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Attitude of Teachers and Students to Scientific and Research Activity

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Abstract: Scientific and research work is considered to be one of the important and necessary components of education process. Sociological analysis of attitude towards scientific and research activity enables to define consequences of reforms of higher education in conditions of transformation of Russian society. This research was done on the base of Perm National Research Polytechnic University in 2010-2011. The level of satisfaction of teachers and students with their place in this process is defined. Comparative analysis of students' and teachers' opinions will enable 1) find bottle-necks in the system of organization of scientific and research work in a university; 2) define factors which influence scientific activity of these social groups. The relationship between personal labour values structure and labour motivation and one's attitude to scientific work. The results of research have shown contradictory character of students' and teachers' attitude towards scientific activity in conditions of a modern university.

Key words: Scientific and research activity · Labour values · Level of satisfaction · A teacher · A student

INTRODUCTION

Both students and teachers must perform scientific and research activity as one of their main labour functions. Scientific character of educational activity is underlying principle of higher school organization. Teachers give to students not only knowledge but scientific knowledge. This knowledge is regarded as underlying not only in terms of contents but in terms of forms of education as well. That is why a teacher of higher school performs not just methodological work but scientific and methodological work. Scientific and educational rigour of higher school teachers is not restricted just to satisfying their curiosity at state's cost but means real needs of their professional activity.

For the last 3-5 years the role of these needs has greatly increased. Transformation of some institutes into federal, national research universities is intended for assigning science with new innovative character. But it is not sufficient to engage a teacher and a student into scientific and innovative activity - the main thing is forming of new educational paradigm. Education gains new social quality: science-education - upbringing of a "society man" (Homo sapiens sapiens", "Homo faber", "Homo culturalis). In this way a new social system appears: forming of innovative education, innovative society, innovative economy [1, 2]. This system can not function without science as social vector of Homo faber. Science more and more often must be assessed in terms of ethics and moral, culturological approach in understanding of its role and place in society must be used [3, 4]. Science is not only creation - it can be socially destructive [5, 6]. Today it is important more than ever because modern society is in uncontrollable informative space passing through complicated turbulence processes.

Realization of these pre-conditions is fulfilled within specific social space and time. Empirical studies enable, firstly: to find out the character and mind-set of teachers and students in regard to scientific activity; secondly, to analyze the attitude of these social groups to scientific and research work; thirdly, define interests of subjects of such relations in scientific sphere [7].

While performing such studies the key role is laid upon interpretation of obtained empirical data. While doing specific sociological survey theoretical definition of scientific and research work of a teacher and student must be restricted to operational characteristic of its contents and structure [8]. Assuming that the base of empirical

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Table 1: Structure of labour values of teachers and students (% of interviewed number of teachers and students)

Labour values	Teacher. %	Student %
Respect, recognition by people	59,3	67,4
Welfare, connected with work (good wages, opportunity to get a flat, kindergarten for a child etc.)	46,6	58,3
Work is interested by itself (interesting speciality, contents of work)	55,1	81,4
Work enables to have interesting people around	19,5	50,2
Opportunity to do creative work (constantly renew one's knowledge, use something new and advanced in one's work)	59,3	49,8
To do god for other people	40,7	33,6
Independence in work (independence in making one's decisions, self-control, self-discipline)	46,6	51,2
Opportunity to work directed by professional and skilled chief, ability to organize work of group of people)	27,1	31,9
Duty, responsibility before people	19,5	21,8
Opportunity to have good free time	8,5	45,3
Professional growth, career	35,6	68,4
Opportunity to manifest and develop one's capabilities	33,1	55,4
Opportunity to communicate with people to be among friends	23,7	39,5
The main thing is family, work is on the second place	8,5	25,0
Quiet calm life	9,3	7,6
Classification of labour values based on functional characteristics		
Socio-significant	23,8	17,6
Individual and personal	18,4	15,1
Professional and labour	36,5	33,4
Socio-cultural	10,3	21,9
Socio-economic	9,3	8,4
Family and household	1,7	3,6

Note: Every respondent gave several answers, so the sum on each group of teachers and students is more than 100%. Classification of labour values is presented in % of number of times every feature was mentioned.

study is scientific and research work of teachers and students - how they interpret its contents and area of focus - we are going to define in the analysis the following things: 1) extent of knowing by teachers and students of scientific and research work, which is characterized by the amount of information about it; 2) selectivity of teachers and students in their attitude to information about scientific and research work; 3) degree of active position towards scientific and research work characterized by participation in it; 4) degree of influence of scientific and research work of teachers and students on their productiveness of labor, behavior, values, ideology. Taking such definition as the base, we hall empirically interpret the attitude of a teachers and a students towards scientific and research work in modern university. Let us consider SRW position in the structure of labour values of teachers and students Table 1.

From these data it is clear that teachers and students do not orientate to only one labour value but for the whole system. With teachers scientific and research work (opportunity to create: constantly renew one's knowledge, use something new and advanced in one's work) is of first priority (dominating value) In the same time such labor values as respect and recognition by other people; work is interesting by itself enhance the role of this value in teachers' activity.

Proportion among interviewed teachers (60%) and students (50%) who pointed out to significance of this value says that it was emphasized only by those who do scientific and research work. These data also shows that university collectives have big opportunities to expand this activity both among teachers and among students. Ideally every teacher must perform this activity but in reality this number a bit higher than a half. It means that every second teacher do not use his creative potential. And there is potential for creative, scientific, innovative growth.

Classification of labour values based on functional characteristics showed an interesting structure of these values. Dominating and strategic positions among them are held by professional-labor values where creative activity is placed both with teachers and students.

The main thing which characterizes attitude of a teacher to scientific and research work is *motives* by which teachers chose their professional activity.

Motivation of teachers is determined by the whole system. The motives are divided into several groups by its contents.

The First Group: Motives connected which creative activity of teachers (30-60% of teachers) They are: possibility to occupy oneself with creative work,

possibility to solve interesting scientific problems; wish to upgrade education level, scientific qualification; opportunity to pass knowledge over to the youth; ambition to study especially interesting for you discipline, branch of science; opportunity to work at the university chair after graduating from university; wish to be independent in one's work; ambition to make personal contribution into science.

Second Group: Motives which are socially significant - with 1/5 of respondents. They are: wish to bring good to society, wish to make personal contribution into formation of human personality; absence of strict external control; rulemaking of work and free time; opportunity to gain independence in professional activity; self-assertion among people.

Third Group: Motives connected with prestigiousness of teacher profession. (16-23%) of respondents. Of course prestige of this profession fell for last 20 years and now teaching is on the bottom of professions' list which are chosen by graduates of high schools. Even only 5% of parents would like their children to be teachers [9].

Fourth Group: Motives connected with money. They are on the last place and it corresponds to real situation with professions in our country. It is for the first time in our history that profession of a teacher is so poorly paid. Among university teachers only 1 from 10 pointed out to some degree of satisfaction with material side of teaching profession; among scientists - only 1 from 20.

Of course, money has never been of utter importance with teachers of higher school - because this work was adequately paid in Soviet times - and in the same time it has never been at the last place, in motivation of teachers and scientists. It was among other motives such as contents and labour character rtc (Table 2).

Scientific and research activity in the collective of people is interconnected with other educational activities.

In this connection it is very important to analyze degree of satisfaction of a students and a teachers with scientific and research activity in comparison with other areas of focus of educational process (Table 3).

This study demonstrated not very high level of satisfaction of teachers with scientific and research activity. They gave lower mark to it than to other spheres of educational process, apart from technical and administrative support. This estimate was lower than average estimate of all educational process and its general estimate. Students' estimates differed greatly from teachers'. They gave higher estimates to scientific potential of the university - and therefore to the role of teachers - than teachers themselves. Quality of teaching is also emphasized by derivative measure of scientific engagement of teachers into educational process – learning and teaching base. Such contradictory judgment of the same characteristics with teachers and students says on the one hand about critical attitude of teachers to their work and on the other hand - that students are rather actively involved into educational process. In the same time such situation allows teachers to increase scientific work of students. In general, level of satisfaction with educational process with students is higher than with teachers.

These estimates characterize real state of scientific and research work in modern system of higher education in general, not only in one university.

Comparing degree of satisfaction of teachers of humanitarian, socio-economic chairs with that of teachers of physical and mathematical chairs we can see that with the first this coefficient=1.83, with the second it=2.12 [10]. There are several reasons for that but the main one is absence of state subsidies for social sciences in higher school. That is why humanitarian teachers to a great extent are motivated by interest in some scientific areas of focus, it can be said that they show scientific altruism.

The same situation can be observed with their satisfaction with technical and administrative support, organization of educational process, learning and teaching base, socio-psychology aspects. Humanitarians' estimates are lower than with natural science teachers.

The reason of this bad situation is not teachers themselves but first of all strategy of education development, state policy in education which creates a negative atmosphere around it.

We also tackled the issue of interrelation between scientific and research work and progress in studies of students. We got an interesting dependence: those students which participate in SRW have higher grades in studies than students not participating in SRW.

Interrelation between teachers participating in SRW and the level of progress in studies of students. Some conclusions were made, the following groups were found in the course of our investigation:

1st Group: Teachers who participate in SRW, science and methodological work (SMW), organizational and methodological, upbringing work. Their students have the most qualitative characteristics in studies.

Table 2: Motivation of choosing by teachers their professional activity (% from respondents interviewed)

Motives structure	%
Ceative work	60,9
Absence of strict rulemaking of work and free time	50,0
Opportunity to solve interesting and scientific problems	42,0
Wish to upgrade education level and scientific qualification	*32,0*
Opportunity to pass one's knowledge to the young generation	31,0
Ambition for deep studying of interesting for you discipline or branch of science	30,0
You were invited to stay at the university after graduation and you liked it	30,0
Ambition for independence in one's work	29,0
Wish to do good to society	25,0
Ambition to make personal contribution into development of young person	25,0
Prestige of teaching	23,0
Ambition to make personal contribution into science	20,0
Absence of strict external control	22,0
Opportunity to gain independence in professional activity	20,0
Prestige of scientific employee	16,0
Self-esteem	11,0
Money (teachers)	10,0
Self-esteem in a family	5,0
You were invited to stay at the university after graduation and you agreed because there were no other variants	5,0
Money (scientists)	5,0

Note: Every respondent gave several answers, so the sum on each group of teachers and students is more than 100%.

Table 3: Level of satisfaction of teachers and students with educational process (satisfaction coefficient*)

Spheres of educational process	Teachers	Student	Total
Educational process organization	2,13	2,24	2,18
Learning and teaching base	2,15	2,23	2,19
Scientific and research work	2,07	2,21	2,14
Technical, financial and administrative support	1,98	2,10	2,04
Socio-psychological aspects	2,40	2,14	2,27
General estimate of quality of educational process	2,15	2,19	2,17
Average grade	2,14	2,18	2,16

*Note: satisfaction coefficient is calculated in 3 grades' scale.

2nd Group: Teachers which participate in SRW but not in SMW and OMW. Their students have lower characteristic in regard to education quality.

3rd Group: Teachers which do not participate in SRW but do SMW or OMW. Their students have the same results as the students of 2nd group (and sometimes they are superior to them), but are inferior to the 1 group.

4th Group: Teachers which do not participate either in SRW or SMW but do OMW and work on themselves a lot. They as usual have students which very low quality characteristics.

5th Group: Teachers which do not participate in any of 3 kinds of above mentioned work. Their students have the lowest characteristics of quality, these teachers are as a rule either beginners in teaching or senior teachers going to retire.

There is direct relationship between participation of teachers in SRW, SMW and the results shown by students. But this relationship is not linear and absolute. That is why it is not possible to propose some universal models of activation of scientific work of teachers and students. Interest in science is not only a measure of professional activity of teachers and students, it is also determined by their engagement into social life, their social positioning.

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