

System of Navigation Signs as a Part of Visual Semiotics in School Textbooks

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Abstract

The system of conventional designations is considered part of the visual semiotics of the textbook as a whole, performing an important educational function of orienting students, preparing them to perform educational tasks. The work aims to assess the compliance of the existing system of navigation signs in the Russian language textbook with the peculiarities of the visual perception of modern schoolchildren, as well as to study the creative capabilities of students who create their own symbols that best meet their ideas. The study included an interpretative experiment and a generative visual design task with Grade 5 students. During the interpretative experiment, students analyzed the proposed images of signs: in the first stage, they interpreted the signs independently, and in the second stage, they selected the most suitable interpretations from several options. The generative visual design task required students to create their own signs for the given meanings. The results of the interpretative experiment showed that some signs¹, such as 'Writing' and 'Working in pairs/groups', were correctly understood by most students, whereas signs such as 'Listening' and 'Learning a theory' proved challenging and resulted in misinterpretations. At the same time, the generative visual design task revealed that students faced difficulties in producing new signs for abstract meanings, which indicates that their visual literacy is still insufficiently developed. The findings of the study indicate that not all the symbols proposed in textbooks correspond to the visual thinking and level of visual literacy of schoolchildren. Involving the students themselves in the creation of navigation signs helps to develop visual literacy as a component of multimodal literacy of students.

Key words: visual semiotics of a textbook; navigational signs system; multimodal literacy; interpretation; didactic visual semiotics

1. Introduction

1.1 Visual semiotics of the textbook in the context of new approaches to literacy

Today's civilization is characterized by the dominance of a visual culture built on visual semiotics. This is due to the tendency set by modern means of communication to reduce the role of the verbal component in human communication and to create a language of images for which there are no state borders and language barriers. The increasing role of electronic media has formed a new type of perception and thinking when a person is focused on information presented not in the form of a linear text but in the form of images. This makes it possible to quickly switch from one semantic block to another, even if they are disjointed and heterogeneous. Such a cognitive feature is primarily characteristic of teenagers and young people, who today act as the main consumers of digital content. This fact dictates the need for a significant change in the methods and mechanisms of information transfer used in the educational process (Maabreh et al., 2023: 222). Changes should also affect the visual semiotic

¹ The interpretation of the navigation signs from the Russian language textbook has been translated into English by the authors - E.D., Z.K., G.Kh., and Zh.K.

component of a school textbook. The ratio of its verbal and non-verbal components should become different.

Today, the textbook is being reviewed as a typical and representative source of a society's 'official' self-understanding, reflecting the positions of the society's ruling elites and the dominating pedagogical concepts, typically quite different from the positions and attitudes of the majority of the population. Often, however, these differences appear to be structured in similar ways" (Ferro, 1991: 79).

From this point of view, the visual semiotics of a textbook is of scientific interest as a product of an important social practice – learning, and individual elements of the non-verbal component of a textbook can be considered as praxemes.

S.V. Nikolaenko formulates one of the important cognitive and axiological teaching principles as follows: 'to learn means to understand what is happening in the world and to be able to build your own life' (Nikolaenko, 2019: 198). Consequently, as R. Pettersson rightly asserts, the optical means of expressing meanings used in school textbooks should work to form and develop in students the ability to accurately interpret visual messages and create such messages independently (Pettersson, 2013; Albekova, Kurmanova, et al., 2021). J. L. Debes called such an acquired ability 'visual literacy' (cited by: Avgerinou & Ericson, 1997: 282). Today, visual literacy is an important part of multimodal literacy, considered as a construct that involves the purposeful formation of skills to create meaning using different semiotic systems. Mastering this type of literacy presupposes the ability of students to switch from one sign system to another, to recognize, evaluate, interpret, and, if necessary, recode the information structures with which they have to interact. In this regard, working with polycode (multimodal) texts is of particular importance when studying any subject at school (Danielsson, Selander, 2021: 37). As Kress and van Leeuwen (2006) have shown, the multimodal nature of communication requires careful design of visual elements to support meaning-making processes in educational settings.

Many modern linguists are interested in the semiotic aspect of printed text, but school textbooks have not yet received sufficient coverage from this point of view. Teachers and publishers actively developed the problem of the external design of school textbooks in the 1980s of the twentieth century (Anderson & Armbruster, 1985; Moosbrugger, 1985; Seguin, 1989; Van Brummelen, 1991). However, the graphic design of textbooks was regulated by a state standard and was not considered from a semiotic point of view.

The works devoted to the study of school textbooks as polycode texts first appeared in the second decade of the 21st century. Thus, S. Kasmainezhad-Fard, T. Sulaiman, N.H. Alwi, analyzing the Primary-Year-4 English textbook of the national schools, focuses on the criteria for the compatibility of signs, colorographic and technical means of displaying sign information, and the methods and means of designing a sign as a material unit of communication (Kasmainezhad-Fard et al., 2017: 147). The important role of illustrative material in textbooks for primary school students, as well as the significance of the visual semiotics of textbooks for the cognitive development of students, is emphasized by A. Sovic and V. Hus (Sovic & Hus, 2016: 639), A. Burhanuddin, R. Ummu, K. Andi, R. Fahmi (Burhanuddin et al., 2023: 23).

Takwa – Purwarno Purwarno. They analyzed the visual semiotics of three English textbooks for primary school, during which they established the need for some adjustments to the design of the publications under consideration.

1.2 Criteria for the visual semiotic side of the textbook

The correspondence of conventional designations to the recipient's experience, the relationship between the semantic and material components of signs of various natures used in English language textbooks, is investigated by S.S. Ghasemi, who formulated the following criteria for the sign-pictorial space of a textbook:

- One function cannot be performed simultaneously by several tools in one area.

- The material component of each sign and color must be assigned a single semantic component; all signs used in the book must represent a system.
- The signs used, both in their material and semiotic components, must correspond to the reader's experience and be easily read and remembered by him/her.
- It is necessary to create a rubrication system that does not violate the paradigmatic structure and maintains a connection with the semantic space of the book (Ghasemi, 2023: 274).

As we can see, the author emphasizes the systematic nature of the textbook semiotics and the didactic requirement of the single-functionality of the material component of the sign. We believe these criteria are universal and can be applied to the semiotic aspect of any school textbook, regardless of the subject. T.I. Rezeki, R.W. Sagala studied the correspondence of the visual semiotic component in English textbooks for 2nd grade primary school students to the age-related features of students' visual perception (Rezeki & Sagala, 2021: 120).

A school textbook is a complex semiotic aspect, where each element has significance. J. Bezemer, G. Kress substantiate the position that the interpretation of a textbook is characterized by nonlinearity and differs from traditional book reading, since it includes various strategies and methods of information processing and also assumes the presence of specific learning skills that require psychophysical preparation of students (Bezemer & Kress, 2010: 839). They also note the insufficient coverage of this problem in academic literature.

The conducted review allows us to conclude that many scientists and teachers realize the importance of the visual design of textbooks in the formation of multimodal literacy of students, with a significant impact on their abilities in the perception and analysis of educational information. Studying the semiotic component of the textbook is especially important today, when educational materials are multidimensional and multimodal texts that combine verbal and non-verbal signs. The level of multimodal literacy of Kazakhstani schoolchildren must be increased, and for this purpose, it is necessary to study the quality and effectiveness of the semiotic component of school textbooks in order to improve it.

1.3 Navigation function in school textbooks

School textbooks' design, composition, and information content are undoubtedly evolving, adapting to the growing demands of society for the educational level of high school graduates (Temirgazina et al., 2016: 218–219). The functions of the textbook are also subject to significant changes, with the navigation function gaining increasing importance. The origins of this function date back to the era of the emergence of the orientation tools in educational literature. Already in the 19th-century editions, there were links and instructions for students designed to help schoolchildren work both with the textbook itself and with the accompanying didactic materials and additional literature. V. G. Beilinson emphasizes the importance of the navigation function in a school textbook: "This is the youngest component in the structure of the textbook. The widespread complication of the content of education has caused an urgent need for special means of facilitating and rationalizing its assimilation in the learning process. The task of finding means for developing and nurturing the personality of students for education saturated with scientific theoretical knowledge has become all-consuming. Including those that help students quickly and accurately navigate the rather complex structure of a modern textbook, methodically develop their ability to navigate in flows of diverse information, and the ability to work with both educational and other types of literature" (Beilinson, 2005: 138).

In addition, as J. Naumann, R. Jansen, N. Franke rightly note, good textbooks of language disciplines "have a structure that is transparent not only for the teacher, but for the student, too. The students' zeal will be furthermore fostered by an attractive

and clear layout” (Naumann et al., 2006: 168). An integral part of such an attractive, functional design that promotes independent work is a system of navigation signs.

The navigation system of a modern school textbook usually includes the following elements: a preface that guides the reader, headings, symbolic signals, a table of contents, and a page header (Rottensteiner, 2010: 3895). The demand for non-verbal visual symbolic signals has increased significantly in recent years. In Russian language textbooks, graphic symbols are most often used for navigation, with the help of which tasks corresponding to different types of speech and learning activities are marked: ‘Speaking’, ‘Listening’, ‘Writing’, ‘Learning a theory’, ‘Working in Pairs/Groups’, ‘Summing Up’, etc. When a student first opens a textbook, he or she begins to get acquainted with the book with the symbols that help him or her navigate the textbook.

The aim of the article is, firstly, to assess the compliance of the system of navigational signs in the Russian language textbook as an element of the visual semiotics of the textbook with the age-related characteristics of the visual perception of schoolchildren and, secondly, to analyze the system of conventional symbols of the textbook created by the students themselves, which best correspond to their ideas.

To address these aims, the following research questions were formulated:

- 1) Do the navigation signs in the Russian language textbook for Grade 5 correspond to the visual perception abilities of the target age group?
- 2) Can the involvement of students in designing navigation signs improve their communicative and didactic effectiveness?

2. Methodology

The material for the study was the system of navigation symbols used in the Russian language textbook for Grade 5, authored by Z.K. Sabitova and K.S. Sklyarenko (2018). This textbook is included in the official list of publications recommended by the Ministry of Education of the Republic of Kazakhstan for use in the educational process in secondary schools (MES RK, 2020).

The experimental study involved Grade 5 students from a secondary school (total number — 110 students) and was conducted in February 2024. The research design included two core components: an interpretative experiment and a generative visual design task. In addition, a visual semiotic analysis of the navigation signs was carried out to examine the correspondence between the form and meaning of the signs, as well as their alignment with the visual perception abilities of the target age group (Rakhimzhanov, Akosheva, et al., 2022: 272-273).

The interpretative experiment was conducted in two stages. At the first, more complex stage, students were asked to independently interpret the images of navigation signs taken from the textbook. At the second stage, these images were accompanied by interpretation options, and students were required to choose the option they considered most appropriate for each sign. This procedure was aimed at assessing the degree to which existing navigation symbols corresponded to the students' perceptual and cognitive characteristics.

The generative visual design task focused on the students' ability to create their own visual representations for predetermined meanings. In this task, the signifieds (educational concepts) were provided, and students were invited to develop appropriate signifiers. They were free to choose the form, color, and composition of the symbols, which allowed for the exploration of their creative imagination and visual thinking skills.

The results obtained from the interpretative experiment, the generative task, and the visual semiotic analysis provided a comprehensive basis for assessing the didactic and communicative effectiveness of the navigation sign system used in the textbook.

3. Results and Discussion

3.1 Students' interpretation of signs in the textbook

At the first stage of the interpretative experiment, students were presented with a set of navigational signs used in the Russian language textbook (Figure 1).



Figure 1: Symbols of the Russian language textbook for grade 5 (Sabitova, Sklyarenko, 2018: 4)

Students were asked to write next to each symbol what it meant in their opinion. The survey showed that the signs ‘Writing’ (79% of respondents), ‘Working in pairs/groups’ (71.6%), ‘Watching video, listening to audio’ (71.6%), and ‘Reading’ (49%) were deciphered correctly. The meanings of these signs were correctly interpreted by the largest number of respondents (from 49% to 79%), which indicates a high degree of correspondence to the sensory experience of the recipients. However, the situation is different with recognizing the meanings of the signs ‘Listening’, ‘Learning a theory’, and ‘Work with words’. During the complex survey, none of the respondents could correctly interpret the meanings of the three abovementioned signs. Children do not find visual support in the form of the sign that would help them determine its meaning. It can be stated that signs that lack visual supports in the form of a sign cause difficulties for children aged 10–11 with dominant concrete-figurative

perception. And, accordingly, they are not suitable for use in textbooks for the 5th grade, which is confirmed by the results of the interpretative experiment (Figure 2).

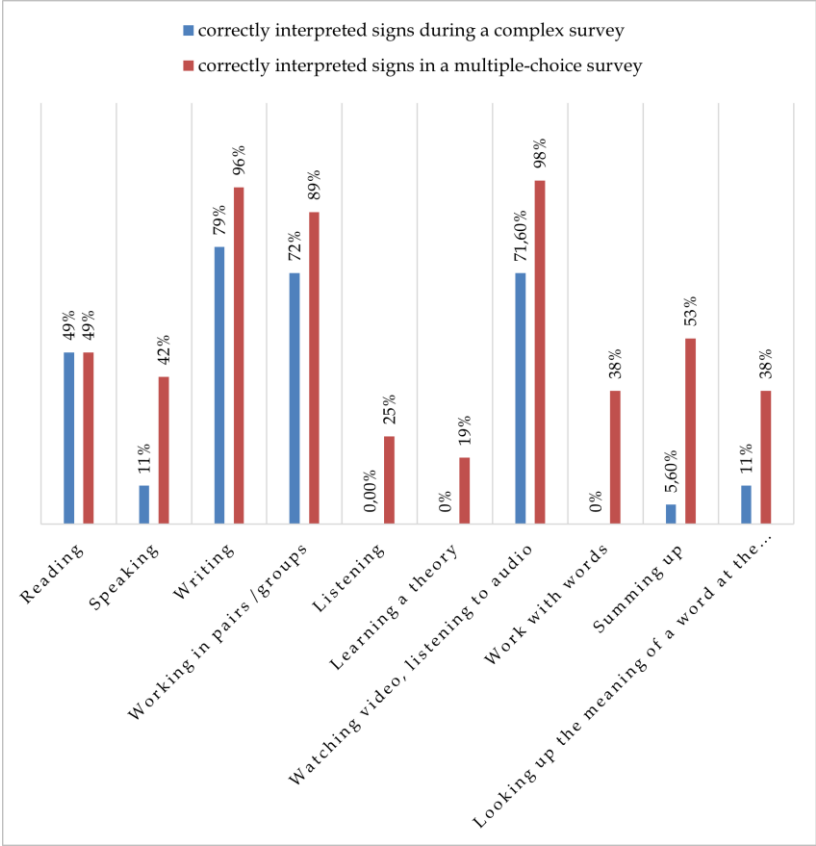


Figure 2: Experiment results

The meanings of the signs ‘Learning a theory’ and ‘Work with words’ were interpreted using the verb ‘read’ (47.2% of students) and words derived from it (13%). In our opinion, this is due to the fact that an open book is drawn in the form of signs (Figure 3). When recognizing the meaning of the navigation sign, the children were guided by a visual support – a book:



**Figure 3: Navigation signs with identical visual supports
(Sabitova, Sklyarenko, 2018)**

The image of an open book in several signs creates confusion and does not evoke stable associations in students with those learning activities that the authors of the textbook navigation system associate these images with. In addition, 23.6% of

respondents associate the visual appearance of the ‘Work with words’ sign with important information, and 16.3% associate it with a call to use a bookmark when working with the textbook.

We believe that the communicative didactic inefficiency of the signs ‘Learning a theory’ and ‘Work with words’ is associated with the use of similar visual shells to express different meanings.

The visual shell of the sign ‘Listening’ (Figure 1) does not reflect the semantics of the type of speech activity it denotes, which is confirmed by the results of the interpretative experiment (Figure 2). During the complex survey, not a single respondent was able to determine the meaning assigned to this sign in the textbook. The connection between the signifier and the signified in this case is exclusively conventional in nature, without reliance on the previous sensory experience or background knowledge of the recipients, which led to a communicative failure (cf: Temirgazina, 2013). This allows us to conclude that in textbooks for the 5th grade, it would be more appropriate to use more iconic symbols, since at the age of 10-11, conceptual thinking of children is just beginning to form, and they continue to be guided to a greater extent by concrete-figurative thinking.

3.2 Signs developed by students

To test the second part of the hypothesis, a generative visual design task was conducted with 5th-grade secondary school students. The participants were asked to invent and draw signifiers for the textbook navigation signs based on the given signifiers. An analysis of the drawings submitted by the respondents showed that when creating signifiers for the signs ‘Reading’, ‘Writing’, ‘Working in pairs/groups’, ‘Watching videos, listening to audio’, and ‘Summing up’, they used images that were semantically similar to those featured in the existing navigation signs in the textbook ‘Russian Language’. This indicates that the graphic appearance of the listed signs corresponds to the age-related features of fifth-graders’ visual perception and their previous sensory experience. Therefore, a more detailed analysis was carried out for the signifiers created by students for those signs that had caused difficulties during the interpretative experiment. These were the signs: ‘Speaking’, ‘Listening’, ‘Learning a theory’, and ‘Work with words’. The analysis of the students’ drawings made it possible to group the images into thematic categories, which are presented in the table ‘Results of the generative visual design task’.


















The signified of the sign	Conventional signs proposed by students in a creative experiment				
Speaking	An open mouth with arcs radiating from it 	The profile of a man with an open mouth and arcs radiating from it, symbolizing speech 		A man's head in profile with an open mouth, from which a cloud 'flies out' symbolizing speech 	
	3,6%	38%		34,5%	
Listening	The human auricle 	The head of a man with a big ear 	Headphones, speaker 	The man with the big ears 	
	16,3%	16,3%	18%	14,5%	
Learning a theory	The Open Book (or an open book with an exclamation mark) 	The human head, next to which a large question mark 'hovers' 	The head of a man, above which an open book 'hovers' 	Magnifying glass, glasses 	An owl in a square academic hat 
	18% (9%)	3,6%	14,5%	5,4%	5,4%
Work with words	The inscription 'the word' 	A man holding a piece of paper with lines depicting the written text 	A man with a magnifying glass in his hand 	A man with a pointer in his hand 	A piece of paper with lines depicting the written text 
	23,6%	7,2%	1,8%	5,4%	16,3%

Table: Results of a generative visual design task

The most frequent signifier for the sign ‘Speaking’ was the image of a human head turned in profile with an open mouth, from which lines or expanding arcs diverge, symbolizing speech. This is how 38% of children visualized this sign’s meaning.

The participants of the experiment most often depicted the ‘Listening’ sign as a human auricle (16.3%) or a head with a large ear (16.3%). 18% of students drew various acoustic devices: headphones and speakers.

The sign ‘Learning a theory’ was most often depicted by children as an open book (18%), as was the sign ‘Reading’. 9% of the experiment participants drew the sign ‘Learning a theory’ as an open book with a large exclamation mark, repeating the sign ‘Work with words’ used in the textbook. It can be concluded that schoolchildren aged 10–11 had difficulty creating a formal image for the action ‘Learning a theory’ since they repeated the forms of other signs. In our opinion, children had difficulty visualizing this meaning because they did not find a unique visual support for it. The supports for this action that existed in their life experience (open book, exclamation mark) repeated the form of other signs.

The second most frequent signifier for the specified educational action was the image of a human head with an open book hovering above it (14.5%), which, unlike the other options, does not duplicate the appearance of other signs. For the sign ‘Work with words’, the most common signifier was the title ‘word’ in various variants of writing (23.6%). Based on the results of the interpretative experiment, new versions of the navigation signs ‘Speaking’, ‘Listening’, ‘Learning a theory’, and ‘Work with words’ were created, and they are presented in Figure 4.



Figure 4: New versions of some navigation signs (designed by the students)

When creating new visual shells for symbols, we preserved the style and color scheme specified in the textbook. The shade of green used as the main one in the design of navigation signs is Emerald, 17-5641. This color seems quite acceptable for the design of textbooks because, according to D.N.S. Nugraha, it conveys to the recipient a sense of harmony and balance, well-being, and prosperity (Nugraha, 2019: 57). Therefore, the design using this shade has a beneficial effect on the psychological state of the student.

To determine the degree of communicative effectiveness of the developed symbols, an experiment was conducted with another group of students. Using the Google Forms service, 96 students of grade 5 from different schools were asked to first determine the meanings of navigation signs in an open (without answer options) and then closed (with answer options) testing format. As the diagram presented in Figure 5 shows, the proportion of respondents who correctly interpreted the meanings of these signs increased sharply compared to the previous interpretative experiment.

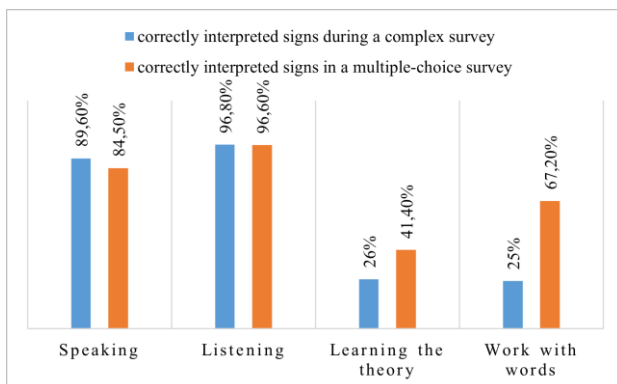


Figure 5: Results of an interpretative experiment with new symbols

The number of correct interpretations of signs increased with the complicated survey in comparison with the first experiment: ‘Listening’ – by 96.8%, ‘Learning a theory’ – by 26%, ‘Work with words’ – by 25%; ‘Speaking’ – by 78%. In a survey with multiple-choice answers, they also increased: ‘Listening’ – by 69%, ‘Learning a theory’ – by 22%, ‘Work with words’ – by 29%, and ‘Speaking’ – by 42%. This result indicates a higher degree of iconicity of navigation signs created with the participation of schoolchildren of the age group for which these signs are intended, which increases their educational communicative effectiveness.

It should be noted that not all participants in the generative visual design task coped with the task. Thus, 24% of students found it difficult to draw the sign for the sign ‘Speaking’, 35% for the sign ‘Listening’, 44% for the sign ‘Learning a theory’, and 45.7% for the sign ‘Work with words’. Along with difficulties in deciphering visual signs during the complicated stage of the experiment, the inability to create graphic shells for the given meanings indicates that visual literacy in 5th grade students is insufficiently developed, which consists of the ability to decode (understand) and independently create visual messages (Avgerinou & Ericson, 1997).

One of the reasons for the current situation is, in our opinion, the underestimation by authors and publishers of textbooks of the role that visual semiotics plays in the formation and development of visual and, more broadly, multimodal literacy. In the works of Kazakhstani textbook specialists, the visual design of educational literature is attributed mainly to an aesthetic function, while its pragmatic focus remains in the shadows. Thus, A. K. Kusainov notes: ‘The textbook must have such physical parameters as to harmonize the reader’ (Kusainov, 2021: 105). As a result of this approach, the visual semiotic component of Kazakhstani textbooks, including navigation signs, remained insufficiently thought out and effective.

In the context of the modern educational paradigm, underestimation of the didactic potential of the visual semiotics of a textbook is unacceptable. Researchers emphasize the need to rethink visual design in educational materials, taking into account the cognitive characteristics of modern students: “The cover of the modern Russian language textbook should become more technological, informative, motivating, and attractive for the student” (Derunova & Temirgazina, 2024: 94). This idea, however, is relevant not only to textbook covers. It equally applies to all elements of educational design, including navigation signs, which must meet the perceptual and cognitive needs of students in order to function effectively. G. Gueudet and his colleagues also argue that the reality of the present and near future is formed by semiotic means, among which the means of visual symbolism dominate (Gueudet et al., 2013: 330). Visual images play a leading role in preparing today’s schoolchildren

for life in the conditions of an increasingly ‘visualized’ reality and an ever-increasing information load.

In light of the above, involving students as the main ‘consumers’ of textbooks in the creation of their visual semiotic component seems justified, as this will help to construct the optical space of the textbook in accordance with the peculiarities of the visual perception of the target audience and increase its didactic efficiency. In addition, the process of such work itself will serve to develop the visual and, more broadly, multimodal literacy of students by activating their creative potential.

4. Conclusion

The practice of creating Kazakhstani school textbooks, primarily the Russian language textbooks that we analyzed, demonstrates that visual semiotics, of which the system of navigation signs is a part, is often an ineffectively used or not used at all resource for the formation and development of multimodal literacy in general and visual literacy in particular.

As a result of the experiments, the following conclusions were made:

- the symbols ‘Listening’, ‘Speaking’, ‘Learning a theory’, and ‘Work with words’ in the Russian language textbook for the 5th grade published by Mektep do not correspond to the peculiarities of the visual perception of the age group of schoolchildren for whom the textbook is intended. Consequently, the listed navigation signs cannot effectively perform the functions assigned to them;
- involving schoolchildren in creating new visual images for navigation signs in the textbook made it possible to increase the communicative effectiveness of these signs, which means that such work contributes to improving children’s visual literacy and successful educational communication along the ‘student – textbook’ interaction.

We believe that the study we conducted will make a certain contribution to the theory of visual semiotics, or rather, to such an important section as the theory of didactic visual semiotics.

Bibliographic references

- Albekova, A., Kurmanova, Z. & et al. (2021). One More Time about the Heart: Naive Anatomy in the Kazakh Language in Comparison with Russian and English. *Przegląd Wschodnioeuropejski*, XII, 2, 459-475. <https://doi.org/10.31648/pw.6876>. ISSN: 2081-1128
- Anderson, T. H., & Armbruster, B. B. (1985). Chapter 8. Studying Strategies and Their Implications for Textbook Design. T. M. Duffy & R. Waller (Eds.), *Designing Usable Texts* (pp. 159-177). New York: Academic Press. ISBN 1483204235.
- Avgerinou, M., & Ericson, J. (1997). A review of the concept of Visual literacy. *British Journal of Educational Technology*, 28(4), 280–291. ISSN: 1467-8535.
- Beilinson, V. G. (2005). *Arcenal obrazovaniya. Uchebnye knigi: proektirovanie i konstruirovanie* [The arsenal of education. Educational books: design and construction]. Moscow: Mnemosina. ISBN 5-346-00299-5.
- Bezemer, J., & Kress, G. (2010). Changing Text: A Social Semiotic Analysis of Textbooks. *Designs for Learning*, 3(1-2), 10-29. eISSN 2001-7480.
- Burhanuddin, A., Ummu, R., Andi, K., Fahmi, R. T., & Purwarno P. (2023). Evaluating the suitability of printed materials in the context of online learning. *XLinguae*, 16(2). ISSN 1337-8384, eISSN 2453-711X.
- Danielsson, K., & Selander, S. (2021). Working with Multimodal Texts in Education. https://doi.org/10.1007/978-3-030-63960-0_4. ISBN 9783030639600.
- Derunova, E., & Temirgazina, Z. (2024). Russian language textbook cover as sign and visual image. *Til jāne ādebīet: teorīyas ien tājirībesi / lazyk i literatura: teorīia i praktika* [Language and literature: theory and practice], 3(4), 85-98. (In Russian). ISSN 2957-5567. <https://doi.org/10.52301/2957-5567-2024-3-4-85-98>

- Ferro, M. (1991). *Geschichtsbilder. Wie die Vergangenheit vermittelt wird. Beispiele aus aller Welt.* Frankfurt a. M. / New York. ISBN 3593339722.
- Ghasemi, S. S. (2023). A Mini Review of Social Semiotic and Critical Visual Studies in Language-Related Fields of Study. *International Journal of Advanced Studies in Humanities and Social Science*, 12(4), 268-281. ISSN 2345-2749.
- Guedet, G., Pepin, B., & Trouche, L. (2013). Textbooks design and digital resources. ICMI study 22 – Task design in mathematics education, ICMI, 327-338. Oxford, United Kingdom. ISBN 978-2-7466-6554-5.
- Kasmaienezhad-Fard, S., Tajularipin, S., Alwi, N., Ayub, M., & Fauzi, A. (2017). An Evaluation of the Colors in Primary School English Textbook through Students' Perceptions. *Journal of Studies in Education*, 7, 141-155. ISSN: 2162-6952.
- Kress, G., & van Leeuwen, T. (2006). *Reading Images: The Grammar of Visual Design* (2nd ed.). London: Routledge. ISBN 978-0415319157.
- Kusainov, A. K. (2021). K probleme razrabotki sovremennykh uchebnikov. [On the problem of developing modern textbooks]. *Journal of the Belarusian State University. Journalism. Pedagogy*, 1, 102-107. ISSN 2308-9180.
- Maabreh, H. G., Dugalich, N. M., Lazareva, O. V., Kadilina, O. A., & Shavtikova A. T. (2023). Effectiveness of the semiotic strategy of teaching English in developing reading comprehension skills. *XLinguae*, 16(2). ISSN: 1337-8384, eISSN 2453-711X.
- Ministry of Education and Science of the Republic of Kazakhstan. (2020). *Prikaz Ministra obrazovaniya i nauki Respubliki Kazakhstan ot 22 maya 2020 goda № 216.* [Order of the Minister of Education and Science of the Republic of Kazakhstan dated May 22, 2020 No. 216]. URL: <https://adilet.zan.kz/rus/docs/V2000020708> (Access date: 1.10.2024).
- Moosbrugger, M. (1985). *Das Niveau der Aufgaben in Lehrbüchern. Eine Analyse österreichischer Geschichtsbücher für die Hauptschule.* [The level of tasks in textbooks. An analysis of Austrian history books for secondary school]. *Unterrichtswissenschaft* 13(2), 116-129. ISSN 2520-873X.
- Naumann, J., Jansen, R., & Franke, N. (2006). Research Finding on Textbooks and Education for All. In: Braslavsky C. & Halil K. (Eds.): *Textbooks and quality learning for all: some lessons learned from international experiences*, 95-193. Geneva: SRO-KUNDIG. ISBN 9789231040276.
- Nikolaenko, S. V. (2019). *Russkiy yazyk – cherez natsionalnye realii i kulturu* [Russian language – through national realities and culture]. *Russian studies*, 17(2), 198–212. ISSN 1009-721X.
- Nugraha, D. N. S. (2019). The Color Meaning in Go Green Logo: A Semiotic Study. *Global Business and Management Research: An International Journal*, 11(1 Special Issue), 55-65. ISSN 1947-5667.
- Pettersson, R. (2013). Views on Visual Literacy. *VASA Journal on Images and Culture (VJIC)*, 199. URL: https://www.researchgate.net/publication/281810865_Views_on_Visual_Literacy (Access date: 21.10.2024).
- Rakhimzhanov, K. Akosheva, M. Luczyk, M. Shaharman A., et al. (2022). Semiotics of family in Kazakh wedding toasts in the perspective of intercultural communication. *Metaphor and the Social World*, 12(2), 270-291. <https://doi.org/10.1075/msw.19019.tem>. ISSN 2210-4070, 2210-4097.
- Rezeki, T. I., & Sagala, R. W. (2021). Semiotics Analysis on Students' English Textbook in Elementary School. *Voices of English Education Society*, 5(2), 120-131. ISSN 2579-7484.
- Rottensteiner, S. (2010). Structure, function and readability of new textbooks in relation to comprehension. *Procedia – Social and Behavioral Sciences*, 2, 3892–3898. ISSN 1877-0428.

- Sabitova, Z. K., & Sklyarenko, K. S. (2018). Russkiy yazyk: uchebnik dlya 5 kl. obshcheobrazovatel'noy shk. v 2 chastyakh. [Russian language: Textbook for grade 5 of secondary school. In 2 parts]. Almaty: Mektep. ISBN 9786010710399/2.
- Seguin, R. (1989). The Elaboration of School Textbooks, Methodological Guide. Division of Educational Sciences, Contents and Methods of Education. UNESCO. URL: <https://unesdoc.unesco.org/ark:/48223/pf0000086964?posInSet=1&queryId=20976904-ea2a-4be9-9345-868628fcdff3> (Access date: 11.10.2024).
- Sovic, A., & Hus, V. (2016). Semiotic Analysis of the Textbooks for Young Learners. *Creative Education*, 7, 639–645. ISSN 2151-4771.
- Sutrisno, D., Abidin, N. A. Z., Pambudi, P., Adyawati, N., & Sallu, S. (2023). Exploring The Benefits of Multimodal Literacy in English Teaching: Engaging Students Through Visual, Auditory, And Digital Modes. *Global Synthesis in Education Journal*, (2), 1-10. ISSN 3025-5724.
- Temirgazina, Z. K. (2013). Effective Communicative Strategies and Tactics in Verbal Aggression Situations. *World Applied Sciences Journal*, 24(6), 822-825. ISSN 1818-4952, 1991-6426.
- Van Brummelen, H. (1991). The World Portrayed in Texts: An Analysis of the Content of Elementary School Textbooks. *The Journal of Educational Thought (JET) / Revue de La Pensee Educative*, 25(3), 202–221. URL: <http://www.jstor.org/stable/23767373> (Access date: 19.10.2024).

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