

THE PLACE OF TEXT LINGUISTICS IN TRAINING STUDENTS IN MEDICINE

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Abstract. A scientific text is presented as a sequence of established facts about the content of concepts and signs, descriptions, relationships, rules and instructions. These facts are arranged in cognitive patterns from large structural units first to small units and vice versa, and analysed within the context of the respective study subject.

The cognitive patterns in the respective themes are developed in text linguistics classes by a specialist in linguistics in conjunction with a lecturer in the specialty.

Key words: *cognitive patterns, cognitive function of text, interpretation of text*

A text can be approached in many different ways but is undoubtedly perceived as a basic dimension of language.

The descriptive scientific text is a sequence of established textual facts about the content of concepts and signs, descriptions, relationships, rules, and instructions. These facts are arranged in cognitive patterns starting from the large and proceeding to the small structural units and vice versa and analysed in the context of the respective study subject. This constitutes the communicative approach to text interpretation.

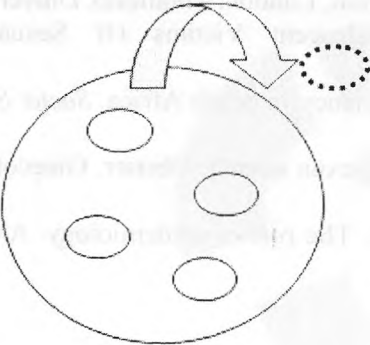
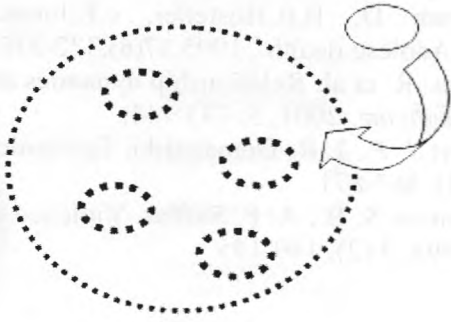
In the classes of text linguistics, study materials taken from different study subjects is interpreted on the basis of the semantic nature, the structure and relevance of the informational textual centres. The cognitive patterns for the respective themes are developed in the classes in text linguistics by a language teacher and a lecturer in the specialty.

The mechanisms in constructing a text are related specifically with the mechanisms of the text's comprehension, allowing modelling in the semantic interpretation of the text or the text fragment [2].

The cognitive patterns of the macro- and microstructure of the text can be viewed as part of the process of modelling (Table 1). Essentially, this approach is a type of generalisation that should help in the analysis and interpretation of scientific information.

Our experience in the text analysis is consistent with the statement to the effect that there are different problems in history and in physics, but the method of approaching them ought to be the same [1].

Table 1. Cognitive patterns

Type I <i>Analysis starting from large structural units and proceeding to small units</i>	Type II <i>Analysis from small structural units to large units</i>
	

A TYPE I COGNITIVE PATTERN

(Analysis of structural units from large to small units)

This is the most frequently used approach to the teaching of a specific subject, that is. this is most often how the lecturer presents the text (Table 2, Table 3). The structural element is presented as a generic term using the cognitive pattern:

- definition
- classification

- characteristics
- relationships with similar or different structural elements;
- corollaries

Table 2. Structural element: intestinal bacteria [3, 5, 8]

<i>Definition</i>	A group of bacteria whose normal habitat is the intestines but can cause, under certain conditions, intestinal or nonintestinal disorders.
<i>Classification by pathogenicity</i>	• facultatively pathogenic (<i>Escherichia coli</i>, <i>Klebsiella</i>, <i>Proteus</i>); • obligate pathogenic bacteria (<i>Salmonella</i>, <i>Shigella</i>, plague bacteria).
<i>Characteristic: location</i>	1. Physiologic characteristics - the facultative pathogenic intestinal bacteria live in the colon 2. Pathologic characteristics: • the facultative pathogenic intestinal bacteria change their location • obligate pathogenic bacteria can enter the intestines.
<i>structure</i>	Nuclear material, cytoplasm, a cell wall with specificities of Gram negative bacteria, flagella, pili, capsules.
<i>composition</i>	Complex structures: proteins, polysaccharides, lipids.
<i>function</i>	1. In physiologically normal locations, the facultatively pathogenic intestinal bacteria have a beneficial effect on the immune system. 2. In pathological locations the facultatively pathogenic intestinal bacteria cause inflammatory processes. 3. When obligate pathogenic intestinal bacteria enter the intestines they cause various disorders.
<i>Relationship with other structural units:</i>	1. <i>Interactions between the facultative pathogenic intestinal bacteria:</i> • concomitantly in the intestines - normal development; • reaction against true pathogenic bacteria. 2. <i>Effect on other structural units.</i> All intestinal bacteria possess a lipopolysaccharide component which can cause: • elevation of temperature; • reduction of blood pressure; • stimulation of the immune cells; • decrease of iron; • release of serotonin.
<i>Corollaries</i>	• Increase of body protection. • Causing pathological processes (anaemia, haemorrhages in the placenta in pregnancy). • Diseases (dysentery, food poisoning, enterocolitis)

Table 3. Structural elements: ultraviolet radiation (LTV) [4]

<i>Definition</i>	The UV radiation covers a part of the electromagnetic spectrum with wave lengths λ ranging from 10 nm to 380 nm.
<i>Classification by wave length</i>	• The UV radiation with wave length λ of 10 nm to 200 nm does not reach the Earth's surface, because it is absorbed by the atmosphere's ozone layer; • The UV radiation with wave lengths of 200 nm to 400 nm can pass through the atmosphere; it has a significance for people and is used in medicine.
<i>Characteristic of the UV radiation used in medicine</i>	• from 315 to 400 nm - zone A (aging; allergy) with antirachitic effects at low doses; • from 280 to 315 nm - zone B (burn); this UV radiation has erithemic

	(photochemical) effects and large potential for sun burns;
	•from 200 to 280 nm - zone C (cell) with bactericidal effect and very good for sterilisation;
<i>Relationships with other structural units with similar and different it has: characteristics</i>	With all types of radiation in the electromagnetic spectrum (radio waves, infrared radiation, visible light, roentgen radiation and gamma radiation)
	• similar characteristics - one and the same relationship between:
	- wave length λ and the frequency ν
	$\lambda = \nu / c$;
	- frequency ν and energy of the photon quantum E: $E = h\nu$, where $h = 6.626 \cdot 10^{-34}$ J.s is Plank's constant
	• different characteristics: less energy than that of the roentgen and gamma radiations - no ionizing effect on biological structures.
<i>Corollaries</i>	The UV radiation is at the borderline of ionising and nonionising radiation.

TYPE II COGNITIVE PATTERNS

(analysis of structural units from the small units to the larger)

This is most often the direction in checking up the acquired knowledge, that is, this is the common pattern of the structure of the text designed for the student. The structural element is marked as a specific term which requires an extra component added to the cognitive pattern to determine the genus to which this specific term belongs, or in other words, here we have the theme of the macrostructure defined (Table 4):

- *determination of the genus to which the structural unit belongs as a specific concept.*
- *definition;*
- *classifications;*
- *characteristics;*
- *relationships with similar or different structural elements;*
- *corollaries.*

Table 4. Theme (macrostructure defined)

specific term	generic term	macrostructure - theme
<i>synapse</i>	<i>neuron</i>	<i>nervous system</i>
<i>D'Arsonval current</i>	<i>high frequency current</i>	<i>electrotherapy</i>
<i>ultrasound</i>	<i>ultrasound study</i>	<i>image diagnostics</i>

In the cases in which there is a pathological change in the structural unit, text interpretation is accurate only within the context of the respective subject (Table 5):

Table 5. Theme (macrostructure defined in the pathological condition).

specific term	generic term	macrostructure - theme
<i>embolism</i>	<i>blood circulation</i>	• <i>rheology (in the context of the medical physics)</i> • <i>fracture of a bone, rupture of the liver (in the context of clinical medicine).</i>

The cognitive patterns used to present the specific term can be truncated, for instance in cases where there is a specific task for presentation of a *definition + classification*; a *definition + characteristics*; a *definition + relationships with various structural elements*; a *definition + characteristics + corollaries*.

The interpretation of the study material in medical specialties using the method of cognitive patterns illustrates the cognitive function of the text to transfer and stores essential or new knowledge in the mode of dialogue [7]

Hence we can infer the following:

- the carrier attached text requires a specific approach to its analysis and study regardless of the sign system used to create it.
- the cognitive patterns used in the presentation starting from large units and proceeding to small structural units and vice versa can be applied for semantic interpretation of the text or text fragments.
- the microanalysis is relevant here but it is dependent on the macroanalysis.
- text interpretation is performed in the direction of the context of the respective subject.

Further studies should investigate the applicability of the described method elsewhere because the subjects in the texts cohabit one and the same empirical area but differ in their academic status, aims, methods and procedures of acceptability and in the very concept of the text they are derived from and which they create [6].

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