Moreover, many educational work forms connected with the formation of a patriot are coming back to practice already and being transformed into more concrete forms of work in the new conditions.

And now it is topical to prevent the discontinuity of moral and ethical bonds between the elder and the younger in the process of patriotic and civil becoming of the new generation.

The problem of patriotism had been the subject of constant attention for the period of the whole centuries-long history of the native pedagogical idea. A great spiritual potential of the patriotic topic finds its origin in the written and oral creations of Ancient Russia. This topic created by generations of our compatriots was developed as a whole complex of ideas rendering moral and organizing influence on the social life of the Russian Nation. It was interpreted as follows: the idea of Fatherland unity and concord, the idea of dear land defence, the idea of Homeland, the idea of moral obligation before the society, the idea of liability for Motherland destinies. It conditioned its special place in the spiritual life of the Russian society.

The present-day situation of the Russian society development is evaluated as a recessionary one, that is connected, in terms of the younger generation education, with the loss of moral orienting points. Under the circumstances the appeal to the idea of patriotism can become that very axiological foundation, whereon the formation and development of the personality of a Russian citizen is really possible. But to achieve the intended effect – the formation of the personality of a Russian citizen and patriot – it is necessary to eliminate primary causes of schoolchildren's depatriotization and create conditions for the development of a new system of patriotic education.

The formation of a patriot, patriotic qualities, as a possible purpose of education has a range of advantages on the following directions:

- patriotic education has historical roots. In spite of the ideological hesitations the patriot formation problem remains relatively stable in any nation. Moreover, many educational work forms connected with the formation of a patriot characterized by an aggregate of socially meaningful purposes are coming back to practice already and being transformed into more concrete forms of work in the new conditions;
- the idea of patriotism, social importance of patriotic qualities, remains one of the foundational ones for any state, it is also a part of the international community foundation, as people are united not only by the love for their native country, but by panhuman and common values;
- the idea of patriotism should be perceived as a non-national idea also, for there are practically no states in the world with a hundred-per-cent mononational population. All this means that the idea of "patriot" in this case appears as sort of a cementing force, warrantor of oneness and power of the state, protection criterion of the personality itself.

Several determinations and comprehensions are frequently used today: patriotic education, patriotic qualities formation, patriotic activity. By patriotic education we mean a specially organized purposeful process of formation of stable patriotic qualities characterizing the personality of a school child as the subject of moral and political, economic intercourses in the national public education. The formation of patriotic qualities – is a process and, to some extent, the result of patriotic education, whereby the development of personality's stable peculiar features aimed at the definition of its relations with the state and society, definition of its place within the system of these relations, occur.

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DYNAMICS OF INNOVATIONAL PREPARATION OF BACHELORS AND MASTERS OF ARRANGEMENT OF A NATURE AND PROTECTION OF AN ENVIRONMENT

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Manage should not ideology, and thought
D.Gelbrajt

In comparison with Bologna process, proceeding from a principle "Overtake, not catching up" in addition to six key positions (two-cyclic training, introduction of credit system, quality surveillance of education, expansion of mobility, maintenance of employment and maintenance of appeal of a multilevel education system) from the Russian side is necessary for taking into account the seventh strategy is a maintenance of innovations on the part of graduates of technical universities at a level of world novelty, that is with reception of patents for inventions as rights on the intellectual property received during multilevel preparation.

The retrospective analysis of innovational activity has allowed is realized to be prepared to planned in Russia with 2008 for 2020 to transition for innovational economy. The beginning productive inventive activity in Mari Polytechnical Institute - Mari State Technical University is 1975 (tab. 1) when the patent group was created and is received per one year the first 4 inventions.

Table 1. Dynamics of copyright certificates and patents at Mari State Technical University (under annual reports of a department of the intellectual property)

Year	Time t, years	On Mari Polytechnical Institute - Mari State echnical University			P.M. Mazurkina's inventions				
		Every-thing, pieces	with students and post-graduate stu-dents:		Every-thing, pieces	Part from Mari State Technical Univer-sity, %	including with students and post-graduate students:		
			pieces	share, %			pieces	share, %	part, %
1975	0	4	0	0	-	-	-	-	-
1976	1	8	0	0	-	-	-	-	-
1977	2	8	0	0	-	-	-	-	-
1978	3	15	**2**	13.3	1	6.7	0	0	0
1979	4	16	0	0	2	12.5	0	0	0
1980	5	26	3	11.5	2	7.7	0	0	0
1981	6	38	0	0	2	5.3	0	0	0
1982	7	32	1	3.1	4	12.5	0	0	0
1983	8	48	1	2.1	6	12.5	1	16.7	**100.0**
1984	9	70	10	14.3	7	10.0	0	0	0
1985	10	66	9	13.6	5	7.6	0	0	0
1986	11	67	9	13.4	6	9.0	0	0	0
1987	12	68	9	13.2	2	2.9	0	0	0
1988	13	62	9	14.5	3	4.8	0	0	0
1989	14	74	10	13.5	6	8.1	3	50.0	30.0
1990	15	80	25	31.3	14	17.5	14	**100.0**	56.0
1991	16	**92**	38	41.3	15	16.3	15	**100.0**	39.5
1992	17	70	29	41.4	14	20.0	10	71.4	34.5
1993	18	58	32	55.2	**23**	39.7	21	91.3	65.6
1994	19	47	24	51.1	19	40.4	15	78.9	62.5
1995	20	30	13	43.3	10	33.3	9	90.0	69.2
1996	21	23	17	73.9	14	**60.9**	14	**100.0**	82.4
1997	22	2	2	**100.0**	0	0	0	0	0
1998	23	8	7	87.5	0	0	0	0	0
1999	24	20	16	80.0	1	5.0	0	0	0
2000	25	33	21	63.6	2	6.1	0	0	0
2001	26	37	26	70.3	1	2.7	0	0	0
2002	27	22	16	72.7	3	13.6	0	0	0
2003	28	53	37	69.8	3	5.7	0	0	0
2004	29	59	35	59.3	13	22.0	8	61.5	22.9
2005	30	50	**42**	84.0	11	22.0	11	**100.0**	26.2
2006	31	53	23	43.4	16	30.2	3	18.8	13.0
2007	32	54	37	68.5	5	9.3	3	60.0	8.1
In total:		1393	503	36.1	210	15.1	127	60.5	25.2

The tendency of official reception of patents is characterized (fig. 1a) by the formula

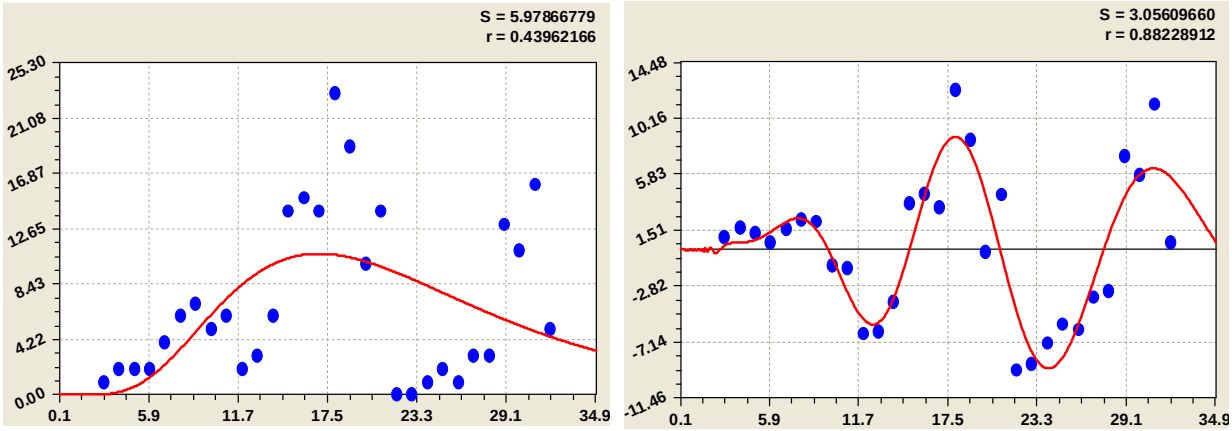
$$n_0 = 32586045{,}0t^{15{,}69825}\exp(-28{,}06691t^{0{,}26461}). \quad (1)$$

Separately oscillatory behaviour is shown on fig. 1b and it occured on model

$$n_1 = A_1\cos(\pi t / p_1 - 6{,}11697), \quad (2)$$

$$A_1 = 0{,}048870t^{1{,}98337}\exp(-0{,}00060967t^{2{,}35017}),$$

$$p_1 = -0{,}28147 + 0{,}29014t^{0{,}62839},$$



a) b)

Fig. 1. Dynamics of number of patents for inventions of the author of article
a - the basic tendency; b- the first wave of positive adaptation to methodology of invention

where A_1 - Amplitude (half) first oscillatory indignation in positive adaptation to varied conditions of social and economic life, pieces; p_1 - The period (half) of oscillatory indignation in innovational activity.

After association of the tendency and a wave component (fig. 2) the model is received

$$n = n_0 + n_1 + \ldots, \quad (3)$$

$$n_0 = 23{,}54611t^{25{,}04048}\exp(-26{,}37391t^{0{,}35231}),\ n_1 = A_1\cos(\pi t / p_1 - 0{,}13900),$$

$$A_1 = 1{,}50364t^{0{,}52991},\ p_1 = -0{,}16249 + 0{,}17297t^{0{,}69360}.$$

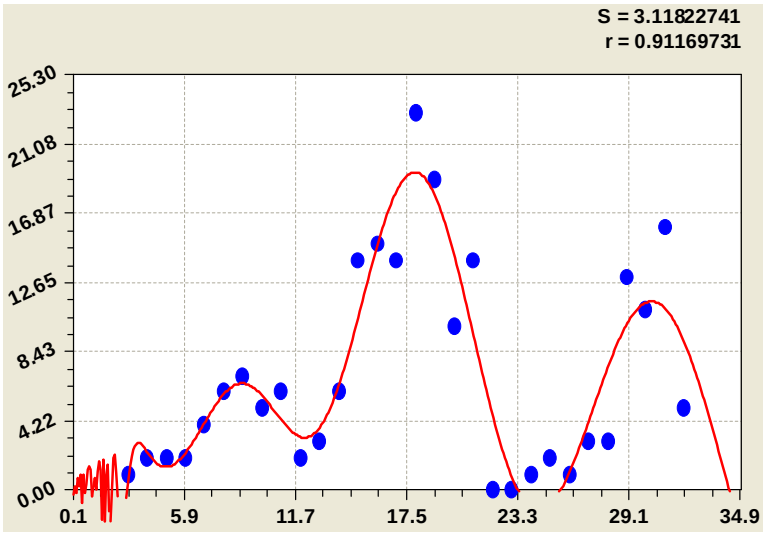


Fig. 2. Dynamics of number of patents for inventions of the author of article in view of the tendency and wave adaptation

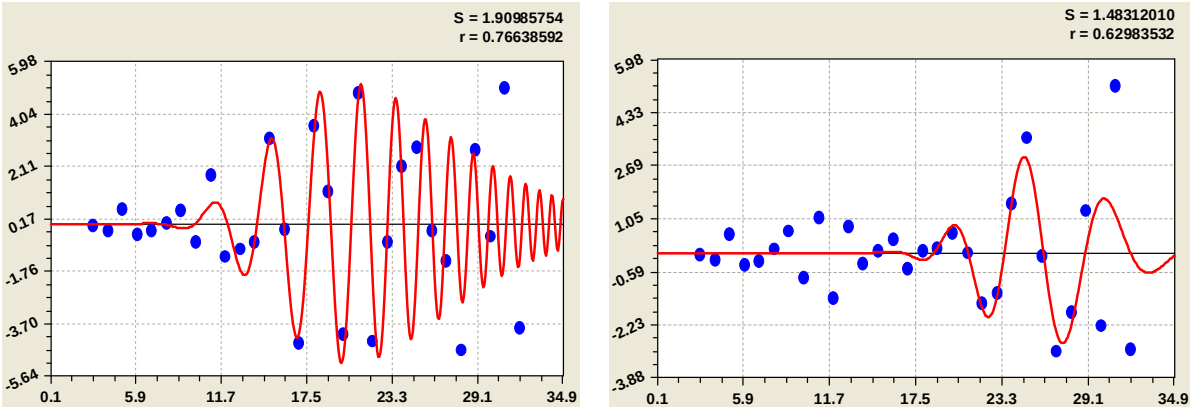
In the beginning a creative way often fluctuation was observed, and then, with occurrence of experience of invention and development of two methods of search designing and designing of biotechnical complexes frequency is reduced.

The second wave (fig. 3a) appeared crisis with becoming frequent frequency under the formula

$$n_2 = A_2\cos(\pi t / p_2 + 2{,}77133), \quad (4)$$

$$A_2 = -1{,}89361 \cdot 10^{-7} t^{26{,}15019} \exp(-17{,}22498 t^{0{,}42329}),$$

$$p_2 = 3{,}10791 - 0{,}019363 t^{1{,}29836}.$$



a) b)

Fig. 3. Fluctuations of number of patents for inventions of the author of article
a - the second crisis wave; b - the third wave (5)

The third wave (fig. 3b) on expectations of innovational economy looks like:

$$n_3 = A_3 \cos(\pi t / p_3 - 1{,}09730), \quad (5)$$

$$A_3 = 3{,}28139 \cdot 10^{-42} t^{42{,}72385} \exp(-1{,}56075 t^{1{,}01464}), \quad p_3 = 1{,}11506 + 0{,}026928 t^{0{,}97173}.$$

Two more waves of indignation were received, one of which is the response to new hopes on adjustment of innovations of a world level.

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COMPETENCE APPROACH TO PSTU "POWDER MATERIALS SCIENCE" DEPARTMENT GRADUATES' TRAINING

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One of the third generation SES projecting principles is the competence approach – the priority vector-goals orientation of education: capacity of study, self-determination, self-actualization, socialization and individuality development. [Baidenko V.I. Revelation of HEI graduates' competence structure as necessary projecting stage of SES HPE of new generation: Methodical study guide – M.: Research Center of Specialists' Training Quality Problems, 2006 – p. 72.]

Among the competences to be formed in a HEI's graduates the general and professional ones stand out. In the general competences the learning-and-cognitive, informative and communicative ones are distinguished. By the learning-and-cognitive competence an aggregate of cognitive activities skills; grasp of target-setting, planning, analysis, reflection, personal activity success self-esteem mechanisms; knowing of action devices in non-standard situations and heuristic methods of problem solving, measuring practice possession, use of statistical and other methods of perception, is meant. The informative competence is characterized by the ability to search, analyze, select, treat and pass the necessary information with the help of information technologies independently. The communicative competence includes the grasp of skills of interaction between the people close about, ability to work in group, acquaintance with various social roles. The professional competences are subdivided into the organization-and-managerial, economical, general scientific, general professional and special ones.

Many principles of the present-day approach to students' training the Department of "Powder Materials Science" realizes successfully due to it system of specialists' training. The Department's history started in 1960. For all these years the Department Chairman has been Antsiferov V.N. – Member of the RAS, Laureate of the State Prize of the USSR, Prize Winner of the Council of Ministers and Ministry of Higher Education of the USSR, the Russian Federation Government Award Double-Winner, Owner of the Titles of "Honoured Worker of Science and Technology" and "Soros Professor", Honorary Freeman of Perm;