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Realization of the Educational Potential of Academic Subjects in the School Teacher Activity

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Abstract

The article substantiates the necessity of forming Russian social values among students in the areas of education taking into account the age and psychological needs of the individual. The influence of informational socialization on modern schoolchildren, the peculiarities of their perception of educational material (the predominance of the audiovisual way of perception instead of the verbal one, and others) are revealed.

The features of the educational potential of the subjects of the socio-humanitarian, natural-scientific, and artistic-aesthetic cycles are highlighted taking into account their educational significance, the volume and level of teaching at school. The article presents the results of a survey of teachers of educational organizations in various regions of the Russian Federation, reveals the attitude of teachers to the importance of education and shows their readiness to solve educational tasks in the classroom. The conclusion is made about the relevance of the research for teachers, the need to take into account the personal and psychological characteristics of modern schoolchildren when choosing methods of education in the classroom, the importance of emphasizing their educational topics and ideas.

The results of the study will serve as the basis for its next stage, which will be aimed at preparing methodological recommendations for updating the mandatory thematic content of the main subjects in the Russian school.

Keywords: education, secondary school, academic subjects, social values, educational potential.

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Introduction

This paper considers the educational potential of school subjects in the school teacher activities. The goals of education in the classroom are actualized. It is noted that modern schoolchildren are developing in a new informational reality. Therefore, the methodology of education should take this into account, on the one hand, and rely on the system of basic national values of Russian civil society, on the other. The need to identify the features of the formation of personality identity, the search for new options for the transmission of educational norms and values in the interaction “teacher – student”, effective methods of education is emphasized.

Currently the Institute of Study of Childhood, Family and Education of the Russian Academy of Education (Moscow) is conducting a scientific study aimed at identifying the specifics of the educational content of educational subjects and the subsequent development of methodological recommendations for improving the educational potential of the subject content of general secondary education (State task of the Ministry of Education of Russia for 2021 No. 073-00015-21-01 on the topic “Educational content of school subjects and ways of its implementation in teacher work days”).

We came to the conclusion that it is necessary to identify the educational content of educational subjects taking into account Russian social values. Established in accordance with the legislation of the Russian Federation, these values have the highest legitimacy and constitute the normative value-oriented foundations of public education in Russia. The formation of value orientations of the individual, which cannot be thought of outside the cultural context by which they are defined (Metlik, Galitskaya, & Sitnikov 2012), on the basis of Russian social values is the most important task of school. Its solution will allow adjusting the goals and content of school education.

Purpose and objectives of the study

In our research, we set out to determine the specifics of educational subjects in relation to their educational content. We have tried to emphasize the importance of realizing the educational potential of educational subjects in the teacher activities. In the study we substantiate the possibilities of the educational content of educational subjects in the context of the formation of Russian social values among students, determine the ways and methods of teacher activity.

Literature review

Education in the learning process is the subject of research by modern Russian and foreign scientists. It is relevant to set goals for the education and development of the individual, its individuality, originality instead of a purely technological approach (Slobodchikov & Ostapenko, 2017). From studying school subjects, it is important to teach knowledge about a person, his/her inner world, feelings and experiences. It is essential to talk about the achievements of great scientists, their contribution to science and culture. It is important to be and remain a person at all times (Cable et al., 2012). It is necessary to understand the digital transformation of society, the impact of information socialization on the education system (Sousa & Rocha, 2019), on the formation of personal identity (Gordienko, Sokolova, & Simonova, 2019). It is emphasized that in the conditions of the information society, it is necessary to rely on the system of basic national values of Russian civil society, norms and rules of human life and social groups (Glukhov, Bychkova, Guzhova, Okushova, & Stakhovskaya, 2019).

According to the established tradition in pedagogy, education in the learning process is a purposeful process. Especially relevant are studies where education is considered as a complex impact on the individual (Dulov, 2014). Scientists emphasize the need to create a unified educational environment in the school where the child-adult community is a community of teachers, children, and parents based on common values and common causes (Slobodchikov, 2010).

Research that substantiates the significance of introducing children to traditional national cultural values is quite important (Iakovleva & Kosenko, 2018; Metlik et al., 2012;). Scientists emphasize that the educational potential of academic subjects is, first of all, the priority of educational goals, the choice of educational content of lessons, new technologies of education (Kaznacheeva, 2018). Of particular value are works that present educational technologies aimed at introducing students to the cultural and natural heritage of our country, to art and national traditions (Nikolaeva & Klemyashova, 2021).

There is no doubt that the expected results of education in isolation from the goal lead to formalism and cannot meet the expectations of society and the state (Novichkova, 2009). Therefore, works that emphasize the importance of developing the concept of education, which is based on the provisions of modern research in the field of morality and law, are relevant. Scholars emphasize the need to study the process of developing ethical and legal norms by students and the implementation of these norms in the structure of self-government of an educational institution (Maksimova, 2014).

Also, studies that examine the impact of information socialization on the education system, and update the preparation of teachers for the new digital social reality are of great interest (Kondakov & Sergeev, 2021).

Methodology

The methodological basis of the research is the ideas of Russian philosophers, teachers, and psychologists about education in the learning process, the importance of academic subjects in the formation of students' worldview and value orientations (Danilyuk, Kondakov, & Tishkov, 2019; Likhachev, 2019; Metlik, 2018 and many others). The study takes into account the current provisions of psychology and the theory of education about the laws of personality formation, the formation of the social experience of students; the integrity of the pedagogical process, the conditionality of the goals of education with educational values and ideals (Alieva, 2014; Belyaev, 2016). The research is based on the works of Russian and foreign cultural scientists, sociologists and psychologists on the information society and post-industrial culture; the works of Russian scientists on information socialization and its impact on the individual (Bell, 2004; Golubeva & Marcinkovskaya, 2011; Kondakov & Sergeev, 2021; Sousa & Rocha, 2019; Voiskunsky, 2010). Russian and foreign sources on the problems of education and socialization of the individual in the informational era have been analysed, including those from the Google Scholar and the Scientific Electronic Library, in the total number of 42 sources.

The leading approaches of our research are axiological, which involves the identification of the value bases of education, and cultural, aimed at solving educational tasks on the basis of cultural traditions that have been developed in society.

The research had three stages: analysis of the literature and the best teaching practices; survey of teachers from educational organizations; analysis of survey data. The following research methods were used: theoretical (analysis of the literature on the research problem) and empirical (study of pedagogical experience, questionnaires, the method of expert assessments, content analysis).

The curriculum of social sciences, the humanities, natural sciences, and artistic-aesthetic subjects was analyzed in order to define their educational potential. A study was held among the teachers of secondary schools (more than 2,300 teachers from all federal districts of the Russian Federation whose specialty is the obligatory school subjects). The teachers were offered closed questions and questions with freely constructed answers. The results of the survey were correlated with the content analysis of the issues of academic subjects. All participants provided informed consent to participate in the research.

Results

We analyzed the educational programs in the subjects of social-humanitarian, natural-scientific and artistic-aesthetic cycles in order to identify their educational potential. The article describes the specifics of educational subjects: educational content, formed Russian social values.

It is revealed that the subjects of the social and humanitarian cycle are of great importance in the education of Russian social values among schoolchildren due to their content, volume, as well as the presence of general secondary education at all three levels. Almost all values in all groups “Person”, “Family”, “State” are presented in mandatory thematic content on history, social studies, including modules on economics and law, social geography. These subjects are very important in civic and patriotic education (social studies, history), in the formation of historical and legal consciousness, Russian cultural and civic identity, in the education of family values, in labor and environmental education and in the development of a healthy lifestyle culture. The subject of social studies has the greatest opportunities for educating Russian social values, since it is taught in almost all classes of the school.

The academic subject Literature has a great educational potential due to its aesthetic impact on the individual. In literature classes, students have the opportunity to perceive such social values as the person and relationships between people, the family and its role in the life of a person and society, nature and its ennobling influence on the world of people. In discussions, debates and creative works, students comprehend literature as a source of knowledge about a person, his/her spiritual world, moral choice. They learn to appreciate its ethical and aesthetic originality.

In teaching literature, it is important for the teacher to take into account that the way of perception of culture in the information age has changed. Verbal perception gives way to audiovisual perception. The perceptual speed of space and time and the nature of the integration of an individual into the information culture have changed. In the classroom, it is important for a teacher-wordsmith to actualize the word as a translator of culture, to create conditions for the development of awareness of values as the highest form of mental reflection. The teacher-wordsmith has a unique opportunity to develop students' critical thinking, the ability of the individual to compare the ideas of works of art with their attitudes and ideals, to form their behavior and take steps to achieve the goal. Therefore, education in literature lessons cannot take place in isolation from the development of self-awareness, a quality of personality that is directly related to creative thinking. Students in the classroom should be asked meaningful questions that encourage them to think about the value heritage of Russian literature, its national and cultural codes. These issues should be related to the needs of children and young people, to the current social reality.

What is honor, personal dignity, good name, personal freedom, freedom of opinion? How does a person need to act in the face of difficult moral choices? How do modern schoolchildren understand the moral responsibility of a person in the family, society, and the state? How did Russian writers express their attitude to the man of work, what is true diligence and why is it so important for each of us? What literary examples prove to us the need to respect our family, our people, and society?

How do patriotic works affect us, what is patriotism for us? How are the images of native nature reflected in literature? Why do we love Russian poetry about the Motherland so much? How did poets and writers express their attitude to the Motherland and why is it still important for us?

These and other questions help students to understand such concepts as “ideological and artistic content”, “civic pathos of the work”, “national ideal”, “Patronymic”, “nationality”, “conscience”, “duty”, “honor”. They learn to perceive Russian literature and its enduring significance for people.

A significant educational potential is contained in the subjects of the natural science cycle (physics, chemistry, biology, geography, ecology, astronomy, health class, environment as mandatory subjects for study in educational organizations). These subjects make a significant contribution to the education of social values, such as life, health, safety; they form a value attitude to the surrounding world, love for the nature of their native land, the ability to perceive its beauty, understanding of the dependence of human life and health on the state of the natural environment, respect for the rights to a favorable environment, responsibility for the preservation and restoration of nature, careful use of natural resources. The content of these disciplines is aimed at fostering respect for the historical and cultural heritage of the peoples of Russia, pride in the discoveries and scientific achievements of great scientists, figures of science and industry, discoverers, awareness of the value of knowledge and education.

The study of natural science disciplines contributes to the education of an ecological culture that corresponds to the modern level of ecological thinking, a culture of reasonable consumption. This encourages students to implement the experience of environmentally oriented practical activities: environmentally consistent behavior in everyday life and nature, safe for humans and the environment, nature research, agricultural work, artistic and aesthetic reflection of nature in their own creative works, tourism, including ecotourism, environmental protection activities. Students in the classroom study the impact of socio-economic processes on the state of the natural and social environment. They form the skills of safe behavior in the environment in extreme (emergency) situations.

Environmental education in the lessons of the natural science cycle should be aimed at enriching the world of emotional states, developing students' imagination, sensory responsiveness, imaginative perception of the environment and their own inner world. Guided by the values of kindness, nonviolence, self-restraint, creativity, responsibility, students are aware of nature as the object of their constant care, feeling a deep emotional connection with it, perceiving themselves as a part of nature. Such unity not only brings children closer to nature, but also teaches them to live in accordance with the laws of nature, to draw from it deep moral meanings. And the teacher should help them.

Through imaginative perception as a special form of spiritual communication through feeling and imagination, the child can identify him/herself with any objects, even the most unexpected, for instance with a bright flower and a fluttering butterfly, sprouting grass and an autumn leaf whirling in the wind. The child can live by their feelings and experiences, identifying with them, but at the same time does not cease to subtly feel his/her own state. Such identification contributes to the emergence of a children's desire not to disturb the harmony in nature, not to harm another being, to have compassion, to empathize. Art technologies, in which the language of art is an effective method of developing the ecological culture of schoolchildren, contribute to the education of the emotional-sensual, aesthetic attitude of the student to the surrounding world.

The content of the subjects of the artistic and aesthetic cycle (music, visual arts as mandatory for teaching in educational organizations, world art culture) has a significant potential in the education of Russian social values. These items foster feelings of pride and respect for the world and Russian cultural heritage, their people, their history and cultural traditions, heroes, shrines, and memorable places. Students develop an aesthetic attitude to the world, including the aesthetics of everyday life, scientific and technical creativity, sports, and social relations.

On the basis of acquaintance with the world and domestic art culture, works of art, students develop aesthetic needs, taste, imaginative thinking, observation and imagination; moral qualities of the individual, benevolence, emotional responsiveness, understanding and empathy for the feelings of other people. In the process of perceiving art, children develop stable ideas about the good and evil, which become the basis for independent actions and actions through a moral choice. Love, compassion, mutual help and mutual support, respect for the people around us, nature, responsibility, hard work, optimism, the ability to overcome difficulties, openness — these are the qualities that art awakens in students.

The ability to artistic-figurative, emotional-value perception of works of fine and musical art, the value attitude to the surrounding world are expressed in the creative works of the students. Students have a need to realize their creative potential - the organization of cultural leisure, independent musical and artistic activities, exhibitions of art works, joint creative activities with friends, parents, participation in creative competitions and festivals.

In 2021, the Institute of Study of Childhood, Family and Upbringing of the Russian Academy of Education conducted a study among teachers of general education schools (more than 2,300 teachers from all federal districts of the Russian Federation, teaching all compulsory school subjects).

The results of the survey in terms of teachers' ranking of the educational potential of the content of the main academic subjects correspond to the specifics of the educational content of the subjects described above according to the content analysis of their mandatory subjects.

The highest values of the educational potential of the subjects (respondents named 5 subjects with the maximum educational potential of their content) were noted for the following subjects: Literature (74.2%), History (48%), Social Studies (45.2%), Russian, including as a native language (40.8%). Significant educational potential was also noted for the following subjects: Science in primary school (39.7%), subject areas (academic subjects, elective modules) on religious cultures and secular ethics (33.2%), Music and Ecology (20.3% each), World Art Culture (22%). The problematic conclusion here is that the last subject on world art culture is missing in the latest versions of the sample curricula.

The lowest educational potential of the content was noted for the following subjects: Computer Science and Chemistry (1.1% each), Physics (1.8%), Biology (6%), Geography (7%). A problematic conclusion from the survey results is the low assessment of the potential of the last two subjects by teachers, the content of which is important for education.

Table 1. Teachers' answers to the question: "Name no more than 5 academic subjects that, in your opinion, have more educational potential"?

Options	Number of responses	Percentages
Literature	1756	74.2%
History	1135	48.0%
Social Studies	1069	45.2%
Russian, including as a native language	965	40.8 %
Science	939	39.7%
Subject areas (any subjects, modules on religious cultures and secular ethics chosen by the students' parents)	786	33.2 %

World Art Culture	522	22.1%
Ecology	481	20.3%
Music	480	20.3%
Physical education	383	16.1%
Health class	356	15.0%
Technology	343	14.5%
Visual arts (drawing)	323	13.6%
Mathematics	192	8.1%
Foreign language	176	7.4%
Geography	166	7.0%
Biology	142	6.0%
Physics	42	1.8%
Chemistry	26	1.1%
Computer Science	25	1.1%

The results of the study can be used as reference points for finalizing school educational standards, for enriching the content of a number of academic subjects (biology, geography, etc.) with educational topics and educational materials.

Discussion

The current research conducted by the Institute of Study of Childhood, Family and Education of the Russian Academy of Education, aimed at identifying ways and means of realizing the educational potential of the main school subjects, correlates with research on the education of schoolchildren based on the basic national values of Russian society, norms and rules governing human life (Glukhov et al., 2019). Despite the fact that many works of Russian scientists note the importance of education in the learning process, no specific studies have been found to identify the specifics of the educational potential of the main subject cycles, subject areas in the school. There is also a shortage of modern methodological developments that reveal the content and specifics of education in the process of teaching various subjects.

To solve this problem, researchers of the Institute investigate the specifics of the educational potential of the modern content of educational subjects; develop methodological recommendations for various subject topics, lesson scenarios that highlight their educational component. In such scenarios, educational goals and objectives are presented. Tasks, useful information and discussion questions that are directly related to the subject and have an educational meaning, as well as innovative forms of work in the classroom are offered.

Conclusion

The study identifies and defines the specifics of the educational potential of the main school subjects. Content analysis of the educational content of the subjects allowed us to show their potential in the formation of Russian social values among students. The educational possibilities of subjects in educational activities at school are indicated.

The analysis of educational programs in the subjects of social-humanitarian, natural-scientific and artistic-aesthetic cycles allowed us to characterize the specifics of educational subjects in relation to their educational content, to identify features, and to determine the directions of education in the learning process.

The results of a survey of teachers of general education organizations in various federal districts showed that almost all teachers noted the importance of education in the process of teaching academic subjects and the need for methodological developments that would contain recommendations on how to more effectively implement the educational content of a particular educational topic. This confirms the importance of the ongoing research.

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Competing interests

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References

- Alieva, L. V. (2014). Trends and problems of the theory of education. *Educational Studies*, 1, 9-16.
- Bell, D. (2004). *The coming post-industrial society*. Moscow: Academia.
- Belyaev, G. Yu. (2016). Evolution of education strategies in modern humanitarian culture. *Domestic and Foreign Pedagogy*, 28(1), 31-35.
- Cable, C., Driscoll, P., Mitchell, R., Sing, S., Cremin, T., Earl, J., ... & Heins, B. (2012). Language learning at Key Stage 2: findings from a longitudinal study. *Education 3-13*, 40(4), 363-378.
- Danilyuk, A. Ya., Kondakov, A. M., Tishkov, V. A. (2019). *The concept of spiritual and moral development and education of the personality of a citizen of Russia*. Moscow: Prosveshcheniye.
- Dulov, A. I. (2014). Fundamentals of moral education in the teaching process. *Crede Experto: Transport, Society, Education, Language*, 1(06), 36-67.
- Glukhov, A. P., Bychkova, M. N., Guzhova, I. V., Okushova, G. A., & Stakhovskaya, Yu. M. (2019). *The culture of network communications and digital literacy*. Tomsk: Publishing House of Tomsk State University.
- Golubeva, N. A., & Martsinkovskaya, T. D. (2011). Information socialization: psychological approach. *Psikhologicheskie Issledovaniya*, 20(6), 2-2. Retrieved from <http://psystudy.ru/index.php/num/2011n6-20/579-golubeva-marsinkovskaya20.html>
- Gordienko, O. V., Sokolova, A. A., Simonova, A. A. (2019). Axiological characteristics of digitalized education. *Pedagogy and Psychology of Education*, 3, 10-21.
- Iakovleva, I. V., & Kosenko, T. S. (2018). Evolution and situation in interaction of education and sociocultural values. *Professional Education in the Modern World*, 8(2), 1796-1805. doi: 10.15372/PEMW20180207

- Kaznachejeva, N. N. (2018). *Upbringing education in the learning process and in the family: Study guide*. Moscow: FGBNU IIDS V RAO.
- Klemyashova, E. M. (2019). Experience of children and youth of cultural values and the pedagogical conditions of its development in the process of upbringing. In *Socio-Cultural Experience of Modern Children and Its Development in the Process of Education* (pp. 100-120). Moscow: FGBNU IIDS V RAO.
- Kondakov, A. M., & Sergeev, I. S. (2021). Comprehensive methodology for designing general education in the context of digital transformation. *Pedagogy*, 85(1), 5-24.
- Likhachev, B. T. (2019). *Philosophy of education*. Moscow: Litres.
- Maksimova, Zh. S. (2014). The goals of upbringing in contemporary Russia: social content in social context. *Tomsk State Pedagogical University Bulletin*, 146(5), 18-24.
- Metlik, I. V. (2018). Values and targets of civic education in the Russian school in the context of socio-cultural transformations of Russian society. *Nizhny Novgorod Education*, 4, 12-18.
- Metlik, I. V., Galitskaya, I. A., & Sitnikov, A. V. (2012). *Spiritual and moral education of value education: Theory, methodology and practice in the Russian school*. Moscow: PRO-PRESS.
- Nikolaeva, S. N., & Klemyashova, E. M. (2021). Ecological-aesthetic and ecological-artistic development of children. *Preschool Education*, 2, 21-28.
- Novichkova, N. M. (2009). Noospheric education: Towards the definition of the essence. *Bulletin of the Ulyanovsk State Pedagogical University*, 36-40.
- Slobodchikov, V. I. (2010). The co-existent educational community is the source of development and the subject of education. *Sobytiynost' v obrazovanii i pedagogicheskoy deyatel'nosti*, 10(2), 5-14.
- Slobodchikov, V. I., & Ostapenko, A. A. (2017). *Systemic crisis of education and ways out of it*. Moscow: Research Institute of School Technologies.
- Sousa, M. J., & Rocha, Á. (2019). Digital learning: Developing skills for digital transformation of organizations. *Future Generation Computer Systems*, 91, 327-334.
- Voiskunsky, A. E. (2010). *Psychology and the Internet*. Moscow: Acropolis.