Zhusanbayeva A.T.,
Alkozhayeva A.C.

**Structural-semantic
Text Analysis Algorithm**

The paper discusses the text studying algorithm as separate entity of verbal communication, language features of scientific text, text compression, text diagram-model creation. An article states that academic and scientific text by profession is used as a source of information, on the basis of which the formation of speaking skills and the development of communicative skills are determined. It has been affirmed that using scientific texts serves as a source of selection of necessary scientific language syntax construction – scientific speech model, which are most specific for scientific style. Special consideration is given to using features of academic and scientific texts, where all elements of language system are integrated, combined and synthesized.

Key words: academic and scientific text, language features of scientific text, structural-semantic text analysis algorithm, secondary texts.

Жусанбаева А.Т.,
Алкожаева А.С.

**Мәтіннің құрылымдық-
мағыналық анализінің
алгоритмі**

Мақалада мәтінді оқу алгоритмі ауызша қарым-қатынастың дербес бірлігі, ғылыми мәтіннің тілдік ерекшелігі, мәтіннің компрессиясы, мәтіннің үлгі-сызбасын жасау түрінде қарастырылған. Еңбекте ақпарат көзі ретінде негізінде сөйлеу дағдыларының қалыптасуы мен қарым-қатынас шеберлігінің дамуы анықталған мамандық бойынша ғылыми-оқу мәтіні қолданылғаны айтылады. Ғылыми мәтіндерді қолдану – ғылыми стиль үшін ең айрықша ғылыми сөйлеу үлгісі болып табылатын ғылыми сөйлеудің қажетті синтаксистік құрылымын іріктеу көзі қызметін атқаратыны мақұлданады. Тілдік жүйенің барлық элементі интегралданатын, бірігетін, жинақталатын ғылыми-оқу мәтінін қолдану ерекшеліктеріне ерекше назар аударылады.

Түйін сөздер: ғылыми-оқу мәтіні, ғылыми мәтіннің тілдік ерекшелігі, ғылыми мәтін анализінің алгоритмі, қосымша мәтіндер.

Жусанбаева А.Т.,
Алкожаева А.С.

**Алгоритм структурно-
смыслового анализа текста**

В статье рассматривается алгоритм изучения текста как самостоятельной единицы словесной коммуникации, языковых особенностей научного текста, компрессии текста, создания схемы-модели текста. В работе говорится, что в качестве источника информации используется учебно-научный текст по специальности, на основе которого определяется формирование речевых навыков и развитие коммуникативных умений. Утверждается, что использование научных текстов служат источником отбора необходимых синтаксических конструкций научной речи – моделей научной речи, которые являются наиболее специфичными для научного стиля. Особое внимание уделяется особенностям использования учебно-научных текстов, в которых интегрируются, объединяются, синтезируются все элементы языковой системы.

Ключевые слова: учебно-научный текст, языковые особенности научного текста, алгоритм анализа научного текста, вторичные тексты.

*Zhusanbayeva A.T., Alkozhayeva A.C.

Kazakh National University al-Farabi,
Kazakhstan, Almaty
*E-mail: zhusanbaeva70@mail.ru

STRUCTURAL-SEMANTIC TEXT ANALYSIS ALGORITHM

Introduction

Under modern conditions of getting a higher education on credit technology basis, one of the main task of teaching Russian language in national lecture hall of universities is mastering linguistic means of future speciality, professional scientific language. The «Profession-oriented Russian language» discipline syllabus which is designed at the Department of Russian Philology and World literature, provides for a incremental algorithm of studying the text as an independent unit of verbal communication, characteristic linguistic properties, compression of the text, make a diagram-model of the text, i.e. highlighting the models of scientific language in the text, defining the topic and its communicative task – and then from the text compression to creation of secondary texts of: plan, abstracts, outline, abstract description, reviews and etc.

A review of the literature

It is commonly known that the language exists as a system and as an oral activity. Oral and written texts are the product of oral activity. Language learning begins with the text, completes with the same, the creation of the text precisely – is the main learning objective. The path from source texts to the texts of its own production – is a path of teaching and acquiring the language as non-mother tongue, the second one (or as foreign). It is beneficial to teach students of national lecture hall of scientific language by using academic-scientific texts involving material, because these texts to a greater extent meet the specialist discipline program, than popular-scientific texts. Therefore, for students of kazakh departments of all specialities in university the scientific professional language is shown up as an object of learning, and the scientific text becomes a basic learning unit. «Using academic-scientific text, in which all elements of language system integrate, consolidate, synthesize, gives possibilities to teach students to use the second language not only as a modes of communication, but also as a mode of understanding the world, mastering the future speciality» [1, p. 437]. Academic-scientific text by speciality is used as a source of information, upon which the formation of verbal skills are defined. Scientific texts

are the source of sampling of necessary syntax constructions of scientific language – models of scientific language, which are the most specific for scientific style. In popular-scientific texts usually there are more limited, rather than in professional literature, the number of syntax constructions, pertained to scientific language. Popular-scientific texts can be used for home reading, for revising grammar at a later stage of studying. As experience shows, students frequently find it difficult when they face scientific literature in Russian, cannot understand the content of academic-scientific text, find it difficult to put their thoughts into writing on the read, much less take an audio perception of scientific language.

Materials and methods

Teaching to understand the scientific text is based on detection of elements of its structure and their interrelation, on being a proficient in a language means of content expression. This raises the main practical task while teaching scientific language:

1. to teach students to listen and understand the lectures and reports by profession on Russian language to teach students to read and understand academic and popular-scientific literature by profession on Russian language;

2. to teach students to read and understand academic and popular-scientific literature by profession on Russian language;

3. to help students to acquire main peculiarities of scientific style of Russian language – this is necessary for future work;

4. to teach students to take notes of what they heard or read studying material by profession.

Language learning by profession under no circumstances understood as explanation or overearnings the terms at Russian language lessons. The task of teaching and learning the language of speciality is to improve students' skills of understanding and active proficiency of peculiarities of scientific style of Russian language. Learning scientific style of Russian language is presented as planned, regularly accomplished process during the whole period of studying this course.

Starting the work with texts by profession in a lecture halls, in the process of reading the vocabulary work is made with words and phrases, which must be included to active vocabulary of students. To explain the meanings of new words a variety of techniques are used: selections of synonyms or antonyms, translation, demonstrativeness, interpretation of the word, morphological analysis of the word. In order to clarify and fix syntax construction, models of scientific language, which are distinctive for scientific style of Russian language, a number of specially compiled exercises are conducted – preparatory and conversational. The purpose of the preparatory exercises – is to remove lexical and grammatical difficulties while reading the text, form the ability to transmit thoughts by different linguistic means, teach to extract information (fragmentation of informative centers, key words etc.). Speech exercises – are the semantic analysis of the text for the purpose of identifying the most important information, which would be available to deliver in shorthand form.

At first students learn to make a plan and outline the read text, they learn to choose the most important things from the text, the most basic content. Once students understand the basic principle of outlining – choosing the main thoughts from the text and shortly and clearly write them, we move to more complex forms of paperwork – reports, abstracts, reviews etc.

Results and discussion

The textbooks by profession are the main studying material. The searching of relevant texts, wherein on every speciality it is required to look through several textbooks and study guides, is always linked to hard and time-consuming work. Over the last years this work is not presented as complicated one, because the study guides for students of almost all specialities of university are created by the faculty members of our department. Considering the example of the text named «Factors of production» from «Training manual on integrated professional training of scientific language and the basics of economic theory» [2, 20] an algorithm of structural and semantic analysis of academic-scientific text. First of all, the text should not be huge, and this term in a manual performs completely – texts are not huge, very comfortable to work with in a lecture hall.

Before reading the text the vocabulary work must be conducted – glossary, the words are defined and explained, the ignorance of some would hamper students' understanding of the text in general. Given before the text an active vocabulary of the lesson helps in that:

– *production of material values*
– *means of production*
– *man power*
– *labor tools*
– *labor means*
– *ability to work*

– *productive power*
– *production relations*
– Read the text:

The basis of human life is the production of material values. In order to launch the production, it is necessary to have means of production and man power. Means of production – are the labor tools (for example, a textile the coat is sewed of) and labor means (scissors, needle, sewing machine). A human being, having the ability to work, is considered to be a man power. Exactly a human-being, using means of production, creates material values, i.e. produces the goods.

Means of production and man power are the productive power of any society. The constantly change, develop: from simple becomes more complex, for instance, shovel, axe, hammer – tractor, automobile, computer.

A human being – is the most active part of productive power. Without him all the means of production are converted into a pile of useless things. While accumulating experience, knowledge, skills, using them, human being improves, enhances himself, his intellect, his hands. And an increasing needs encourage the human being to work.

A human being – is a biological and social phenomenon, he is a part of nature and society. Therefore, human being has a biological (in food, clothes etc.) needs in material values, and social (reading books, watching movies, collective vacation etc.) needs in spiritual wealth.

Seeking to meet one's own needs promotes the economic interest. Consequently, interest – it is a conscious need. Interests are personal and public. Personal interests arise based on personal needs. Public interests appear in a human with realizing oneself as a member of society, resident of the country, who should be interested in its prosperity.

After the reading the text, a number of exercises are carried out, aimed at a better knowledge and understanding the language, which means understanding the content of text. For example, such tasks like:

1. reconstruct the phrases based on
a. verb+noun. – noun+noun.
– *to accumulate experience – accumulation of experience*
– *to create material values – ...*
– *to develop productive power – ...*
б. noun+verb. – noun+noun.
– *productive power develops – development of productive power*
– *personal interests arise – ...*
– *a country prospers – ...*
2. determine what content word each of the cognate word is expressed by:

– *production, to produce, productive, producing, produced;*
– *consumptive use, consume, consumption, consumer, consuming, consumed.*

3.
a. find antonyms to the following words:
– *production / public*
– *material / consumption*
– *personal / spiritual*
б. find synonyms to the following words and phrases:
– *social needs =*
– *encourages to work =*
– *necessary =*

_____
– *needed, public, makes*

4. find the sentences in the text, which are built on the following models of scientific language:
– *what is the basis of what*
– *what – is what*
– *what/who is considered to be what/who*
– *what/who has what*
– *what arises on the basis of what*
– *what promotes what*
– *what can be what kind of*
– *what/who becomes who, which*
– *what appears when, under what conditions*

5. determine the type of binding between the sentences:

If a human being realized his needs, he seeks to meet it. Consciousness of one's own needs and its accomplishment promotes the economic interest. Consequently, interest – it is a conscious need.

In the study guide on learning professional scientific language of future economists the sophisticated system of various tasks and exercises is provided for better understanding of the content of text. After exercises – we set up to the performance of creation of model-diagram of scientific text.

Following the algorithm of scientific text analysis, we determine the topic of the text, which we highlight the key words of the text for: *production, means of production, man power, productive power, human being, material values, needs, interest.* We determine the topic of the text by key words: *production of material values as a basis of human life.*

The next step of our algorithm – is the determination of communicative task of the text, which we highlight a model of scientific language in the text for:

what is the basis of what
Production of material values as a basis of human life;

what – is what

Means of production – it is a labor tools and labor means;

who is what

Human being is a man power;

who creates what

Human being creates a material values – etc.

According to the models of scientific language, which create a particular semantic and verbal situation and gives us particular type of scientific information, we can formulate a communicative task of this text: *qualificative characteristics of factors of production.*

In the following, we divide the text to semantic parts: there are 5 paragraphs in the text, then take them as a basis while determining semantic parts. Highlighting the key words in each paragraph, we make final decision: 1-st paragraph – is the first separate semantic part, 2-nd paragraph (while revising a key words it gives us new definition) – is the second semantic part, 3-rd and 4-th paragraphs combine key words only, that is why – it is the third semantic part, 5-th paragraph – the fourth semantic part. In each semantic part there is its own new information, own topic, own micro topic. So, our model-diagram now looks like this way:

Text model «Factors of production»

/

T

production of material values as a living base

/

К3

qualificative characteristics of factors of production

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H1=MT1 H2=MT2 H3=MT3 H4=MT4

means of production and productive human be-

ing and personal and common

man power power his needs interests

Micro topics which are formulated by us in a model of the text, can be considered to be units of nominal plan. We transform a nominal sentences into question sentence – it is the units of question plan:

1. What are the means of production and a man power?

2. What do we mean by saying productive power?

3. Who is a human being and what are the needs of him?

4. On what basis the personal and public interests arise?

By answering to these questions, we would obtain the units of thesis plan. Based on the thesis plan students can make an outline, abstract, abstract description of the text.

Conclusion

The next task of drawing up the plans – is the retelling of scientific text based upon the plan using models of scientific language only. As a result, considering the example of academic-scientific text for students-economist we tried to describe an algorithm of text analysis, which is not difficult for students by semester's end. To sum up, it may be noted that the work on academic-scientific texts by profession on Russian language lessons extends the overall outlook, makes interesting to read scientific literature, serves as motivation for enriching the professional knowledge, contributes to the development of communicative competence of students.

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