic levels

The results of the analysis of accumulation and transition coefficients ^{90}Sr and ^{137}Cs in the fish organism in reservoirs with different radio ecological and hydrological characteristics located in areas with high levels of radioactive contamination are presented.

Keywords: fish fauna, ^{137}Cs and ^{90}Sr, transition coefficients, accumulation factors.

Method of calculating a single screw pile on the second limit state

An approximate analytical method is proposed for determining the maximum bearing capacity of a screw pile in a nonlinearly deformable soil foundation, taking into account the compaction of the soil around the pile shaft.

Keywords: screw pile, non-linearly deformable soil base, soil compaction, limiting bearing capacity, approximate analytical method.

Programmable network access control with adaptive configuration of physical interfaces

Results of researches within the AgronomiX project are presented. The structure of cloud environments and application of foggy calculations are considered. Methods of the analysis of traffic at the transport level are used. Suggestions for configuring cloud nebula controllers are expressed.

Keywords: cloud network environment, foggy calculations, telecommunication networks, information technologies.

Nonzero holonomy algebras of trivial connections on homogeneous spaces with unsolvable transformation groups

The goal of this paper is to classify three-dimensional homogeneous spaces that admit only trivial affine connections with nonzero holonomy algebra, a description of their curvature tensors and holonomy algebras. The spaces on which the unsolvable Lie group of transformations acts are considered. The basic notions, such as an isotropically-faithful pair, an affine connection, curvature and torsion tensors, holonomy algebras are defined. An explicit local description of three-dimensional homogeneous spaces of the specified type is given.

Keywords: holonomy algebra, homogeneous space, transformation group, affine connection, curvature tensor.

On the criterion of solvability in groups with operators

The structure of a subgroup equal to the intersection of the nuclei of not p-nilpotent maximal A-admissible subgroups is studied. The influence of the corresponding generalized Frattini subgroup on the structure of the group itself is established.

Keywords: finite group, abnormal subgroup, Frattini subgroup.

UNIT 3. SCIENTIFIC LITERATURE REVIEW

A Scientific Literature Review is a summary of the contents of the original, including basic information about the subject, purpose, methodology and results of the study description or the main characteristics of the described construction. A *Scientific Literature Review* is an informational summary, the main content and conclusions of an article. It should be understandable without reference to the original, not intended to replace it.

When writing a Scientific Literature Review, there is a reduction in the volume of the text while maintaining the main content of the original source. It provides an opportunity to determine the need to familiarize yourself with the original and the purpose of accessing it. The Scientific Literature Review informs about the nature of the work covered, the place, time, research methodology, results and conclusions, and can replace the full text of the original source, eliminating the need to refer to the original. This is an essential, distinctive and functional feature of the essay – its information content. Too rich information content can lead to the loss of basic information. Of all the secondary texts, not one informs so fully about the main content of the original as the Scientific Literature Review. The Scientific Literature Review becomes a necessary means of disseminating information about new scientific achievements.

The Scientific Literature Review is a summary of the content of the work with an indication of its essence, nature, methodology and results. The essence of the process is the accurate understanding and transmission of the main content of the original text, its reproduction and recording in the review form. It allows you to get a summary of the contents of a printed publication that has valuable information, with actual data and conclusions.

This is the process of information processing of the source with the aim of extracting from it the most meaningful information, the main provisions, evidence and results to create a compositionally organized short message in writing or in the form of a public report. In contrast to the abstract, the Scientific Literature Review not only lists the issues that are covered in the scientific article, but also reports the essential points of the content of each of them. In the process of working the content and language of the original and its composition

are changed, therefore the Scientific Literature Review is considered as an independent text with its own logic of thought development in a large context. However, it is not excluded that the semantic development in the Scientific Literature Review and in the original source may coincide.

The following *requirements* are imposed on writing the Scientific Literature Review: objectivity, completeness and unity of the form.

The *objects* of the Scientific Literature Review are scientific articles, monographs, collections of scientific papers, deposited manuscripts, patent documents.

When writing the review, it is necessary to observe the exact transfer of the provisions and conclusions of the primary text (objectivity). In this regard, objectivity along with informativeness is a hallmark of such works. Moreover, all the most significant facts should be concentrated in the Scientific Literature Review, to make the reader correctly understand the information and draw the appropriate conclusions. The content of the Scientific Literature Review as a secondary text is conveyed in the wording of the referent, which inevitably leads to a personal, subjective coloring of the content. The principle of reliability and correctness in the presentation and evaluation of the material should be observed.

There are several types of reviews: *informative*, *indicative*, *monographic and overview.* Scientists classify these works in different ways; however, two main types are distinguished:

– informative, which contains all the basic provisions of the original,

– indicative, which lists only those key provisions that are related to the topic of the abstract.

The *informative* review contains in a generalized way a statement of the essential provisions of the original source document, information on the research methodology, conclusions and the scope of the results. It assumes the most common form of abstracting.

The *indicative review* reports on the primary document, cites only some provisions that are directly related to the topic of the referenced document. The indicative review lists the main issues considered in the original source.

Monograph (one source) and review essays are distinguished by the number of original sources.

Surveys are compiled on a given topic from several sources with a complete systematized, generalized content and a brief description of the content of each of them individually.It is compiled by the author of the primary document.

Scientific Literature Reviews have common features. The material is presented in the form of a description of the facts. The text is distinguished by clarity, concreteness, clarity and conciseness. It is largely achieved by observing the structure of the abstract, using tables, illustrations, terminological vocabulary and cliché.

The volume of the abstract depends on the volume of the reviewed work and its significance. The *average volume* of Scientific Literature Review can be 10–15% of the volume of the original document.

The Scientific Literature Review usually consists of an *introductory part* – a bibliographic description of the original source (scientific article), *the Scientific Literature Review part itself*, and the *final part*.

In the introductory part, the name of the primary document (article), the name and initials of the author, the name of the publication (magazine) are indicated. It is determined which problem the Scientific Literature Reviewed article is devoted to and in connection with which it is written, the relevance of the topic of the essay, indicating the scientific significance, is substantiated. This may be insufficient knowledge of a problem or a number of issues, controversy, discussion, a new solution or a new approach to solving the problems considered in the article, and modern demand.

The Scientific Literature Review part itself includes an account of the main content of the original article with specific data on the development of a problem about the object of study, its studied properties, and issues under discussion. It also defines the point of view of the author of the article, its main results and conclusions, which has theoretical and practical significance, provides a series of evidence in their logical sequence with the use of illustrations, examples and numbers. In the Scientific Literature Review, the process of disclosing the content of the primary document, as a rule, is based on keywords that precede the scientific article and make up its core.

The final part contains a judgment and a general conclusion on

the importance of studying the problem of the original article. The judgment includes a critical characteristic of the source: the relevance of the issues addressed in the article, the effectiveness of the proposed solutions and the indication of where the referenced material can be used.

The process of achieving maximum accuracy during compression of the semantic content of the source is inextricably linked with the observance of the following language features of the work. At the same time, the choice of lexical tools and syntactic constructions is determined by the desire for generalization, accuracy, and consistency in the presentation of material in the text of the review. When working with a scientific article, the ability of language units to abstract and generalize the meaning is used. These can be nominative keywords. The reduction of the physical volume of the scientific article and the achievement of extreme accuracy in the presentation of its content in the review is also achieved through the use of terms and stable terminological combinations that carry accurate information about the studied object. Using instead of describing terminological units, information is also refined.

Quantitative compression of a scientific article implies a direct reduction of a number of words and phrases and the use of abbreviations. However, the abbreviations should be understandable, unambiguous for interpretation, proportionate in number to the total volume of the text and drawn up in accordance with accepted rules.

The semantic load in the essay falls on the share of the noun, that is, the language of the essay is characterized by a pronounced tendency to substantiation. And the function of the verb is to fulfill the role of the connecting elements «to be», «to be characterized» and to designate the action of the broad sense of the word, expressing grammatical meanings [8].

In presenting the results, preference is given to the present. The Scientific Literature Review uses mainly simple common sentences listing parallel constructions and homogeneous sentence members, participial and participial phrases characterizing various phenomena and processes. The enumeration is connected with the statement of the sequence of facts, messages, and can be expressed using such language tools as, firstly, secondly, first, then, then, etc., which is the result of the «compression» of the material when summarizing. The

Scientific Literature Review is characterized by vague personal sentences that help focus attention on the essential. Since ascertaining messages predominate in the text of the review, the use of personal and demonstrative pronouns, adjectives and adverbs that do not affect the content is minimized. When creating the Scientific Literature Review, the following main methods of presentation of the text are used:

a) citation, i.e. literal reproduction of fragments of the source;

b) rephrasing, involving a partial change in the original source (rephrasing according to the principle of, lexical rephrasing based on synonyms, lexico-grammatical rephrasing based on conversives, including antonyms);

c) the combination of individual elements of the text with the subsequent synthesis of their common features, a generalization involving abstraction from secondary features and a synthesis of the most significant features, contraction consisting in the absorption of one predicate by another;

d) substitution, i.e. replacement of a sentence in whole or in part by a word or phrase.

In the Scientific Literature Review citations from original work can be used. They are always quoted. Three types of citation should be distinguished, while punctuation marks are put, as in sentences with direct speech.

1. The quote is after the words of the compiler of the review. In this case, a colon is placed after the words of the compiler, and the quote begins with a capital letter. For example: The author of the article claims: «Evolutionary processes are always adaptations to changing environmental conditions.»

2. The quote is before the words of the compiler of the review. In this case, a comma and a dash are placed after the quote, and the words of the compiler of the review are written with a small letter. For example: «Evolutionary processes are always adaptations to changing environmental conditions,» says the author of the article.

3. The words of the compiler of the Scientific Literature Review are in the middle of the quotation. In this case, a semicolon is placed before and after them. For example: «Evolutionary processes,» says the author of the article, «are always adaptations to changing environmental conditions.»

4. The quote is directly included in the words of the compiler of the abstract. In this case (and he is the most common in the abstract), the quote begins with a small letter. For example: The author of the article claims that «evolutionary processes are always adaptations to changing environmental conditions» [9].

Exercise 1

1. Read the text.

2. Select key fragments of text and mark paragraphs containing specific information on the topic, number these paragraphs.

3. Read the text again, stopping only at the marked paragraphs, heading these paragraphs.

4. Make a lexical and grammatical analysis of obscure sentences and translate them.

5. Reduce non-essential information that is not relevant to the topic:

– in complex sentences, replace all subordinate sentences with participial and infinitive turns or nouns with prepositions;

– remove from the text all complex tense predicate forms, modal verbs and their equivalents;

– replace complex and common definitions with simple ones;

– Form proposals with homogeneous members.

6. Create a logical plan for the text of the abstract:

– highlight the essence of the issue (problems, topics);

– include the titles of the paragraphs in the title;

– change the sequence of plan items depending on the semantic weight of key fragments.

7. Make a draft abstract on the logical plan based on the information received (marked paragraphs).

8. Summarize the information received in a single coherent text.

9. Edit the text of the abstract.

10. Complete the essay in accordance with the requirements [9].

VITAMIN B$_2$ (RIBOFLAVIN)

Riboflavin functions as a catalyst for redox reactions in energy production and many metabolic pathways, mainly as a component of flavin mononucleotide (FMN) and flavin-adenine dinucleotide (FAD). Also, riboflavin is required for conversion of other nutrients to their

active forms, including niacin, folic acid, and vitamin B_6. FAD is part of the electron transport chain, which is central to energy production. Signs and symptoms of deficiency include sore throat, cracked and red lips, inflammation of the tongue and lining of the mouth, and bloodshot eyes. Excess riboflavin is eliminated in urine; therefore, no UL has been established. Most plant and animal food sources contain riboflavin.

Nutritional surveys provided to athletes have shown that most athletes consume adequate amounts of riboflavin; however, whether current DRI recommendations are adequate for athletes has been debated. The effects of 2.15 mg riboflavin supplementation/day in young females during 20 to 50 minutes of aerobic exercise were observed by Belko. Riboflavin status was assessed using riboflavin-dependent erythrocyte glutathione reductase activity (EGRAC). Overall, the authors observed that riboflavin depletion developed during periods of active exercise but improved with increased vitamin intake. Although some evidence suggests that riboflavin supplementation may be necessary during exercise, the current consensus is that individuals who consume adequate levels through the diet do not require supplementation above the DRI. No studies examining the effects on physical performance with riboflavin supplementation have determined an ergogenic benefit [12].

Exercise 2

1. Select an article from the scientific journal «Proceedings of Francisk Scorina Gomel State University» for review or «Problems of Physics, Mathematics and Technics».

– Read the title of the article and determine if it gives an idea of its content.

– Read the Abstract and keywords for the text, determine whether they give an idea of the content of the text.

– Highlight keywords in each paragraph.

– Find and mark sentences or paragraphs containing specific information.

– Determine the number of facts presented in the text.

– Summarize 2–5 sentences (or paragraph) into one.

– Find in each paragraph the main and additional explanatory information.

– Omit all introductory sentences in the paragraph, introductory words in the sentence and descriptive (subordinate) sentences, repetitions.

– Use lexical and lexical-grammatical rephrasing.

– Highlight keywords and snippets in each paragraph.

– Summarize the material in the form of an abstract according to the model proposed below; use the following language tools for the semantic components of the abstract.

2. Find out and form the theme of each part of the article.

3. Highlight in each part 3–5 sentences that express the main idea.

4. Make a plan for the article.

5. Formulate the main provisions of the text, using economical ways of expression.

Exercise 3

1. Read the article

2. Define the topic of the article using the following expressions:

– The paper constitutes a critical review of...

– The paper treats and summarizes the knowledge on...

– The article deals with…

– The article gives a general background for...

– The article is devoted to...

– The paper constitutes a thorough discussion on...

3. Define the purpose of the article. Use the following expressions:

– The article deals with…

– As the title implies the article describes...

– The paper is concerned with…

– It is known that…

– The aim of this paper is to find some optimal ways of…

– This paper aims at…

– Writing this paper there were two / three goals in mind.

– The chief /general aim is…

– The aim of this paper is to find some optimal ways of…

– This paper aims at…

– Writing this paper there were two / three goals in mind.

– The chief /general aim is…

4. Write out 5–8 keywords for the article

Keywords:…

5. Report the output of the article using the following expressions:
– The author of the article is…
– The author's name is...
– Unfortunately the author's name is not mentioned...
– The article is written by…
– It was published in… (on the Internet).

6. Formulate the main idea of the article. Use the following words and phrases:
– The main idea of the article is…
– The article is about…
– The article is devoted to…
– The article deals (is concerned) with…
– The article touches upon the issue of…
– The purpose of the article is to give the reader some information on…
– The aim of the article is to provide the reader with some material on…
– The article considers…
– The article presents the results of…
– The objective of the article is to analyze…

7. Prepare the abstract part itself, outlining the main content of the abstracted article with specific data on the development of the problem (the object of the study, its studied properties, and issues discussed). Use the following expressions:
– Special attention is paid (given) to…
– Some factors are taken into consideration (account)…
– Some factors are omitted (neglected)…
– The scientists conclude (come to conclusion)…
– The paper (instrument) is designed for…
– The instrument is widely used…
– A brief account is given of…
– The author refers to…
– Reference is made to…
– The author gives a review of…
– There are several solutions of the problem…
– There is some interesting information in the paper…
– Special attention is paid (given) to…

– Some factors are taken into consideration (account)…
– Some factors are omitted (neglected)…
– The scientists conclude (come to conclusion)…
– The paper (instrument) is designed for….
– The instrument is widely used…
– A brief account is given of…
– The author refers to…
– Reference is made to…
– The author gives a review of…
– There are several solutions of the problem…
– There is some interesting information in the paper…
– Much attention is given to…
– According to the article…
– The article goes on to say that…
– It is reported (shown, stressed) that…
– It is spoken in detail about…
– From what the author says it becomes clear that…
– The fact that… is stressed.
– The article gives a detailed analysis of…
– Further the author reports/writes that…
– Further the author draws reader's attention to...

8. Prepare the final part with a general conclusion on the importance of studying the problem of the abstracted article, using the following expressions:
– I found the article (rather) interesting because…
– I found the article important because…
– I found the article useful as… because…
– I think the article is rather interesting because…
– In my opinion the article is important… because…
– In conclusion the author writes that…
– In conclusion the author draws reader's attention to...
– The author comes to the conclusion that…
– The following conclusions are drawn…

Advantages of WTO

World Trade Organization helps member states in various ways and this enables them to reap benefits such as:

Helps promote peace within nations: Peace is partly an outcome of two of the most fundamental principle of the trading system; helping trade flow smoothly and providing countries with a constructive and fair outlet for dealing with disputes over trade issues. Peace creates international confidence and cooperation that the WTO creates and reinforces.

Disputes are handled constructively: As trade expands in volume, in the numbers of products traded and in the number of countries and company trading, there is a greater chance that disputes will arise. WTO helps resolve these disputes peacefully and constructively. If this could be left to the member states, the dispute may lead to serious conflict, but lot of trade tension is reduced by organizations such as WTO.

Rules make life easier for all: WTO system is based on rules rather than power and this makes life easier for all trading nations. WTO reduces some inequalities giving smaller countries more voice, and at the same time freeing the major powers from the complexity of having to negotiate trade agreements with each of the member states.

Free trade cuts the cost of living: Protectionism is expensive, it raises prices, WTO lowers trade barriers through negotiation and applies the principle of non-discrimination. The result is reduced costs of production (because imports used in production are cheaper) and reduced prices of finished goods and services, and ultimately a lower cost of living.

It provides more choice of products and qualities: It gives consumer more choice and a broader range of qualities to choose from.

Trade raises income: Through WTO trade barriers are lowered and this increases imports and exports thus earning the country foreign exchange thus raising the country's income.

Trade stimulates economic growth: With upward trend economic growth, jobs can be created and this can be enhanced by WTO through careful policy making and powers of freer trade.

Basic principles make life more efficient: The basic principles make the system economically more efficient and they cut costs. Many benefits of the trading system are as a result of essential principle at the heart of the WTO system and they make life simpler for the enterprises directly involved in international trade and for the producers of goods/services. Such principles include; non-

discrimination, transparency, increased certainty about trading conditions etc. together they make trading simpler, cutting company costs and increasing confidence in the future and this in turn means more job opportunities and better goods and services for consumers.

Governments are shielded from lobbying: WTO system shields the government from narrow interest. Government is better placed to defend themselves against lobbying from narrow interest groups by focusing on trade-offs that are made in the interests of everyone in the economy.

The system encourages good governance: The WTO system encourages good government. The WTO rules discourage a range of unwise policies and the commitment made to liberalize a sector of trade becomes difficult to reverse. These rules reduce opportunities for corruption.

Exercise 4

Write a short essay on the latest developments in the field of science you are doing your research in. Make use of the following phrases:

to be engaged in; to conduct research; to make an experiment; to provide scientific knowledge; to meet human needs; to develop new approach to; a landmark of scientific achievement; research priorities in; to foretell the scientific breakthroughs; to improve the quality of life; to create new, innovative technologies [2].

Exercise 5
Read the article, analyze it and write a Review and an Abstract

Security

We are all concerned with having a safe and secure environment to live in. We are careful to lock our car doors and our homes. We are careful about where we walk at night and whom we talk to. This is personal security. What about computer security? What if someone gains unauthorized access to our computer or other computers that contain information about us? These people are commonly known as computer hackers. It should be noted that not all hackers are intent on malicious actions and that not all are criminals. Security involves protecting individuals and organizations from theft and danger.

Computer security specifically focuses on protecting information, hardware, and software from unauthorized use, as well as preventing or limiting the damage from intrusions, sabotage, and natural disasters.

Cybercrime

Cybercrime or computer crime is any criminal offense that involves a computer and a network. It was recently estimated that cybercrime affects over 400 million people and costs over $400 billion each year. Cybercrimes can take various forms including the creation of malicious programs, denial of service attacks, rogue Wi-Fi hotspots, data manipulation, identity theft, Internet scams, and cyberbullying.

Malicious Programs A cracker is a computer criminal who creates and distributes malicious programs. These programs are called malware, which is short for malicious software . They are specifically designed to damage or disrupt a computer system. The three most common types of malware are viruses, worms, and Trojan horses.

– Viruses are programs that migrate through networks and operating systems, and most attach themselves to different programs and databases. While some viruses are relatively harmless, many can be quite destructive. Once activated, these destructive viruses can alter and/or delete files. Creating and knowingly spreading a virus is a very serious crime and a federal offense punishable under the Computer Fraud and Abuse Act.

Unfortunately, new computer viruses are appearing all the time. The best way to stay current is through services that keep track of viruses on a daily basis. For example, Symantec, McAfee, and Microsoft all track the most serious virus threats.

– Worms are programs that simply replicate themselves over and over again. Once active in a network, the self-replicating activity clogs computers and networks until their operations are slowed or stopped. A recent worm traveled across the world within hours, stopping tens of thousands of computers along its way. Unlike a virus, a worm typically does not attach itself to a program or alter and/or delete files. Worms, however, can carry a virus. Once a virus has been deposited by a worm onto an unsuspecting computer system, the virus will either activate immediately or lie dormant until some future time. For

example, in 2010 the Stuxnet worm infected several networks in Iran. One of these networks was used by Iran's nuclear program. Soon after the infection, several key pieces of nuclear equipment became permanently disabled.

Viruses and worms typically find their way into personal computers through e-mail attachments and programs downloaded from the Internet. Because viruses can be so damaging, computer users are advised to never open an e-mail attachment from an unknown source and to exercise great care in accepting new programs and data from any source.

As we discussed in Chapter 4, antivirus programs alert users when certain kinds of viruses and worms enter their system. Two of the most widely used are Avast! Free Antivirus and Microsoft Security Essentials. Unfortunately, new viruses are being developed all the time, and not all viruses can be detected.

– Trojan horses are programs that appear to be harmless; however, they contain malicious programs. Trojan horses are not viruses. Like worms, however, they can be carriers of viruses. The most common types of Trojan horses appear as free computer games and free screensaver programs that can be downloaded from the Internet. When a user installs one of these programs, the Trojan horse also secretly installs a virus on the computer system. The virus then begins its mischief.

One of the most dangerous types of Trojan horse claims to provide free antivirus programs. When a user downloads one of these programs, the Trojan horse first installs a virus that locates and disables any existing virus protection programs before depositing other viruses.

Zombies are computers infected by a virus, worm, or Trojan horse that allows them to be remotely controlled for malicious purposes. A collection of zombie computers is known as a botnet, or robot network. Botnets harness the combined power of many zombies for malicious activities like password cracking or sending junk e-mail. Because they are formed by many computers distributed across the Internet, botnets are hard to shut down even after they are detected. Unfortunately for individual computer owners, it also can be difficult to detect when a personal computer has been compromised.

Denial of Service. A denial of service (DoS) attack attempts to

slow down or stop a computer system or network by flooding a computer or network with requests for information and data. The targets of these attacks are usually Internet service providers (ISPs) and specific websites. Once under attack, the servers at the ISP or the website become overwhelmed with these requests for service and are unable to respond to legitimate users. As a result, the ISP or website is effectively shut down.

Rogue Wi-Fi hotspots. Free Wi-Fi networks are available almost everywhere from libraries to fast-food restaurants and coffee shops. Rogue Wi-Fi hotspots imitate these free networks. These rogue networks operate close to the legitimate free hotspots and typically provide stronger signals that many users unsuspectingly connect to. Once connected, the rogue networks capture any and all information sent by the users to legitimate sites including user names and passwords.

Data Manipulation. Finding entry into someone's computer network and leaving a prankster's message may seem like fun, which is why hackers do it. It is still against the law. Moreover, even if the manipulation seems harmless, it may cause a great deal of anxiety and wasted time among network users.

The Computer Fraud and Abuse Act makes it a crime for unauthorized persons even to view – let alone copy or damage – data using any computer across state lines.

It also prohibits unauthorized use of any government computer or a computer used by any federally insured financial institution. Offenders can be sentenced to up to 20 years in prison and fined up to $100,000.

Identity theft Identity theft is the illegal assumption of someone's identity for the purposes of economic gain. It is one of the fastest-growing crimes in the country and can financially devastate its victim. Once an identity is stolen, the criminal applies for and obtains new credit cards in the victim's name and then uses the cards to purchase clothes, cars, and even a house.

To commit this crime, identity thieves look for anything that can help them steal your identity, from your Social Security number and date of birth, to account information and passwords. Sometimes they gain this information from social networking sites, where users often post detailed personal information such as their birth dates, family

member names, home addresses, and photos of their children. As mentioned previously, always exercise caution when providing information on Facebook, Twitter, and other social networking sites, and use the privacy settings and controls that are provided at the social networking sites you use.

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UNIT 4. QUESTIONS FOR DISCUSSION

1. Give the definition of a text.
2. What are the means for text compression?
3. What is the role of terminology in text compression?
4. What abbreviations do you know?
5. Do you use abbreviations in your papers, reports and projects?
6. What is an Abstract?
7. What types of Abstracts do you know?
8. What are the rules for writing Abstracts?
9. Speak about types of abstracts.
10. What is a Scientific Literature Review?
11. Give the list the requirements for writing a Scientific Literature Review.
12. Have you ever written Abstracts or Scientific Literature Reviews? Speak about your experience of writing such works. What difficulties did you face?

СПИСОК ЛИТЕРАТУРЫ

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Производственно-практическое издание

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АНГЛИЙСКИЙ ЯЗЫК

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В авторской редакции

Г. Н. ПЕТУХОВА

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Гомель
2020