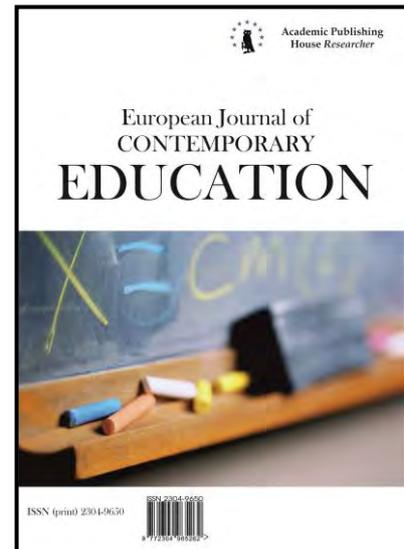




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Civil Values Awareness Formation in High School Students within the Educational Process

Irina V. Romanova ^a, Larisa N. Ponomarenko ^{a,*}, Andrey N. Kibishev ^a, Maria M. Susloparova ^a

^aVyatka State University, Kirov, Russian Federation

Abstract

The paper covers some conceptual ideas, experience and certain results of forming civil awareness in high-school students of senior grades during the education process. Novelty of the presented paper lies in a comprehensive approach to the issue of the civil awareness formation in high-school senior graders. In this respect the article focuses on the idea of integrating the notion of civil values into the educational process. Such values are called upon to bridge the gap between education and upbringing. The article brings forward the essence and structure of civil values awareness in senior-graders. The paper demonstrates the formation model of the afore-mentioned civil values awareness in students of senior grades. The authors have defined the set of pedagogical conditions required to effectively form civil values awareness in senior-graders, and have developed the evaluation criteria of the extent to which the civil values awareness is developed. Based on the criteria a diagnostic method has been created to evaluate the level of the formed civil values awareness. In the course of research conventional theoretical methods as well empirical methods were used, the preferred one of which was a pedagogical experiment. The authors pointed out the educational process itself is the driving force behind the effective formation of the civil values awareness in the senior-graders, and the process is based on the system of universal human values, national values, and democratic values, which in their turn make the civil values awareness category meaningful. Moreover, the study proved the idea that civil values awareness among the senior-graders is formed in an integrated way both in educational and upbringing activities as well as in extracurricular activity.

Keywords: values awareness, students of senior grades, pedagogical model, pedagogical conditions, educational activities

* Corresponding author
E-mail addresses: vsu_pon-ko@mail.ru (L.N. Ponomarenko)

1. Introduction

A proven foundation of objectives and values orientation in education is the key element to the success of reorganization and reforms in the field of education. The issue of inclusion of civil values into the educational doctrine for the contemporary high school became quite a pressing one in Russia's condition of emerging civil society. In this regard, the future citizen requires the ability to follow democratic principles and solve problems, coming to a just and socially acceptable solution. Thus, the objective of civil education at the present stage becomes helping senior-grade students obtain experience of democratic conduct, creation of conditions for self-determination. The necessary prerequisite for the senior-graders' self-determination is the formation of civil values awareness. This awareness should be based on mutual spiritual creativity among adults and children directed at comprehension of the civil society's democratic ideals.

Currently we can observe two main trends in the study of values awareness. On the one hand, there have been attempts at creating generalized theories of structure and functioning of a person's behavioral value regulators. In the framework of this study various characteristics of values awareness are developed: (by A.G. Zdravomyslov, M.S. Kagan ([Kagan, 1997](#)), V.A. Yadov); the **formation mechanism (works by L.M. Arkhangelsky, V.V. Vodzinskaya); hierarchy (S.S. Bubnova, I. G. Dubov)**. Regulatory role of values awareness in a person's life is researched by M.I. Bobneva, I. Yu. Istoshin.

On the other hand, the study of values awareness is taking on the applied nature, which fact is reflected in papers dedicated to the issues of youth and education. Both the structure and dynamics of value orientation among various youth groups, differentiated by their social, regional, **and age characteristics, have been studied (by K.G. Gurova ([Gurova, 2000](#)), V.T. Lisovsky ([Lisovsky, 2000](#)) et al.)**; methods of forming values awareness in students under varying conditions and as a part of different academic disciplines (I.V. Redina ([Redina, 1999](#)), U.F. Yashchenko ([Yashchenko, 1996](#)) et al.). It is possible to set aside a separate group of studies dedicated to the formation of a certain set of values among the youth: spiritual values (by T.I. Petrakova); labour values (by P. R. Ignatenko); professional values (A.Ya. Boev) et al.

Value orientations are the object of numerous studies by foreign scientists (P. White ([White, 1996](#)), K. Lucier, A. Maslow ([Maslow, 1999](#)), K. Mosher, G. Allport ([Allport, 1998](#)), M. Rokeach, V. Frankl, et al.).

To understand the specifics of the civil values awareness formation process in high school students, it was important for us to comprehend modern concepts of civic education and upbringing (L.I. Amanbaeva, T.V. Bolotina ([Bolotina, 2002](#)), O.V. Lebedeva ([Lebedeva, 2004](#)), A.S. Gayazov, M.A. Shkrobova ([Shkrobova, 2001](#)), I.D. Frumin).

At present, Russian pedagogy has developed methodological grounds for the study of the civil values awareness formation in high school students. However, this problem in its entirety as a consistent phenomenon in its historical, social, psychological and technological aspects has not been viewed as the subject of a special study yet. The aspect that is important in the theoretical and practical sense, which reveals the role of the educational process as a specifically organized, purposeful interaction of educators and pupils in the formation of civil values awareness in senior-graders, remains insufficiently researched.

Thus, the following objectives of our study have been set: 1) to develop a pedagogical model for the formation of civil values awareness in high school students in the educational process and to determine the criteria and levels of the formation of civil values awareness of high school students; 2) identify and substantiate a set of pedagogical conditions for the effective formation of civil values awareness in high school students in the educational process.

2. Materials and Methods

The theoretical and methodological basis of our research is: at the general philosophical level - the doctrine of the individual as the subject of the value assimilation of reality (A.G. Zdravomyslov, V.P. Tugarinov), the cultural and historical theory of value development (G.P. Vyzhletsov, M.G. Kagan); at the general scientific level - the theory of the education axiology (N.A. Astashova ([Astashova, 2001](#)), V.A. Karakovsky, N.D. Nikandrov); at the scientific and pedagogical level - personal and activity approaches (K.A. Abulkhanova-Slavskaya ([Abulkhanova-Slavskaya, 1991](#)), B.G. Ananyev, A.N. Leontiev, S.L. Rubinstein), the essence and laws of an

individual's value orientations, the psychological and pedagogical mechanisms of their formation (L.M. Arkhangelsky, A.V. Kiryakova (Kiryakova, 1996), L.I. Bozhovich,); ideas of a person-centered approach (E.V. Bondarevskaya, I. S. Yakimanskaya), works on the issue of civil and legal education (A.F. Nikitin, V.A. Sukhomlinsky, G.N. Filonov, N.I. Eliasberg); technology of education of integrative personal properties in a democratic school (O.S. Gazman, A.N. Tubelsky), the methodology of pedagogical research (Yu. K. Babansky, B. S. Gershunsky (Gershunsky, 2003), V.I. Zagvyazinsky).

The research methods have been quite comprehensive in their nature and included the following: theoretical ones: the analysis of publications on the research matter; analysis and systematization of the existing experience on civil awareness development accumulated in the domestic and international pedagogy; empirical ones: a pedagogical experiment, observation from within, polling, interviewing, expert evaluation, testing, analysis of senior-graders' creativity; methods of mathematical and statistical analysis of experiment-obtained data. The reliability of the results was confirmed by calculations based on the Wilcoxon and Wilcoxon-Mann-Whitney criteria.

The study was done in several stages within the period from 2000 to 2005 years. The senior **grades students of Kirov secondary schools (№ 34, 36) took part in the experiment. In addition**, the experimental base included the State Center for Children and Youth Tourism and Excursions; the scientific and research association "TRIZ" at the Museum of the public education history in Kirov. The study involved 2 groups of students, 285 pupils in the experimental group and 97 pupils in the control group, the total number of 382 students.

Stage one – the research and theoretical one (2000-2001) – was dedicated to the theoretical analysis of the studied problem. Stage two – the experimental one (2002-2004) – was focused on developing the program of the formative experiment. As per the study's objective we developed and tested **“Kirov: Past, Present, and Future” teaching aid in the experimental group. As a part of extra-curricular educational activities the teaching unit “The Future Of Russia Is In The Hands Of Her Citizens” was developed and tested. The formative experiment** was accompanied by diagnostic procedures that monitored the dynamics of the development of civil values awareness of high school students. Stage three – the theoretical and analytical one (2004-2005), we analyzed the obtained data, made general conclusions, evaluated the hypothesis proven level as well as the extent to which the objectives were reached.

Based on the works of the following researchers as A.V. Kiryakova, D.A. Leontiev, S.L. Rubinstein, V.A. Yadov, we have defined the values awareness category as a sustainable attitude to the value of material and spiritual goods, values and ideals making a person strive to reach them and guiding him/her in his/her behavior and actions.

The content of education is determined by the content of the value orientations adopted in the pedagogical system. Content analysis of the value systems proposed by educators made it possible for us to single out those values that define a citizen's relationship to the things sacred to the State and the Nation – State/National values. Also, from the total system of values we isolated values tied to the formation of a person's relationship to values of civil society, and namely, the democratic values. By universal human values we mean moral guidelines that regulate people's lives. This study resulted in the idea that the educational process itself is the driving force behind the effective formation of the civil values awareness in the high school students, when the process is based on the system of universal human values, national/state values, and democratic values, which in their turn make the civil values awareness category meaningful. The civil value guidelines are such concepts as love for the Motherland, national culture, social justice, humane treatment of man, human rights, etc. The theoretical analysis of the researched matter has led to the validation of the definition of the civil values awareness category as a person's value attitude to the democratic ideals of the civil society, expressed in their awareness, felt as a need, acceptance on a positive emotional level, development in various types of socially important activity.

Based on the theory of a personality as a subject of reality values comprehension, the education axiology theory, individual's activity approach, and the technology of a person's integrated properties development in democratic school we have developed a pedagogic model to help form civil values awareness in senior-grade students. The model has the following structural units (Figure 1):

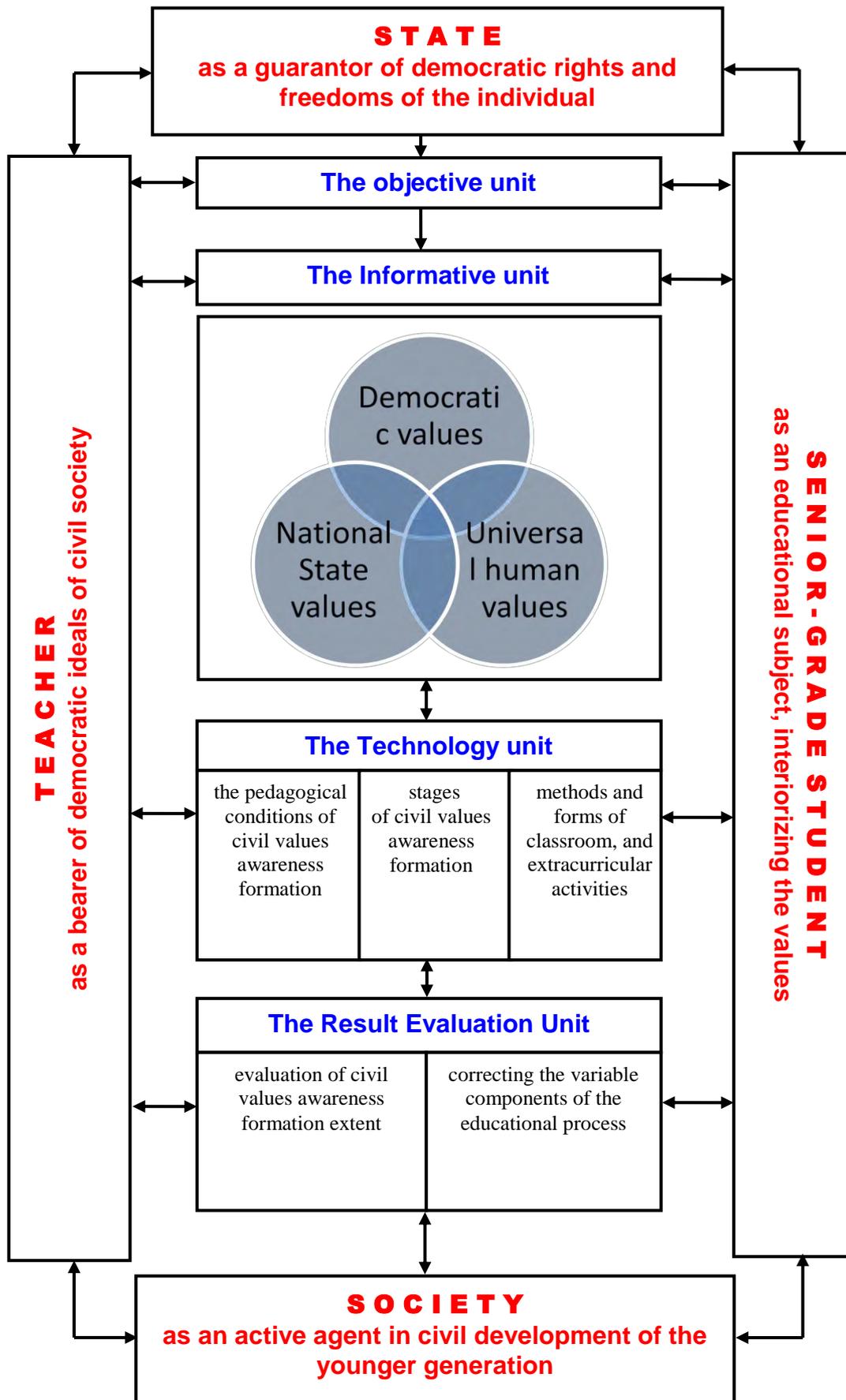


Fig. 1. The model of civil values awareness formation in high school students

1) the Objective unit: on the basis of the society's social demand and the achievements of the pedagogical science, strategic objectives of the educational process are developed, while the aforesaid process is aimed at forming a citizen's personality as of a bearer of democratic ideals of civil society. In accordance with the set objectives, democratic principles of the educational management are defined (a person's self-esteem, humanism, harmonization, dynamism, emotional openness, hierarchy);

2) the Informative unit: democratic ideals of civil society constitute a system of value guidelines, including universal human, national, public and democratic values. An individual's civil values awareness is a complex integrative unity, whose core is made up of the following structural components: the cognitive component, implying the awareness of socially important values and their transformation into a certain inner plan; the motivational component, which is responsible for experiencing the democratic ideals of civil society as necessities; the emotional component, which presupposes positive and willing acceptance of the democratic ideals of civil society; the activities component, which we understand as the absorption process of the democratic ideals of civil society through various civilly important activities;

3) the Technology unit is built with keeping in mind the objectives, concepts, content and structure of civil values awareness and includes pedagogical conditions of efficient civil values awareness formation in students of senior grades, organizational stages of educational activities focused on students' embracing the democratic ideals of the civil society (values presentation to a student, recognition of civil values by an individual, an individual's acceptance of civil values guidelines; realization of civil values awareness through actions and behavior), along with the corresponding pedagogical techniques (projection, imitation, critical thinking, dialogue);

4) the Result evaluation unit: based on the results of the diagnosis of the degree of civil value awareness formation in a senior grade student, certain corrections and adjustments to the educational process are made to further the improvement of the educational process.

The civil values awareness formation process is meant to result in senior-graders' civil competence, which in its turn embraces: the civil knowledge and skills, necessary for the students to socialize in the society, and to do it successfully; students' active citizen view of the position in the society through their active motivated participation in socially-meaningful political school life, their partaking in the community life, country life, and their well-established perception of the Motherland as the subjective and objective Value.

The model of the civil values awareness formation in an individual senior-grade student is based on the idea that students can master the universal human, democratic and National/State values within the educational process under the following conditions:

1) setting the civil element out within the contents of the curriculum components and incorporating their axiological potential both implying reference to values-related aspects of civic education, which are important for the teacher and his/her students;

2) development of self-governance in high school students, which self-governance presupposes such organization of in-school life, as to create preconditions for students' independent creative activity, boosting self-development of a student's personality;

3) involvement of students in specially organized by the teacher values-oriented activities, makes it possible for the teacher to promote students' civil self-determination by letting the students to live through situations, that require making a civil choice. Such activities expand and enrich students' civil and moral experiences;

4) use of civil values awareness formation model as the basis. Based on the pedagogical model, an algorithm of civil values awareness formation in senior-graders is formed. The algorithm includes the following components: analytical, diagnostic, and preparatory. The algorithm encompasses the initial stage of civil values awareness formation functioning as well as the stage of civil values awareness formation development in personalities of senior high school students. The algorithm is characterized by the specifics of the educational institution and depends on the values awareness of students, teachers and values guidelines of the social media, under the influence of which the educational institution exists.

The civil values awareness is formed in both the didactic and educational process, including in-class and extracurricular educational activities ([Civil education...](#)), therefore the forming experiment assumed such an organization of the educational process, in which the educational, extracurricular and out-of-school activities act united ([Table 1](#)).

Table 1. The content of the educational process directed at the civil values awareness formation in students of senior grades

Educational activity			Extracurricular activity	Out-of-school activity
History	Foreign language	Social studies	Unit	Extra classes in the Kirov
Unit “History of the Vyatka Land”	Unit “The City I Love”, international Internet-projects DEEP, GDD	Unit “The Economy of the Kirov region”	“The Future Of Russia Is In The Hands Of Her Citizens” designed as a part of advisory hours system	full-time/correspondence school of local history of the TRIZ Association
inter-subject links				
Project “Old Vyatka”	Project “Tourism Industry Development In The Kirov Region”			

The experiment was performed in several stages: stage I – ascertaining experiment, stage II – formative experiment, stage III – evaluating experiment.

At the ascertaining stage, on the basis of the analysis of the values awareness evaluation techniques developed by Russian and international researchers (M. Rokeach, A.P. Vardomatsky, M.A. Kotik, B.A. Leontiev), it was demonstrated that the only way to evaluate the level to which the hierarchy of the values guidelines system had been formed, and to evaluate the values' content was to use the above-mentioned techniques comprehensively. We took this conclusion into account when we formulated the evaluation technique to determine the level of civil values awareness formation in senior students and, as such to evaluate the real attitude of senior students to democratic ideals. We view the structural components of the civil values awareness as the criteria by which we can evaluate the degree to which an individual's civil values awareness is formed. For every criterion we have set out three development levels, and namely: reproductive, initiative, and creative ones (see Table 2).

Table 2. Characteristics of the civil values awareness formation degree in senior students

Criterion	Degree		
	Reproductive (low)	Initiative (medium)	Creative (high)
Cognitive	1) no knowledge of basic legal norms; 2) no skills in realization of individual and social rights and obligations; 3) sporadic acts of independence in the search for information	1) knowledge of some basic legal norms; 2) certain skills in realization of individual and social rights and obligations; 3) skills in obtaining information from all available sources	1) knowledge of basic legal norms, understanding of the need for law-abiding acting; 2) ability to practically use human rights defense mechanisms; 3) ability to analyze and critically evaluate information
Motivational	1) sporadic interest to the Homeland's history and culture, knowledge of some historic facts; 2) no need for taking part in social and political activities; 3) no desire for Army service in male senior graders	1) sustained interest to the Homeland's history and culture as well as those of home region, active partaking in the studying of home region's history under the guidance of a teacher; 2) partaking in social and political activities of the school and the community under the guidance of a	1) explicit interest to the Homeland's and home region's history and culture, critical attitude to current social events, awareness of belonging to Homeland's culture; 2) conscious partaking in the social and political activities of the school and the community; 3) readiness to defend the

		teacher; 3) male senior graders realize their Army-service duty	Homeland and for military service by male students
Emotional	1) aim at achieving personal goals; 2) no socially-meaningful value guidelines; 3) situation-derived emotional experience when facing some social issues/problems	1) balanced job- and family-oriented attitude; 2) ability to define one's attitude to socially important values; 3) understanding of social issues and trends taking place in the society	1) conscious aim at individual and creative values; 2) ability to independently evaluate the degree to which the democratic ideals have taken root in the society; 3) ability to consciously plan one's acts in inordinary social situations
Activity-oriented	1) no feeling of responsibility for one's acts; 2) explicit initiative and self-reliance exclusively in familiar activities; 3) lack of conflict-free team-work experience, unsubstantiated evaluation of one's own professional skills	1) ability to analyze one's own acts; 2) evident self-reliance in the process of social and political activity, while self-organization is not so highly developed; 3) ability for team work, ability to justly judge one's professional skills	1) awareness of the role as a citizen and a voter; 2) independence, self-reliance and high self-organization in social and political activities; 3) possession of efficient team-work skills, creativity, set life priorities

The analysis of the results, obtained after the first stage, demonstrated a number of trends, existing in both the experimental and control groups: the values issue is of importance to senior graders. They are interested in both the values issues and their practical implementation, which is of extreme importance for students' self-determination as citizens. At the same time, the students' values preferences demonstrated their bias towards individualism, while their civil values guidelines remained unformed. 55 % of the students demonstrated a lack of desire to take part in social and political activities. 77 % of the students were doubtful of their participation in solving social problems being able to improve their lives. Tests demonstrated that senior students have inadequate information of political events taking place in the country. The results of the ascertaining experiment have proven the importance of the study that we undertook. It has also been demonstrated that there is a need for some special work to test the model for the civil values awareness formation in the educational process in senior grade students.

The educational activity was formed with the emphasis on the civil content of academic disciplines and the use of their axiological potential (study of history and culture of the native town/city, reflexive analysis of its social and economic development). We have created an educational medium, capable of inducing emotional feelings in the students, of introducing them to the world of universal human, National/State and democratic values. Additionally, we have attempted to solve the following tasks: development of senior students' critical thinking based on their handling various information sources; introduction of students to historic roots, grooming their respect for their historic past. In our educational activities we have widely used the project technique and the technique of critical thinking.

In organization of extracurricular activities we have created conditions for the development of the students' independent creative activities. The civil values awareness formation in the **students has been based on our "The Future Of Russia Is In The Hands Of Her Citizens" teaching unit**, including the following blocks: civil law, local history, military and patriotic, science, economic, and political ones. The Unit Objectives to be reached are the following: love for the Motherland, readiness to defend Her, respect for the State Symbols, tolerance, patriotism and civism, experience of socially beneficial activities. We used the following forms of activities: lectures at the Museum of public education history of the city of Kirov, educational excursions

(visits to the editorial office of a local newspaper, to the Employment center, and the Kirov statistics office), talks with interesting people. The lectures were drawn and delivered by the students themselves under the guidance and supervision of the Museum employees. We used both the imitative (the Star rain, the Lawyer Unto Myself role games) and dialog (talks, disputes, press-conferences, etc.) techniques (Vakhrusheva, 2005).

The extra-curricular activity: the supplementary classes at the TRIZ association significantly raised the students' level of civil competency. The objective of the supplementary classes is to train a senior grade student to practically use human rights defense mechanisms, to facilitate students' creativity and civil self-determination.

The formative experiment demonstrated substantial changes in the senior students' system of values during the formation of their civil values awareness. Among the students of the experimental group we registered an increased interest in the history of their country, more motivated desire to abide by the law, and a more pronounced wish for honest labor. Our technology has boosted the students' creative potential. Those facts were confirmed by the quality of the reports on the students' own creative research, delivered by themselves at scientific conferences of school and city levels.

The pedagogical conditions of effective civil values awareness formation in senior pupils are as follows: 1) taking into consideration the axiological component in all the elements of the curriculum; 2) development of senior students' independent activities; 3) use of civil values awareness formation model as the basis in the senior students' education; 4) involvement of students in specially organized by the teacher values-oriented activities.

Students of the experimental group took part in the Global Democracy Dialogues international program as a part of the formative experiment. The program was designed by the education research programs foundation supported by the US Department of Education. The Program Objectives were to deepen the student's knowledge of the democratic organization of the participant countries; improve Russian students' command of the English language; cultivate democratic thinking in students. Partners of the Russian students were students of La Crescenta High School, CA, USA and Lithuanian students from Raseiniai. The Program agenda presupposed senior students discussing various democratic issues. Every week the participants were offered several questions united by a certain issue. The questions were discussed in the classroom, then the collective answers were e-mailed to other participants in the project. Within five weeks of the project the students discussed such issues as the rights of the individual, freedom of speech and freedom of religion, tolerance towards people of other nationalities, responsibilities and duties of the citizen. Upon completion of the project, students had a chance to participate in a video conference and talk to their peers online.

During the formative experiment we used the social project technique, which we view as an effective educational tool for the formation of the students' necessary social skills and value guidelines.

Students of the experimental group took part in realization of two social projects: Old Vyatka (foreign languages – history), and Tourism Industry Development In The Kirov Region (foreign languages – social studies – economics). The objective of the Old Vyatka social project was to create students' sustainable interest in the history of the home city and the fates of famous fellow-citizens. The project required the senior students to compile information on the still-existing old buildings, and the fates of people, who owned them. The objective of the What Do Kirovites Think Of The Future Of Russia was to get to know the attitude of Kirovites to the fate of their Motherland and define their civil position in the matter. The students' answers clearly demonstrate that participation in the society's political life becomes a need for the children. Thus, the social activity, presupposed by the project, facilitated understanding of civil and democratic values by the senior students.

3. Results

The evaluation of the senior students' civil values awareness formation results can be done by assessment of the percentage of students at any given stage (reproductive, initiative, and creative), as well as by the Mean Value (MV), enabling us to evaluate the dynamics of the process.

The Mean Value (MV) of the senior students' civil values awareness formation degree is

calculated by the following formula:

$$MV = \frac{a + 2b + 3c}{100} \quad (1)$$

where a, b, c is the percentage of senior students currently being at the reproductive, initiative, and creative stages of civil values awareness formation (Shakeeva, 1998).

We evaluated the effectiveness of individual pedagogical conditions by the efficiency coefficient (EC) which is calculated by the formula:

$$EC = \frac{MV(e_2)}{MV(e_1)} \quad (2)$$

where MV (e₁) is the Mean Value of the civil values awareness formation in the experimental group at the start of the experiment; MV (e₂) is the Mean Value of the civil values awareness formation in the experimental group at the end of the experiment [ditto]. Table 3 represents the obtained results of the students' civil values awareness formation dynamics at the start and at the end of the experiment; as well as effectiveness of individual pedagogical conditions in the formation process.

Table 3. The obtained results of the students' civil values awareness formation dynamics at the start (SE) and at the end (EE) of the experiment

Degree	School 36		TRIZ		School 34 Grade 10 B		Full-time/correspondence local history school		School 34 Grade 10 A	
	Traditional educational process (%)		Excluding 1st pedagogical condition (%)		Excluding 2nd pedagogical condition (%)		Excluding 3rd pedagogical condition (%)		Effect of the complete pedagogical conditions complex (%)	
	SE	EE	SE	EE	SE	EE	SE	EE	SE	EE
Reproductive	55.1	33.4	53.3	29.6	56.2	30.9	51.4	28.4	54.9	5.0
Initiative	40.2	57.5	42.6	42.7	39.4	46.8	42.3	44.2	40.1	37.5
Creative	4.7	9.1	4.1	27.7	4.4	22.3	6.3	27.4	5.0	57.5
MV	1.496	1.757	1.508	1.981	1.482	1.914	1.549	1.990	1.501	2.525
EC	-	-	1.008	1.127	0.991	1.089	1.035	1.133	1.003	1.437

The data in the table explicitly demonstrate that the only way to effectively form senior students' civil values awareness is the integrated use of pedagogical conditions.

In addition, the effectiveness of the proposed approach to the formation of senior students' civil values awareness was assessed using the Wilcoxon and Wilcoxon-Mann-Whitney criteria. The experiment involved 382 people, the experimental group included 285 students, the control group – 97 students.

An assessment of the significance of the changes in the observed features in the experimental and control groups during the experiment was carried out using the Wilcoxon test at a confidence level of 95 %. Critical values of statistics are calculated using the following formulas:

$$W(\alpha/2) = \frac{n(n+1)}{4} + \varphi(\alpha/2) \cdot \sqrt{\frac{n(n+1)(2n+1)}{24}} \quad (3)$$

$$W(1 - \alpha/2) = \frac{n(n+1)}{2} - W(\alpha/2) \quad (4)$$

Here $\varphi(\alpha)$ is the quantile of the normal distribution for the significance level α . In our study $\alpha = 0,05$ with a confidence level of 95 %. The value $\varphi(\alpha)$ is found from the statistical tables for the normal distribution and in the case of the bilateral criterion considered $\varphi(\alpha/2) = 1,96$.

To test the statistical hypothesis of the one-sided Wilcoxon test, the differences compiled for the bilateral criterion $d_i = y_i - x_i$, the number (n) of non-zero differences, the ranks of absolute values $|d_i|$, and the values of the statistics of the criterion T, equal to the sum of the ranks of positive differences d_i and T1, equal to the sum of the ranks of the negative differences d_i .

Critical values of statistics are calculated using the following formulas:

$$W(\alpha) = \frac{n(n+1)}{4} + \varphi(\alpha) \cdot \sqrt{\frac{n(n+1)(2n+1)}{24}} \quad (5)$$

$$W(1 - \alpha) = \frac{n(n+1)}{2} - W(\alpha) \quad (6)$$

Here $\varphi(\alpha)$ is the quantile of the normal distribution for $\alpha = 0,05$ (with a confidence level of 95 %). The value $\varphi(\alpha)$ is found from the statistical tables for the normal distribution and in our case $\varphi(\alpha) = 1,64$ is equal to the one-sided criterion. The results of calculations are presented in Table 4.

Table 4. Comparison of the experimental and control groups during the experiment

	The calculated value of the Wilcoxon criterion statistics (experimental group)	Critical significance of the statistics of the bilateral Wilcoxon criterion		Critical value of the statistics of the one-sided Wilcoxon criterion	
		W(a/2)	W(1-a/2)	W(a)	W(1-a)
	T				
Experimental group	34751,50	23106,94	17648,06	22661,32	18093,68
Conclusion	$T > W(\alpha/2) > W(\alpha)$	A statistically significant shift towards improved indicators			
Control group	3662,50	2921,212	1831,788	2832,279	1920,721
Conclusion	$W(1 - \alpha/2) < T < W(\alpha/2)$	There are no statistically significant changes in the indicators studied			

According to the results of a statistical study of the experimental data the following conclusions can be drawn: in the experimental group statistically significant improvements in the studied parameters are observed, while in the control group there are no significant changes.

Comparison of the experimental and control groups by the test characteristics at the beginning of the experiment and at the end of the experiment was carried out using the Wilcoxon-Mann-Whitney criterion. Critical values of statistics are calculated using the following formulas:

$$W(\alpha/2) = \frac{n_1 n_2}{2} + \varphi(\alpha/2) \cdot \sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}} \quad (7)$$

$$W(1 - \alpha/2) = n_1 n_2 - W(\alpha/2) \quad (8)$$

Here the value $\varphi(\alpha/2)$ is found from the statistical tables for $\alpha = 0,05$ (with a confidence level of 95 %). In our case for a two-sided criterion $\varphi(\alpha/2) = 1,96$.

Critical values of statistics are calculated using the following formulas for one-sided criteria where $\varphi(\alpha) = 1,64$. The results of calculations are presented in Table 5.

$$W(\alpha) = \frac{n_1 n_2}{2} + \varphi(\alpha) \cdot \sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}} \quad (9)$$

$$W(1 - \alpha) = n_1 n_2 - W(\alpha) \quad (10)$$

Table 5. Comparison of the experimental and control groups at the beginning of the experiment and at the end of the experiment

	The calculated value of the Wilcoxon-Mann-Whitney criterion statistics	Critical significance of the statistics of the bilateral Wilcoxon-Mann-Whitney criterion		Critical value of the statistics of the one-sided Wilcoxon-Mann-Whitney criterion	
		W(a/2)	W(1-a/2)	W(a)	W(1-a)
	T				
Experimental group	13581,50	15663,58	11981,42	15363	12282
Conclusion	$W(1 - \alpha/2) < T < W(\alpha/2)$	Groups are statistically indistinguishable by the features under study			
Control group	19649,00	15663,58	11981,42	15363	12282
Conclusion	$T > W(\alpha)$	The experimental group is much better than the control group			

It should be noted that at the entrance of the experiment the experimental and control groups for the parameters studied were not statistically different, while at the end of the experiment the differences between the groups became significant: the parameters of the experimental group were significantly better than those of the control group.

The senior students of the experimental group are undeniably superior to those of the control group in all the criteria. This fact favorably characterizes the conceptual model of civil values awareness formation in senior students, and it is this very model which is the basis for the formation algorithm.

4. Discussion

The matter of civil values awareness formation in the younger generation has always been and remains of vital importance for the Russian society. It should be noted that the study of this matter has found its reflection in published works by T.Kh. Deberdeeva (2005), L. Farafonova (2006), N.V. Nalyvaiko (2008), A.K. Bykov (2011), L.V. Ardasheva (2012) (Ardasheva, 2012), and I.F. Yarullin (2015) (Yarullin, 2011). These authors consider the civil values awareness formation in high-school and university students of utmost importance in the students' education and training.

At the same time, recent studies treat the issue of introducing the younger generation to civil values as, basically, the values of the integral educational system. Currently, certain aspects of civil education of high-school and university students remain underdeveloped. Such aspects are those concerning principles, technology, and content of education. In this regard, the problem of civil values awareness formation in the younger generation requires further consideration and correction in the context of the modern pedagogical theory.

5. Conclusion

The results of testing the pedagogical model of civil values awareness formation in the senior students have proved the efficiency of our techniques in forming the senior students' civil values awareness. The techniques we used were the following ones: the project technique, the imitation technique, the dialog technique, and the one of critical thinking. The test outcome has demonstrated that the only way to effectively form a senior student's civil values awareness is the integrated use of pedagogical conditions.

Moreover, the results of the experiment have confirmed that civic education of high school senior students through interactive forms and methods is becoming the basis of the education process in general, and the apparent necessity for school and the society as a whole. Merging the civil awareness formation process in senior students with the practice of civil conduct, we solve the task of combining the theory and practice of legitimate conduct of a senior grade student in the society, accumulating certain social experience and self-determination in the system of values.

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