

## CONDITIONS AND PRINCIPLES OF VISUALIZATION OF TEXTUAL INFORMATION ON LEGAL KNOWLEDGE

Bekbergenova Guljamiyla Saparbaevna  
Independent Researcher

### Abstract

The effectiveness of any action, activity, and its acceptability for all is determined by its organization on the basis of established, generally accepted conditions and principles. Accordingly, the visualization of textual information on legal knowledge requires adherence to certain conditions and principles. The organization of the visualization of textual information on legal knowledge in accordance with the existing conditions and principles, on the one hand, helps to correctly organize pedagogical activity both cognitively and empirically, and on the other hand, provides students with educational information that is easy to understand and easily assimilated by them. The article discusses the main conditions and priority principles of visualization of textual information in teaching the subject "Fundamentals of State and Law" in general secondary schools.

**Keywords:** Legal knowledge, textual information, visualization, conditions, visualization conditions, principles, visualization principles.

### Introduction

Visualization of textual information on legal knowledge is carried out on the basis of several conditions. It aims to make the information in a visual form understandable to the students, to fully reveal the content of the studied subject, and to achieve thorough mastering of the subject by the students. Representation of legal knowledge in a visual form helps students to have a clear vision, and their consistent and systematic acquisition.

Visualization of textual information is not done by itself. As in the delivery of any information, certain conditions are followed in the pedagogical activity in the delivery of legal knowledge to students through visualization. Graphs (simple and linear graphs) in the visualization of legal knowledge; charts (pie, column (simple column and stacked column (where columns are combined with a graph), geographic, bubble, dot and time (Gantt chart) charts); flowcharts (organizational and genealogical flowcharts); tables (tables created in Microsoft Excel, Microsoft Word); matrices (square, zero (all elements are zero), diagonal, unit-based, step, row vector, column vector, above and below triangular matrices); infographics; dashboard (interactive analytical panel (Google Analytics, Google Data Studio, Power BI, Oracle Business Intelligence, "Foresight", Klipfolio, Tableau, Qlik, SAS, DataFan, Cyfe, Leftronic, Ducksboard); graphical operational interface (Yandex

Metrics); strategic interface (CoinMarketCap), maps (roadmap, geographic map, strategic map, perception map); metrics (indicators that represent the process of changes; metrics in Java projects: System Complexity View, Class and Package Dependency View) can be used.

The following principles of information visualization are presented in the study conducted by N.V. Derbak [6, p. 32]:

to briefly and concisely describe the issue being studied in a way that is understandable to the reader (it is impossible to provide too much additional information);

it is advisable to use graphic (diagram, infographic, histogram, table, image, map, etc.) information in information visualization (they are perceived better than text, pictograms, official symbols can be used to express words; graphic information should be consistent with textual information);

in information visualization, information should be used clearly, clearly, and correctly formalized (in order for visual information to be free of errors, it is necessary to clarify educational information using various sources, educational and methodological literature, and make sure of its accuracy);

visual information should be presented objectively, clearly, and indicatively;

When visualizing textual educational information, it is necessary to pay attention to the correct selection of style and design, their compliance with the topic of the lesson (in this case, it is recommended not to use excessively bright objects: background, text or images; they distract the attention of the student and quickly tire him, as a result of which he cannot adequately assimilate the educational material);

visual elements and information should be presented holistically, not in large quantities (excessive graphic information also makes it difficult to understand them; the presented graphics should not interfere with the adequate and correct perception of information);

graphic information can be presented in the form of a video;

when visualizing textual educational information, it is first necessary to familiarize yourself with the software of computer technology, therefore, some programs serve directly for visualizing textual information;

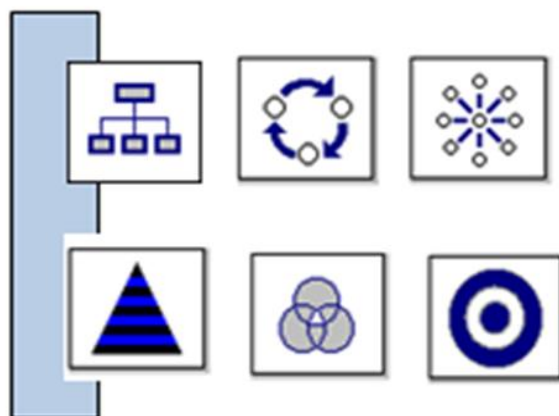
the information in visualization should be logically and structurally consistent with each other.

In the scientific research conducted by S.V. Aranova, the following conditions are essentially presented as the principles of visualization of textual educational information. In particular, the following are: the separation of the main points; the complete coverage of the educational material; the provision of logical consistency in the placement of the material; the appropriate level of expressiveness, the presence of a specific place and the brightness of the image; the inclusion of creative issues; the gradual increase in the level of complexity of educational tasks [1, p. 47-48]; interest in understanding the essence of the educational material; modularity (the coverage of visual elements on a modular basis); the presence of a model appearance (algorithmization of the process of creating a visual-

information model); modality (a visual expression of a person's attitude to the visual model of textual educational information); the presence of the necessary and sufficient level of visual information; the ability of visual material to attract the attention of the student; practical significance (representing the importance and effectiveness of the visual model) [2, pp. 22-23].

Supplementing the author's ideas, E.E. Borisov puts forward the following recommendations: the information should be well-organized (for example, in the form of "10 tips for motorists", "Rating of the best TV series of the year", etc.); useful advice should be presented in a form that allows you to refer to it again and again (catalog, general heading, etc.); scrolling (horizontal and vertical) of visual information, independent of the playback device; well-thought-out presentation of illustrations [3, pp. 611-612].

In the context of globalization, electronic means play a significant role in the visual representation of textual educational information. In particular, computer technology has software that serves this purpose. For example, the Microsoft Word program includes the following schemes [4] that allow the visual representation of information in certain forms in a word processor:



These schemes allow easy and convenient visualization of textual educational information. With their help, visualization of textual educational information is also organized on the basis of certain conditions. In the research conducted by K.A. Sharopin, O.G. Berestneva and G.I. Shkatova, it is noted that the main conditions for visualizing textual educational information using electronic means are the following: the structural structure and form of the graphics should correspond to the problem being solved and the psychological and physiological capabilities of the person; the presented model, if correctly placed and formed, should contribute to quick perception and easy assimilation of information; complex dynamic images should be able to depict a changing situation; it is advisable to take into account the student's eye movements when placing visual information [16, pp. 172-176.].

In the process of getting acquainted with the above ideas of N.V. Derbak and S.V. Aranova on the visualization of textual educational information, it becomes clear that the author

made a mistake. Because the above ideas express not the principles of the visualization of textual educational information, but the conditions. In this case, it is required to clarify the difference between the concepts of “condition” and “principle”.

In the “Explanatory Dictionary of the Uzbek Language”, among the explanations of the concept of “condition”

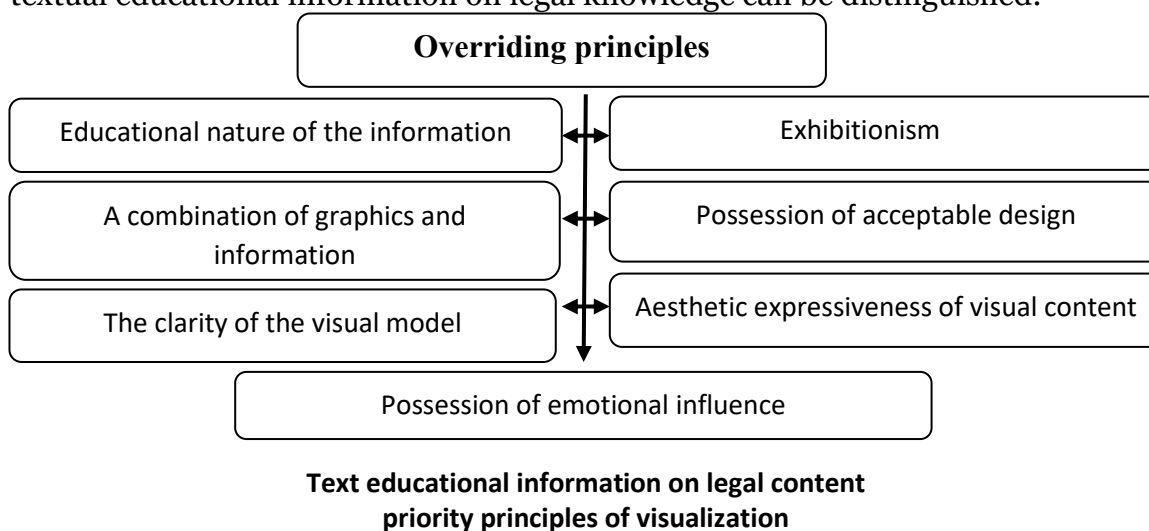
there is also such a definition: a prerequisite, a requirement [17, p. 550]. Thus, the requirement for the organization of a certain action expresses the essence of the concept of “condition”. In the framework of the relevant research, it is interpreted as follows: a requirement for the visualization of textual educational information.

According to E.N. Zemlyanskaya, the concept of “principle” (Latin: “principium”, Greek: “αρχή” – “beginning”, “initial”) in its lexical meaning means “in the subjective sense, the main condition, point of view, in the objective sense, the starting point, the first, the very first basis” [9, p. 421]. V.M. Polonsky interprets the concept as “a normative basis or a general guideline for all forms of activity in a given field” [14, p. 159]; M.I. Nurmatova interprets it as “a guiding idea for a certain process, movement or activity, an important theoretical basis” [13, p. 40]. A logical principle determines the directions necessary for the correct, rational organization of activity. Thus, in its content, the concept of “condition” defines an instruction, a guideline when performing a certain action, and the term “principle” defines the reference point that serves as the basis for this action (for example, scientificity, coherence, consistency, systematicity, correspondence to cultural development, innovative character, etc.).

Based on the above definitions, it is possible to identify the principles that currently prevail in the visualization of textual educational information.

N.A. Reznik highly appreciates the importance of the following principles in the visualization of textual educational information: correspondence to nature (visual presentation of educational material should correspond to the age and psychological characteristics of students); scientific validity; clarity; expressiveness [15, pp. 110-143].

Based on the above-mentioned points, the following priority principles of visualizing textual educational information on legal knowledge can be distinguished:



**1. The principle of the educational nature of information.** Information presented in visual form should be prepared directly on the basis of the content of the educational material. Only then will it be understandable and easily perceived by students. In addition, when presenting educational information visually, it is advisable to pay attention to the age, psychological characteristics, and level of knowledge acquisition of students.

**2. The principle of visibility.** In accordance with this principle, students should be able to perceive educational information presented visually or logically in a quick, convenient, easy, and reliable way. The purpose of presenting educational information in various graphic forms is to create convenience for students to sufficiently assimilate the material. "The principle of demonstrability is used to ensure acceptance, understanding and generalization of the studied material by students. When applying this principle to the educational process, it serves to realize the goal of increasing the level of understanding of the essence of the material being studied by students using visual images of the object, process and events being studied" [8, p. 134-135].

**3. The principle of graphic and information harmony.** Harmony is considered a universal scientific principle in its essence. Initially, during the formation and development of the quantum theory of radiation, N. Bor [5, p. 84] is actively used today in the fields of pedagogy, psychology, philosophy, theory of knowledge, technology, technology and production. The principle of graphic and information compatibility means "mutual compatibility of educational information with the laws of cognitive activity" [10]. So, the graphic also means that the elements selected for the text - font size, color, background, design, and various conventional symbols must be proportional to each other. These elements as a whole should, firstly, clearly deliver educational information, secondly, should not cause tension in the emotional reception of the educational material by students through the organ of vision (eyes), and thirdly, should serve to develop the aesthetic taste of students.

**4. The principle of acceptable design.** In modern education, students are more interested in its design than in the educational information itself. Therefore, special attention is paid to creating the design of educational information. Design (eng. "design" - design) is the activity of a person or group of people aimed at artistically designing various production products. It is also recognized as the result of the design process of an object or object (for example, an airplane or a book) [7]. Today, artistic design is widely used in the fields of any household items, typography and publishing, residential and industrial buildings, transport, roads, landscape, confectionery, advertising, and in practice their appearance is increasingly improving.

**5. The principle of comprehensibility of the visual model.** This principle means the acceptance and understanding by students of a model expressed in a certain form that is visually appealing. “Model (lat. “modulus” – measure, norm) – an image or sample of an object or system of objects” [11]. The definition can be supplemented as follows: an enlarged, reduced or similar form, layout of a certain object, subject or process. Accordingly, the concept of “visual model” can be expressed as follows: a visual model is a model that presents information to the maximum extent possible using images, conventional signs, images, graphics, while minimizing formal and morphological means, for example, writing, compared to a text model [12, p. 55]. The most important practical value of a visual model is determined by its ability to ensure the correct understanding by students of the essence of the graphic elements expressed in it. Therefore, when creating a visual model, the main attention should be paid to the use of graphic elements that are understandable to them, taking into account the age and psychological characteristics of students.

**6. The principle of aesthetic expressiveness of visual content.** Any visual content should be able to express the content of the educational material not only theoretically, logically, academically, but also aesthetically. Students will necessarily express their attitude to the elements expressed in visual content: they approve or reject it; the content is perceived by them easily or difficultly. Most importantly, visual content should serve to develop the aesthetic taste of students as a whole. To do this, teachers should have experience in creating visual content design or at least be able to effectively master the competencies that will help achieve this goal.

**7. The principle of emotional impact.** School education not only provides students with information about the initial foundations of scientific knowledge, but also serves to educate them emotionally. Visual content has a special impact on the emotional education of students. Emotional impact forms an emotional attitude in a person towards existence and surrounding subjects. Through the development of emotions, a person acquires moral qualities such as the ability to accept social rules and regulations, abandoning his own "I", and obey them, to understand and empathize with the inner feelings of others, and to put the interests of society above his own desires.

Thus, the effectiveness of the activities organized by the teacher depends on their organization on the basis of certain conditions and principles. Visualization of textual information on legal knowledge is also carried out on the basis of certain conditions and principles. In this process, organization in accordance with certain conditions and principles, first of all, ensures the correct organization of pedagogical activity by the teacher both cognitively and empirically. In addition, the presented visual model allows students to easily understand and easily assimilate it.

## References

1. Aranova S.V. K voprosu o principakh visualogo predstavleniya uchebnoy informatsii // J. Izvestia Rossiyskogo GPUa im. A. I. Hertseny. – SPb.: 2017. - No. 1. – S. 47-48.
2. Aranova S. V. K methodology visualization uchebnoy informatsii. Integration of godly and logical // J. Journal of Adygei State University. Series 3: Pedagogy and psychology. – Maykop: 2011. No. 2. S. 22-23.
3. Borisov E.E. Visualization kak aktualnoe napravlenie rasprostraneniya informatsii // J. Molodoy uchenyy. Chita: 2019. - No. 22 (260). - S. 611-612.
4. Visualization informatsii v tekstovyx dokumentax // <https://skobelevserg.jimdofree.com/informatika-1/7-klass-fgos/vizualizatsiya-informatsii-v-tekstovyx-dokumentax>
5. Gribanov N.I. Prinsip sootvetstviya kak forma preemstvennosti osnovaniy teori // J. Vestnik Samarskogo GUa. – Samara: 2012. - No. 5 (96). - S. 84.
6. Derbak N.V. Metodicheskie rekomendatsii po visualizatsii uchebnoy informatsii // J. Informatics in school. - M.: 2019. - No. 10 (153). - S. 32.
7. Design is a fascinating process of divine design // <https://veryimportantlot.com/ru/news/blog/dizajn>.
8. Dobro L.F., Parfenova I.A. Informatsionnoe obespechenie principa naglyadnosti // J. Contemporary problems in science and education. - M.: 2006. - No. 1. - S. 134-135.
9. Zemlyanskaya E.N. Criterion and concretization indicator of young schoolchildren with economic knowledge. - M.: 2000. - S. 421.
10. Ikhsanova S.G., Ikhsanova S.R. Infograficheskiy metod v prepodavanii psihologicheskikh discipline // <https://cyberleninka.ru/article/n/infograficheskiy-metod-v-prepodavanii-psihologicheskikh-dissiplin>.
11. Mengliyev Sh. Model and modeling // [https://tami.uz/matnga\\_karang.php?id=100](https://tami.uz/matnga_karang.php?id=100).
12. Nomokonov I.B. Visual model i ix semantics // J. Educational resources and technologies. - M.: 2021. - No. 4 (37). - S. 55.
13. Nurmatova M.I. Improvement of students' competences related to family economy in the process of pedagogical education: ped.fanl. on fals.fanl.doct. (PhD) ... Diss. – Namangan: 2023. – p. 40.
14. Polonsky V.M. Slovar po obrazovaniyu i pedagogye. - M.: Vyssh. school, 2004. - S. 159.
15. Reznik N. A. Model visualization of educational content in modern information spaces // Journal of scientific and pedagogical information. 2011. No. 4. – S. 110-143/
16. Sharopin K.A., Berestneva O.G., Shkatova G.I. Visualization of experimental results // Izvestia Tomskogo polytekhnicheskogo universiteta. 2010. No. 5. T. 316. S. 172-176.
17. An explanatory dictionary of the Uzbek language. Arrangement – Shukr // 5 volumes. Fourth volume. Under the general editorship of A. Madvaliyev. Editorial board: E. Begmatov and others. – T.: “National Encyclopedia of Uzbekistan” State Scientific Publishing House, 2008. – 550 p.