УДК 37.062.5

DOI: 10.23951/2782-2575-2022-2-42-52

VALUES AND MEANINGS THAT THE INTERIOR OF A SCHOOL CONVEYS TO A STUDENT*

Anastasiya A. Azbel¹, Leonid S. Ilyushin^{1,2}, Evgenia S. Samoylova¹

¹ St. Petersburg State University, St. Petersburg

Abstract. The article is devoted to the analysis of the elements of visual communication presented in the interiors of schools. The lack of textual solutions that meet the emotional and value-based requirements of modern students in the visual space of the school is investigated. Texts in the educational space of the school are a flexible and multifunctional tool that can be used not only to increase the school's attractiveness but also to create an educational dialog with students and their families. Texts can promote the rules of interaction between people and society, the value of ecological behavior, the effective use of resources, respect for others, and a subjective position in educational activities.

Materials and Methods. Photographs and video recordings of the visual environment of modern Russian schools served as material for study. The data was collected not only in classrooms but also in all common spaces of the school – corridors, gymnasiums, canteens, museums, libraries, staircases, and entrance areas. In some cases, the object of analysis included images and texts conveying a specific meaning. Qualitative and quantitative analysis are the main methods used in studying text solutions in educational institutions. The article proposes a classification of visual solutions used in schools (8 types of texts) and describes the group interview method as a research tool for visual solutions in schools. Fixation and attribution of school texts were conducted in interaction with adolescent students.

Results and Discussion. The study reveals the content and stylistics of interior elements in modern Russian schools. The article justifies the use of School Texts to develop students' Flexible Skills. The modern visual environment of Russian schools is largely focused on the preservation of the traditional school system. It conveys a formalized idea of school, in which learning is the main focus rather than other aspects of students' lives and personal development.

Conclusion. In order to develop and implement these solutions, it is useful to combine the efforts of professionals from the fields of design, pedagogy, ergonomic psychology, philology, and linguistics and to listen to the ideas and desires of the main subjects in the educational process – the students themselves. The study results show a lack of professional solutions in the design of modern schools. The article suggests ways to overcome these gaps through a collaborative approach to the design of the visual environment of educational institutions.

Keywords: educational space interior design, learning space, visual communication at school, value-based text

² National Research University Higher School of Economics St. Petersburg, St. Petersburg

^{*} Original Russian language version of the article: Azbel' A.A., Ilyushin L.S., Samoylova E.S. Rol' tekstov v dizayne obrazovatel'nogo prostrsnstva sovremennoy shkoly. Analiz mneniy i kyeysov [The Role of Texts in Modern School Educational Space Design. Analysis of Opinions and Case Studies]. *Vestnik Tomskogo gosudarstvennogo pedagogicheskogo universiteta – Tomsk State Pedagogical University Bulletin*, 2019, vol. 8 (205), pp. 30–38. DOI 10.23951/1609-624X-2019-3-27-34

Introduction

The topic's relevance arises from several objective challenges of the current educational situation. First, achieving a new quality of education that includes the development of 21st-century skills is impossible without significant modernization of the school environment. Second, the new developments in information technology (studies on information perception of modern children, new forms of text presentation) significantly impact out-of-school education and should be considered when designing the school environment.

Finally, the renewal of the school educational environment is envisaged in the National Project "Education" 2018-2024 (section "Modern School").

Texts in the school educational environment are a very flexible, multifunctional tool that can make schools more attractive and engage in dialog with students and their families. In addition, texts can promote the rules of interaction between people and society, the value of ecological behavior, the effective use of resources, respect for others, and a subjective attitude in educational activities.

The aim of the present study is a structured analysis of the content and design of texts that constitute the visual environment of modern schools. We started from the assumption that most texts found in the school environment do not meet the emotional needs of students.

Theoretical Foundations of the Research

A learning space is a place designed for learning [1]. Most often, such spaces are understood to be schools, universities, or colleges, but it should be noted that almost any space, including virtual ones, can be instructive because the learning process itself is continuous and takes place in the interaction between a person and the world that surrounds him or her.

The visual environment of a school is a component of the educational space where ideas and information are conveyed in forms that can be seen and perceived [2]. Furthermore, when we talk about the importance of the communicative component in the school environment, the formulation of G.N. Lola is worth noting: "...design is a communicative practice of constructing a sign product capable of creating an impression." [3] We have studied the influence of educational space on students' activities and conditions from different angles. Based on the analysis of published works in this field [4-7], we identified three main approaches: the architecturalergonomic, the pedagogical, and the psychological. The psychological approach includes issues such as attachment to space [4], psychological well-being in space, and the motivational and inspirational effects of space. The architectural-ergonomic approach examines the physical elements of buildings: lighting, ventilation, acoustics, wall color, and space zoning. In this case, the physical objects are the main object of study [5]. Most of these studies focus on the design of new educational buildings or the renovation of existing buildings. The pedagogical approach lies in the theory of learning. Researchers attempt to answer a number of questions: How and where do people learn, and what influences their choice of learning space? "Physical space and technology alone are not the answer. What matters first and foremost are pedagogical ideas. The main focus should be on the learners themselves, their activities, the issues of information acquisition and structuring" [6]. The visual environment is considered a tool of the educational process that can influence student engagement, motivation, and performance [7].

In this article, the modern educational space is considered in its pedagogical and psychological aspects, which allows us to analyze the school's visual environment. The analysis of the works on the learning space [8–11] led us to the hypothesis that the visual environment of the learning space influences the learning process and the behavioral model of the actors involved in the educational process.

Let us discuss this hypothesis in more detail because it connects all three components of educational design: the space where learning takes place, the educational process in its entirety, and the different motivations of the people involved in the educational activity. Unlike in open spaces (city, nature), where the human gaze can reach both very high (sky) and very far (perspective, horizon, large objects in the distance), in a school, students perceive only this building and no internal object, text, or image can be so far away that it cannot be recognized. Thus, it can be said that the intensity of students' visual and, consequently, intellectual and emotional impressions is determined by the activity of their movement in the school and the activity of the school to update the school interior.

In general, the chronotope of the modern school, like that of the last century, is defined by a combination of patterns of activity and the organization of space. Although these categories are obviously generalized, there are clear contradictions in this combination that need to be understood and addressed. Let us briefly outline and comment on them.

- 1. There is a contradiction between the need to make the visual environment of the school dynamic and renewable and the existing rules for the design of the school environment. The administrative system tends more towards the second requirement, which affects the visual esthetics and shifts it towards declarative norms, and instructions.
- 2. There is a contradiction between the demand of students, especially young people, to participate in the design of the visual environment of their schools and the general opinion of school administrators about the insufficient esthetic level of "children's solutions." In other words, the bar of "flawless execution" of visual solutions (artistic, textual) cuts off a significant portion of what students can develop and realize on their own, even in collaboration with adults.
- 3. The contradiction between the potential of the school community to produce engaging, vibrant visual/informative content (extracurricular activities, school achievements, events, and personalities) and the minimal design solutions for presenting this material to the entire school community. The rapid development of presentation solutions (stand designs, information boards, video art at exhibitions and conferences) does not affect schools as potential buyers and active users of such solutions.

When studying texts in the visual environment of modern schools, we use the idea of neopragmatism [3] and the semiotic understanding of the text. "Texts are meaningful structures consisting of signs containing verbal information and represented in a synthesis with heterogeneous symbols of nonverbal nature" [12, p. 104; 12, p. 104]. The textual elements of a visual environment in school can be pictures, infographics, posters, photo stories, awards, objects, and installations with explanatory signs or texts. The classification of texts in school space is based on the works of S.V. Savinova, A.A. Harunzheva [13], Y.O. Bryazgina, A.A. Azbel, L.S. Ilyushin [14] and takes into account the results of empirical research.

Materials and Methods

We used the visual capture method to collect a series of photographic and video materials from different educational institutions. The content analysis method was used to study the information obtained and derive qualitative and quantitative indicators of the content, authorship, and stylistics of the elements of the visual environment used in the schools.

We collected the data from March 2018 to August 2018. A sample of 10 schools in Izhevsk, St. Petersburg, and Leningrad Region, whose principals agreed to participate in the study of visual space, was assembled. In total, we collected 578 photos and eight videos related to the school's visual text environment.

School texts were recorded and mapped through interaction with adolescent students. To this end, we arranged with representatives of each school administration for a tour of the school accompanied by 2–3 students (grades 5–7 and 9–11). During this tour, we took photographs and video footage of all elements of the visual and communicative environment. At our request, students commented on each element of the school's visual space (on average, about 50 elements per tour), answering the question: "In your opinion, did the students participate in the creation or/ and exhibition of this text/picture/object?" In this way, we had the opportunity to clarify the background of the elements in the schools' visual environments while also capturing students' emotional attitudes toward each object. The students' comments were recorded in written form in the observation table. Each school visit lasted between 40–70 minutes. After the group work with the adolescents was completed, we met with teachers or school administration representatives and clarified information about the authorship of school texts/images and objects based on the previously taken photos and videos. In the majority of cases, the information obtained from students was confirmed.

Several observations made in the course of this work seemed important to us:

- 1. It is necessary to explain the idea of the study to the students in order to obtain open and detailed judgments about the elements of the visual environment of the school.
- 2. It is also important to enter into an emotional dialog with the students to point out that every statement about an object is interesting and important to us and that their opinions may differ when discussing the same object or text.
- 3. When talking to students about particular objects or texts, it is helpful to ask them not only if they like a particular visual solution but also to ask additional questions, such as: "How do you feel when you walk by this text, this object, every day? Do you agree with this statement? How do you understand the meaning of this stand, this poster? What would you change about this object if you had the opportunity?"

We then conducted a content analysis of the information we received, which we used to develop a classification of the school texts:

- Navigation(guiding) texts. Texts that help navigate the school day.
- *Presentation texts*. Such texts include various diplomas, letters of recognition, trophies, and descriptions of accomplishments.
- *Self-presentation texts*. Such texts are authorized and usually published in the context of exhibitions. They may include paintings, sculptures, installations, or posters.
- Announcements texts. These texts include various notices, posters, invitations, and texts for various holidays and school events.
- *Stories texts*. These elements are used to convey a story about the life of the school or class. Photographs often accompany the texts. Such texts can be school newsletters and visual stories about events.
 - *Normative texts.* Orders, instructions, sets of rules, and regulations.
 - *Motivational texts*. Aphorisms, quotations, posters.
 - Decorative texts. Such texts include captions of paintings, objects, and installations.

Results and Discussion

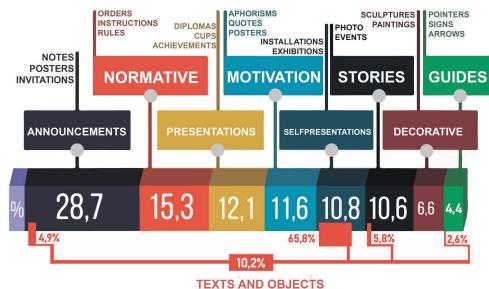
In the content analysis, we identified the characteristics of the different text types and represented them in a quantitative relationship. (See Figure 1)

All the photographic and video material was subdivided according to the classification proposed.

After analyzing the submitted materials, we found that *normative texts*, *presentation texts*, and *announcement texts* together accounted for 56.1% of the total number of text solutions.

Orders, instructions, rules, and regulations, which account for 15.3%, are the least effective elements of the visual environment of a modern school, as they do not fulfill their functions. This is because the texts of regulations are not interactive, are written in an official bureaucratic style, and are presented in a small font that is difficult to see even up close. Moreover, these texts are rarely updated and lack explanatory comments, which indicates their irrelevance.

CLASSIFICATION OF TEXTS AND OBJECTS IN LEARNING SPACE



CREATED WITH THE ACTIVE PARTICIPATION OF STUDENTS

Fig. 1. Texts in the Modern Learning Space

Presentation texts, which include various diplomas, letters of recognition, and other visual evidence of school accomplishments, are important elements of the classroom as they inform about the successful activities, accomplishments, and victories of participants in the educational process. Unfortunately, such texts are often written in an official business style and displayed without student participation.

Most often (65.8%), students' original works are presented in the form of *presentation texts*, which account for 10.8% of the total elements in the visual school environment. Among the self-presentation texts, we also noted the creative works of teachers as well as graduates of educational institutions. Such texts are temporary and are usually exhibited or shown as part of an exhibition or competition.

Elements depicting school life make up 10.6%. It should be noted that there are very few text elements in this category; most (about 85%) are photo reports of events in school life.

Brochures, posters, invitations, and texts about various holidays are the most frequent categories of visual environment elements, with 28.7%. Among these elements, texts written by school children are extremely rare – in 4.9% of all cases.

Therefore, we believe that the modern learning space's visual environment does not meet students' emotional needs and does not reflect the school community's life, as very few texts are created with students' active participation.

We have formulated nine illustrative and analytical cases based on the analysis of texts presented in school spaces.

The Case of Unreadable Texts

Modern educational design is focused on the child. In marketing and merchandising, there is the concept of the Golden Shelf. In this case, it refers to the boundaries of the customer's main field of vision in supermarkets. The main suppliers compete for this line: they just need to place their goods in the right place, and they are sure of high sales of their products. School walls also have their own Golden Shelf, although their main content is ideas and knowledge, and the main goal is to draw students into an educational dialog with texts, images, and video content.

According to our calculations, an average city school has about 500m² of usable wall space at the student's eye level. Today, most schools use less than 10% of this space. At the same time, a large part of the analyzed text elements of the school visual environment uses small, illegible fonts and unstructured text solutions without images, icons, symbols, pictograms, and elements of information navigation. To adequately perceive such texts, one needs time and must overcome the difficulty of reading poorly structured material. For students, this resource is scarce, so such text solutions become information noise for most of them. Even less accessible and formalized texts seem like texts that cannot be reached and read because the so-called "info zone" or a stand with a text is far beyond eye level for most students.

The Case of Uninteresting and Disturbing Texts

According to our calculations, 75% of text solutions in a school environment, corridors, hallways, and staircases are written strictly in a business style [14, p.21]. The purpose of such texts is to formally remind about the rules of behavior in school and on the street, about the behavior in case of fire or terrorist attack. Of course, information of this kind is necessary, but its presentation risks creating emotional anxiety or, on the contrary, Visual Indifference in students.

The Case of a Lack of Polite Address to the Students

During the study, we noticed that announcements or information addressed to school children are usually written in the imperative, without words expressing politeness and respect. Thus, the constant tendency of written pedagogical address is more like a command, an instruction, than a request. In these conditions, it is challenging to establish a relationship between adults and children through a dialog.

The Case of Irrelevant Texts

When children become teenagers, they change their appearance and the design of their notebooks and school bags; in a word, they change everything they can. The presence of irrelevant texts in school, aimed at teenagers of the previous generation, reduces the modern teenager's engagement in perceiving school as a place of growth, gaining self-confidence, and focusing on the present and an exciting future. The formal, outdated texts often create the sad certainty that school life is boring and monotonous. Can students create texts for their schools and outside the classroom? Can they do something to shape their schools?

We believe finding positive answers to these questions can change the school environment. School space can engage in a dialog with students using a list of these questions: Am I for the school, or is the school for me? Is this an "official area" or a place for my growth? Is this place about bureaucracy, or can it be heartwarming? Will I always be bored within these walls, or is there room for excitement and discovery? Who am I here? Do I have the right to make a difference in this space, to create something of my own, something new? The right texts in school hallways can help answer these questions by shaping a student's worldview and attitude toward school and life in general.

The Case of Benevolence in the School Space

The emotional message of the school text is the main feature of the texts in the space of the school. The foyer is the first space a child, parent, or teacher sees when entering a school. The group of entrance texts creates a positive or, on the contrary, a negative mood for the upcoming school day. The use of humor, a polite and friendly style in the texts, and an attractive, harmonious color palette increase the attention of students and parents. Using humor in school texts is a tremendous resource for students' creative, esthetic, and intellectual development.

A notable example of the transformation of the educational environment is the concept of "school as a communication space" implemented in the interiors of the cloakroom of the №17 school in the Shchelkovo district [23]. The design studio 33dodo created a visual communication in the form of speech bubbles that humorously express the rules of behavior in the school. For example, "Is the sports uniform in place? Are you sure it's yours?", "Button up! No, one button does not count," "Did you put your hat on? In the pocket does not count", "Smile! You can even do it twice". In addition to the ready-made solutions, the live texts from students and teachers about school life are especially valuable and can inform parents about the latest news and upcoming events.

The case of the dynamics and actualization of texts

Our classification divides texts into permanent and temporary texts, among others. The percentage of temporary texts should be larger because the renewal of texts attracts students' attention. Texts that remain unchanged in the same places for an extended time can lead to visual and emotional fatigue. Of course, some texts are meant to create and maintain traditions – for example, the elements of the school's internal toponymic. Such texts, and names, are used for years and become full-fledged elements of the school's visual and emotional environment. Quotations and motivators, however, are rather temporary texts, as they quickly lose their relevance and novelty and begin to seem instructive and formal.

The Case of From Pictograms to QR Codes and Pokémon

There are ways to create texts that help maintain interest in the topics the school wants to draw students' attention to. These are so-called texts of a new kind [12, p. 104]. They are nonlinear because they are built on the principles of hyperlinks, infographics, and combinations of characters, including the nowadays standard QR codes.

In today's world, the number of non-linear, multimodal texts is constantly increasing: web pages, social networks, infographics, and advertisements. Using new types of text in the school space helps convey complex information quickly and clearly, and motivates people to follow a hyperlink to something interesting and important. For example, a geographic map in the classroom with icons in the form of pictograms, QR codes, and augmented reality elements can help students remember basic geographic concepts.

The Case of Interactivity

Interactive texts are an important element of out-of-school learning spaces. Such spaces in schools help students adopt a proactive attitude toward their space. An interactive text encourages young people to play and express themselves. Teachers who want to meet the challenges of implementing a person-centered approach should be aware that children's interaction with the marker wall triggers complex, contradictory socialization processes.

The habit of consciously using this type of self-expression is gradually formed. In addition, interactive texts allow students to develop "flexible skills." These skills encourage students to

interact with the space actively, cooperate and collaborate to develop and design such elements of the visual and communicative environment that develop creative skills.

The Case of Self-Presentation and Teenage Creativity

The creative works of the students exhibited in the Golden Shelf are texts that allow their authors to present themselves in the school environment, stimulate discussions, and evaluate themselves.

There is the concept of Local Texts, i.e., texts created by students or teachers of the educational institution. "Texts form the cultural code of the school and create a sense of security for students and encourage creativity, as any student or teacher can become an author" [15 p. 55]. Student participation in creating texts for the educational space contributes to forming the school community and developing a culture of collaboration. In this case, the culture of collaboration contrasts the culture of consumption. The basic idea of this collaboration is that all people and communities are not only consumers but also creators of intellectual, creative initiatives, events, and artifacts [16, p.129].

By using collaborative practices to change the visual environment of the educational space, students and teachers can change their attitudes toward school and develop a sense of participation in creating their personal space. In classifying the types of texts, we also found a deficit of valuable texts. That is, texts that have an educational or motivational function or reflect moral meanings. In addition, many texts that are perceived as motivational by teachers and school administration representatives are described by students as uninteresting and boring.

Thus, the results of our study allow us to formulate a number of judgments about the practice of using visual-textual solutions in Russian schools.

- 1. The modern visual environment of Russian schools is largely focused on preserving the traditional school system. It provides a formalized perception of schools that focuses on learning and neglects other aspects of students' lives and development1.
- 2. Students' emotional detachment from the school environment is partly due to their lack of involvement in shaping that environment. At the same time, trust and loyalty to many aspects of school life are determined by the possibility of "dialog with the school walls," the development of respect, cooperation, and motivation to search for personal meaning in the educational process.
- 3. According to the Golden Shelf rule within the school, a persistent cliché in evaluating students' potential attention to the text is the thesis of the unconditional victory of the virtual environment over real, offline text solutions. By interviewing students and analyzing the collaborative creation of a visual school environment, we were able to destroy this stereotype and propose new, informal, in-demand text solutions in a school-based space.
- 4. Informal educational spaces actively exploit the potential of attractive, interactive, and dynamic textual solutions. Such spaces compete with in-school and out-of-school educational environments for the interest and participation of children and youth. Intensification of this competition is not an optimal scenario for developing the Russian educational system, as it may further develop the syndrome of "school fatigue" among students and parents.

From the results of our study, it is clear that texts are part of the educational environment. In this case, a certain type of text can become a diagnostic indicator of the educational environment, as mentioned by V.A. Yasvin [24]. One of the ways to diagnose and change the modality (creative, dogmatic, relaxed, career) of the school environment can be done by modeling text solutions in the educational space. However, this aspect should be verified by empirical research methods.

Conclusion

The study of the corpus of relevant school texts allows us to consider the hypothesis formulated by the authors as interesting for further analysis.

The number of cases presented by the authors can be continued in the direction of further development of the original classification of school texts.

The practical significance of the results obtained in the study is determined by the applicability of the formulated recommendations by the subjects of the developing school environment – teachers, students, parents, and social partners of educational organizations.

Despite the fact that the school space has the potential for narrative and discursive modeling [17], the results of the study indicate a lack of professional solutions in the design of the modern school space.

In order to develop and implement these solutions, it is useful to combine the efforts of specialists from the fields of design, pedagogy, ergonomic psychology, philology, and linguistics.

The application of modern design approaches in the development of the school's pedagogical environment allows us to solve problems in the field of achieving a new quality of education, namely: providing students with opportunities for meta-social practices related to the publication of their own achievements and filling them with pride in the achievements of others; increasing their social responsibility in relation to the design, development, and evaluation of the school's information environment; and allowing variability in the formats of visualization of goals and results of pedagogical practices.

The results of the study suggest that the visual environment of schools can be used outside the classroom to address issues related to the development of students' cognitive, creative, and exploratory values. The task of developing students' so-called flexible skills can also be effectively addressed through a constant dialog with the image of the school conveyed by the wall and multimedia solutions.

Analyzing the corpus of texts in the school space, we also noticed that there are almost no texts that directly deal with the value aspects of social relations, the ideas of education, and personal growth. This fact, of course, requires further analysis.

In the visual-communicative environment of modern Russian schools, there is an obvious deficit of students' own texts. In the didactic structure of subject teaching, this deficit should be compensated by new teaching methods aimed at the development of students' artistic position. It is appropriate to use the results of this study in metasubjective and extracurricular aspects of school education to initiate and support "practices of participation" of students in the development, change, "adaptation" of the visual environment of the school according to the principles of openness, motivational potential, and dialog.

Reference

- 1. Cook D.J. Learning Setting-Generalized Activity Models for Smart Spaces. *IEEE Intell Syst.*, 2010, vol. 27, no. 1, pp. 32–38. DOI: 10.1109/MIS.2010.112.
- 2. Sless D. Learning and Visual Communication. New patterns of learning. Kent, Croom Helm, 1981. 208 p.
- 3. Lola G. N. Dizajn kak kommunikativnaya praktika [Design as the communicative practice]. *Vestnik Sankt-Peterburgskogo universiteta. Seriya 15. Iskusstvovedenie Vestnik of Saint Petersburg University. Arts*, 2012, vol. 2, no. 2, pp. 225–230 (in Russian).
- 4. Fleming R.L. *The art of Placemaking: Interpreting Community through Public Art and Urban Design*. London, Merrell, 2007. 383 p.
- 5. Schneider M. *Do School Facilities Affect Academic Outcomes?* Washington, DC: National Clearinghouse for Educational Facilities, 2002. 24 p. URL: http://www.ncef.org/pubs/outcomes.pdf (accessed 19 November 2018).

- 6. Rautakoura A. Finlyandiya za obuchayushchie metody budushchego [Finland features future learning methods]. *Eto Finlyandiya This is Finland*, 2012 (in Russian). URL: https://finland.fi/ru/biznes-i-innovatsii/finlyandiya-za-obuchayushhie-metody-budushhego/ (accessed 20 December 2018).
- 7. Byers T., Immz W., Hartnell-Young E. Comparative analysis of the impact of traditional versus innovative learning environment on student attitudes and learning outcomes. *Studies in Educational Evaluation*, 2018, vol. 58, pp. 167–177. DOI: 10.1016/j.stueduc.2018.07.003
- 8. Jamieson P., Fisher K., Gilding T., Taylor P.G., Trevitt A.C.F. Place and Space in the Design of New Learning Environments. *Higher Education Research and Development*, 2000, vol. 19, no. 2, pp. 221–236. DOI: 10.1080/072943600445664
- 9. Casanova D., Napoli R., Leijon M. Which space? Whose space? An experience involving students and teachers in space design. *Teaching in Higher Education*, 2016, vol. 23, no. 4, pp. 488–503. DOI: 10.1080/13562517.2017.1414785
- 10. Brooks D.C. Space and Consequences: The Impact of Different Formal Learning Spaces on Instructor and Student Behavior. *Journal of Learning Spaces*, 2012, vol. 1, no. 2, pp 1–10.
- 11. Park E.L., Choi B.K. Transformation of Classroom Spaces: Traditional versus Active Learning Classroom in Colleges. *Higher Education*, 2014, vol. 68, no. 5, pp. 749–771. DOI: 10.1007/s10734-014-9742-0
- 12. Kazakova E.I. Teksty novoy prirody: problemy mezhdisciplinarnogo issledovaniya [Texts of the New Nature: Problems of the Interdisciplinary Research]. *Psikhologicheskaya nauka i obrazovaniye Psychological Science and Education*, 2016, vol. 21, no. 4, pp. 102–109 (in Russian). DOI: 10.17759/pse.2016210409
- 13 Savinova S.V., Kharunzheva A.A. Podkhody k opredeleniyu svoystv i funktsiy vizual'nykh kommunikatsiy i ikh klassifikatsiya [Approaches to the definition of the properties and functions of visual communications and their classification]. *Kontsept*, 2016, vol. 18, pp. 139–146 (in Russian). URL: http://e-koncept.ru/2016/56217.htm (accessed 19 November 2018).
- 14. Azbel' A.A., Ilyushin L.S., Bryazgina Yu.O. Metodologiya issledovaniya tekstov, ispol'zuyemykh v oformlenii sovremennoy rossiyskoy shkoly [Methodology for the Study of Texts Used in the Design of a Modern Russian School]. *Podgotovka uchitelya russkogo yazyka i literatury v sisteme vuzovskogo obrazovaniya: problemy i perspektivy: sbornik nauchnykh statey po itogam III Vserossiyskoy nauchno-prakticheskoy konferentsii* [Teacher training for the Russian language and literature in the system of higher education: problems and prospects: collection of scientific articles on the basis of III Russian National Scientific-Practical Conference]. 2017. Pp. 17–22 (in Russian).
- 15. Sanoff H. Democratic Design. Participation Case Studies in Urban and Small Town Environments. 2010 (Russ. ed.: Sanoff G. Souchastvuyushchee proektirovanie. Praktiki obshchestvennogo uchastiya v formirovanii sredy bol'shih i malyh gorodov; per. s angl.; red.: N. Snigireva, D. Smirnov. Vologda, Proektnaya gruppa 8, 2015. 170 p.).
- 16. Chen S.Y., Kuo H.Y., Hsieh T.C. New literacy practice in a facebook group: The case of a residential learning community. *Computers & Education*, 2019, vol. 134, pp. 119–131. DOI: 10.1016/j.compedu.2019.01.008
- 17. Lola G.N. Obrazovaniye dizaynera: ot tekhnologii k metodologii [The education of a designer: from a technology to the methodology]. *Vestnik Sankt-Peterburgskogo universiteta. Seriya 15. Iskusstvovedenie Vestnik of Saint Petersburg University. Arts*, 2013, vol. 3, no. 4, pp. 182–191 (in Russian)
- 18. Consalvo A.L., David A.D. Writing on the walls: Supporting 21st century thinking in the material classroom. *Teacher and Teaching Education*, 2016, vol. 60, pp. 54–65. DOI: 10.1016/j.tate.2016.08.005
- 19. Reinius H., Korhonen T. & Hakkarainen K. The design of learning spaces matters: perceived impact of the deskless school on learning and teaching. *Learning Environ Res*, 2021, vol. 24, pp. 339–354 https://doi.org/10.1007/s10984-020-09345-8 (accessed 19 June 2022).
- Szpytma C., Szpytma M. School architecture for primary education in a post-socialist country: A case study of Poland. Comp. A J. Comp. Int. Educ., 2020, 1–24. https://doi.org/10.1080/03057925.2020.1777843 (accessed 15 June 2022).

- 21. Sokolova M.A. "Shkola sredovogo sushchestvovaniya": prostranstvo, kak glavnyy faktor obucheniya ["School of Environment Existence": Space, as Main Factor of Educating]. Architecture and Modern Information Technologies, 2018, no. 3(44), pp. 362–376. (in Russian). URL: http://marhi.ru/AMIT/2018/3kvart18/22_sokolova/index.php (accessed 15 June 2022).
- 22. Le-van T.N., Yakshina A.N., Filatova B.A., Rodionova A.N., Gurariy L.V. "Model' souchastvuyushchego proektirovaniya shkol'nyh dvorov: soavtorstvo detey, pedagogov i roditeley" [Model of Participatory Design of Schoolyards: Collaboration of Children, Teachers and Parents as Co-authors]. *Vestnik MGPU. Seriya: Pedagogika i psihologiya*, 2020, no. 2(52). pp. 55–69. DOI: 10.25688/2076-9121.2020.52.2.06 (in Russian).
- 23. Shkola № 17. Garderob. Kak bez masshtabnykh izmeneniy preobrazit' shkol'noe prostranstvo. *design4school* URL: https://www.design4school.ru/portfolio/page/school17 (accessed 20 June 2022).
- 24. Yasvin V.A. Issledovaniya obrazovatel'noy sredy v Otechestvennoy psihologii: ot metodologicheskih diskussiy k empiricheskim rezul'tatam. *Izvestiya Saratovskogo universiteta. Novaya seriya. Seriya: Filosofiya. Psihologiya. Pedagogika*, 2018, vol. 18. no. 1, pp. 80–90. DOI 10.18500/1819-7671-2018-18-1-80-90. EDN XMOJLV. (in Russian).

Anastasiya A. Azbel, Saint Petersburg State University (Universitetskaya naberezhnaya, 7/9, St. Petersburg, Russian Federation, 199034).

E-mail: a.azbel@spbu.ru

Leonid S. Ilyushin, Saint Petersburg State University (Universitetskaya naberezhnaya, 7/9, St. Petersburg, Russian Federation, 199034).

E-mail: l.ilushin@spbu.ru

Evgenia S. Samoylova, Saint Petersburg State University (Universitetskaya naberezhnaya, 7/9, St. Petersburg, Russian Federation, 199034).

E-mail: kasichk@gmail.com

Submitted July 8, 2022