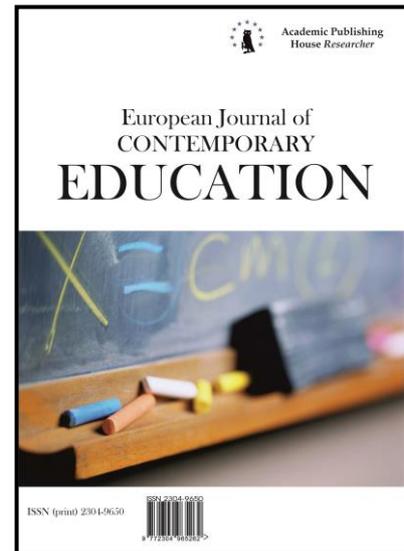




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Regional University Teacher: Evolution of Teaching Staff and Priority Activities

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Abstract

The article is prepared on the materials of the monitoring activities of the Russian University teachers. It is dedicated to the problem of teaching staff training for higher educational institutions.

The formation of professionally competent and pedagogically trained teaching staff is the most important task of universities, which solution ensures the quality of training of specialists with higher education.

The aim of this article is to identify priority activities of the University teachers and to determine the ways of development of their professional competences.

The achievement of the aim bases on the consideration of the evolution of University teaching staff, revealing the motives of their choice of teaching activities, development of forming the ways of pedagogical skills, as well as an assessment of opportunities of universities, faculties and departments in the development of professional competences of teaching staff.

The results of monitoring teachers' activities allow creating a statistical portrait of the University lecturer, estimating the motives of choice of scientific and pedagogical activities and the attractiveness of work at the University, identifying priority activities of the modern University teachers.

The article describes the difficulties of teachers' professionalization and possible ways of forming their professional qualities and competences.

Keywords: university teacher, higher educational institution, research activities, priority activities.

1. Introduction

As the main subject of an educational process the number of publications in scientific literature and periodicals is devoted to the University teacher that confirms the relevance of the chosen research. Today one of the main requirements to higher educational institutions – to do

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scientific work which would give the chance of their applied use and allow to get an economic profit. Unfortunately, among assessment indicators of efficiency of higher educational institutions there are no such ones which would reflect the quality of teachers' pedagogical work. And it is in spite of the fact that higher educational institution is educational institution first of all.

The modern higher educational institutions of Russia are characterized by a lot of new peculiarities: the growth of value and requirements to scientific works and higher educational institution in general; the intensive development of information technologies; the integration of Russian education into the world educational process, etc.

New conditions demand new priorities in activities of teaching staff.

In the existing system no technologies of training educators for their work in higher educational institutions of not pedagogical profile are developed.

The developed system of training the university teachers is rather directed to studying subject contents and assimilation of ready methods, but doesn't provide forming professionally significant qualities necessary in the solution of complex practical challenges in activities of the University lecturer of modern higher educational institution.

The lecturer's identity, his methodical, pedagogical and psychological readiness in many respects defines quality of teaching. He possesses a strategic role in the development of the student's identity during his professional training. Today an expert, a graduate from a higher educational institution, has to possess not only fundamental knowledge, but also high culture, to be ready to different activities, capable to put and solve a wide range of tasks independently in adjacent areas. In this regard the activities of the modern lecturer of higher educational institution has to be aimed at forming the generalized concepts about the mechanisms of application of the gained knowledge, ways of activities in various situations. Competence based approach in education can be realized only in case the University teacher possesses necessary competences that staticizes a question of professional training of pedagogical staff for higher school. The qualities demanded to the University teacher are considered by many authors studying the problems of higher education: D. Alekseeva ([Alekseeva, 2003](#)), E. Bondarevskaya ([Bondarevskaya, 2004](#)), A. Borovskikh ([Borovskikh, 2010](#)), G. Gaponova ([Gaponova, 2012](#)), L. Gurye ([Gurye, 2010](#)), V. Zhurakovsky ([Zhurakovsky et al., 2000](#)), V. Prikhodko, L. Krasinskaya ([Krasinskaya, 2009](#)), Yu. Maly ([Maly, 2009](#)), A. Ovsyannikova ([Ovsyannikova, 2010](#)), N. Rozov ([Rozov, 2014](#)), F. Sharipov ([Sharipov, 2010](#)), etc.

In recent years the prestige of pedagogical work at schools, colleges and higher educational institutions decreases, pedagogical staff of higher educational institutions grows old, an average age of the University lecturers comes nearer to pension that, undoubtedly, complicates modernization of the system of higher education. Adrianna Kezar and Sean Gehrke ([Kezar, 2016](#)) write about forming teaching staff of educational institution, the role of values in this process and organizational changes.

Penza state university of architecture and construction within the bounds of realization of the project "The System and Mechanisms of Formation and Development of Professional Competences of University teacher of Modern Higher Educational Institution " has carried out a complex research of the lecturer's activity of modern Russian higher educational institution. The objectives of our research were studying teaching staff of higher educational institution, priorities of their activities, the development of technologies of their professional and pedagogical competence on this basis.

Within this work:

- teaching staff of higher school, including its sex, age, basic education, academic degree is analysed,
- motives of the choice of scientific and pedagogical activity and some features of the University teacher's activity of higher educational institution in modern conditions are studied,
- real mechanisms of development of professional competences of educators of higher educational institutions are offered.

Over 400 teachers of state universities of the Penza region have taken part in monitoring that makes 20 % of the total number of teachers of higher educational institutions of the region.

Besides, based on monitoring an expert survey has been conducted. 22 highly qualified specialists in the field of pedagogics of higher school representing 11 universities of various regions

of Russia are involved as the experts to research the problems of professional formation of the University teacher of higher educational institution.

In the conducted sociological research, as an indicator reflecting the degree of confidence in the truth of the data obtained, a coefficient p-value equal to 0.05 was adopted. The degree of deviation of the statistics from the hypothesis tested for consistency with the received sample data (null hypothesis) is 5 %.

2. Results

The statistical "portrait" of the University teacher of Russian higher educational institution

The carried out monitoring has revealed a number of tendencies in changes of teaching staff of higher educational institutions of Russia. In general the number of professorial staff of higher educational institutions in Russia has been significantly decreasing since 2011: if in 2010 there were 356,8 thousand persons, then by the beginning of 2014-2015 academic years – 299,7 thousand persons ([Russia in Figures, 2015](#)).

The ratio of men and women in the total number of teaching staff of higher educational institutions has also changed: in 2010 among educators there were 55 % of women and 45 % of men ([Women and men of Russia, 2010](#)), in 2014 male teachers became even less – 37 %, and women in the total number of professorial staff make 63 % ([Women and men of Russia, 2014](#)). Decrease in salary level in higher educational institution forces men to leave work at higher school and to look for more lucrative positions.

Speaking about decrease in the total number of professorial staff of higher educational institutions, we will note that the share of lecturers having an academic degree in 2014 has grown in comparison with 2010: if in 2010 there were 12,3 % of the University teachers with an academic degree of doctor of science and 52,1 % ones with candidate of science degree, then in 2014 – 14,1 % and 54,7 % respectively ([Russian Statistical Yearbook, 2014](#)). It can demonstrate desire and sufficient opportunities at modern higher school to prepare and present a dissertation research.

In the Penza region as well as in general across Russia the number of lecturers has decreased from 3016 thousand people in 2010 to 2437 thousand people in 2014. The analysis of qualified teaching staff of the Penza region allows to speak about the reflection of all-Russian tendencies of growth of the share of doctors and candidates of science in the total number of teaching staff in 2014 in relation to 2010. We will note at the same time that the share of doctors of science in the total number of lecturers of higher educational institutions of the Penza region is below the all-Russian indicator: 10,3 % in 2010 and 13,1 % in 2014 while across Russia this indicator is 12,3 % and 14,1 % respectively. But the share of candidates of science in the total number of educators of the Penza region is higher, than in general across Russia: 2010 – 55,5 % in higher educational institutions of the Penza region and 52,1 % in higher educational institutions of Russia, 2014 – 58,8 % and 54,7 % respectively.

In general number of the interrogated University teachers there were 29,5 % of men, and 70,5 % of women. The similar ratio of the number of teachers of higher educational institutions according to the data of the state statistics ([Women and men of Russia, 2014](#)) is observed in general across Russia: men – 284,2 thousand people (37 %), women – 480,4 thousand people (63 %). Perhaps, such ratio is connected with the fact that often for men teaching work is not a primary activity: some have their own business, the others combine teaching with the work at manufacturing enterprises.

The considerable share of the respondents is made by educators aged from 26 to 40 years (43,8 %) and more than 50 years (31,9 %). There were only 17 % among the respondents aged from 40 to 50 years that reflects the age structure of teaching staff of higher educational institutions of the Penza region. The end of the 1990s-the beginning of the 2000s – the time when university graduates reluctantly remained to teach at departments and their interest in science decreased in many respects because of outdated laboratory base and decrease in financing. An average age of the interrogated educators was 42,7 years.

Young specialists (with experience to 3 years) in the total number of the respondents – 3,6 %. In our opinion it is connected with unwillingness of many young people after post-graduation to teach in higher educational institutions. The average value of experience in scientific and

pedagogical activity of teachers is 18 years. These indicators are confirmed by statistical data on aging of departments staff and the reduced inflow of young employees.

The long experience of lecturers can speak not only about a considerable experience of pedagogical activity, but also about conservatism in the choice of methods and tutorials, unavailability to the development and the deployment of innovations in educational process.

In the analysis of teaching staff by the criterion "held position" the following results are received: the main part of educators (56,3 %) hold the associate professor's position, 16,6 % of teachers work as professors, 17,4 % – senior teachers, 9,7 % – assistants.

A third of the interrogated University teachers are engineers according to their basic education, a third more – economists and managers, educators of pedagogical specialties among the respondents – 16 %. The obtained data demonstrate that educators of higher educational institutions generally have no pedagogical preparation, they can master the subject maintenance very well, but have no knowledge about the organization of educational process, don't know teaching techniques, they are forced to gain these skills by their own experience.

Lack of special pedagogical preparation of the University lecturers – a subject of consideration of a large number of publications. N.H Rozov emphasizes that excellent mastering the subject maintenance and their own achievements in creative researches don't guarantee the success in pedagogical activity, it is necessary to master the most difficult technological complex of methods of transferring of knowledge and the organization of an educational process (Rozov, 2014).

A.A. Verbitsky's statement that "the pedagogical consciousness of lecturers of not pedagogical higher educational institutions has developed on purely empirical basis, "on imitation" as they have no professional pedagogical education" is fair. At the same time he notes that lack of special preparation of the teacher has become a peculiar norm, unlike all other spheres of professional activity (Verbitsky, 2014).

Who and why becomes the university teacher

A considerable part of teaching staff of higher educational institutions – graduates of postgraduate study. They, being engaged in the scientific research in the course of preparation and writing their thesis, after all are far from pedagogics.

As a rule, the former graduates (and for a number of reasons not always the best) who have shown abilities to scientific activities and come to postgraduate study become the teachers of higher educational institutions today. Whether they had special abilities to pedagogical activities, nobody ever estimated.

Many of the young people graduating from higher educational institutions and coming to postgraduate study, have rather high level of professional knowledge and skills on the speciality, show serious interest in teaching and with enthusiasm would be ready to be engaged in it.

As a result of the research it is revealed that a half of acting lecturers didn't plan during their training at the University that they would be engaged in pedagogical activities.

At the same time we will note that those lecturers whose experience in scientific and pedagogical activities had been over 20 years didn't think of teaching work when they were students. Younger generation of today's teachers – with an experience of 6-10 years, still being students, connected the future professional activities with the University (Table 1).

Table 1. Training of students for future pedagogical activities

Training of students for future pedagogical activities	Scientific and pedagogical experience, %								Total
	to 3 years	3-5 years	6-10 years	11-15 years	16-20 years	21-25 years	26-30 years	31 years and more	
yes, prepared	66,7	89,3	92,1	84,8	61,3	3,6	2,7	7,0	47,8
no, didn't prepare	33,3	7,1	7,9	12,1	35,5	96,4	97,3	58,1	44,9
Have found it difficult to	0,0	3,6	0,0	3,0	3,2	0,0	0,0	34,9	7,3

answer									
Total	100	100	100	100	100	100	100	100	100

Practically all the teachers (91 %) having been got their basic engineering education remained in higher educational institutions after graduating, among the economists it is slightly more than a half (54 %) of such ones, the lawyers (89 %) became teachers after the experience in business and in production.

Only for 58,3 % of today's teachers the higher educational institution became the first place of work: and here there is the same tendency – those who have been aimed at future pedagogical activity even during their training in higher educational institution remained to teach after their graduation. The teachers with an experience, as a rule, of more than 20 years those who began as the production worker (Table 2).

Table 2. The previous place of work before entering higher educational institution for teaching work

The previous place of work before entering higher educational institution for teaching work	Scientific and pedagogical experience,								Total
	to 3-x years	3-5 years	6-10 years	11-15 years	16-20 years	21-25 years	26-30 years	31 years and more	
This is the first place of work	86,7	87,2	92,3	84,2	94,2	14,6	3,2	8,1	53,8
Industrial enterprise	0,0	7,1	7,7	5,3	0,0	77,1	54,8	4,0	20,2
SRC, SSEI, school	0,0	0,0	0,0	1,8	0,0	8,3	19,4	62,2	15
Alternative versions	13,3	7,1	0,0	8,7	5,8	0,0	22,6	25,7	11
Total	100	100	100	100	100	100	100	100	100

Of course, the experience of practical work in teaching is not superfluous, knowledge of real production enriches the content of training, but this is one task to solve production problems by himself, and absolutely another one – to teach students. And for this purpose knowledge and skills of other order – psychology, pedagogics, teaching techniques are required. They didn't study psychology and pedagogical bases of teaching in their higher educational institution, experts have reached methodical skill by means of practical experience for many years of working in higher educational institution. And even for those former graduates or post-graduate students who, still being students, connected their professional activity with teaching, it is not an easy task to act in that professional role for which they hadn't been specially trained.

The significant role in the development of professional skills of the teacher is played by motives of the choice of scientific and pedagogical activity by him. The motivation of the choice of professional pedagogical activity and the purpose of this activity at the beginning of teaching work in many respects define the results of pedagogical work. These problems are typical not only of Russian higher school, but also of foreign. So, the authors of the article "Teaching goes also early career university teachers in Germany", three groups of teachers with different goal profiles were identified: instruction-oriented, student-oriented, and ego-oriented early career university teachers (Wosnitza et al., 2014).

According to the received results of monitoring the choice of future teaching activity was influenced in many respects by an opportunity to teach and desire to be engaged in scientific activities. To a less extent such factors as aspiration to impart the professional knowledge to future generations, calling, possibility of creative work were shown. One can note that a part of teachers connect the choice of this activity only with entrance postgraduate study and requirements to post

graduate students to conduct an academic activity. But there are among the interrogated teachers those who were in the profession incidentally (Table 3) (Reznik, 2015).

Table 3. Motives of the choice of scientific and pedagogical activity

Motives of the choice of scientific and pedagogical activity	Respondents, (%)
Opportunity to teach	39,7
Desire to be engaged in a scientific research	34,4
Aspiration to impart professional knowledge to others	14,6
Alternative versions (psychological compatibility with the profession, calling, I consider this work useful for society, etc.)	17,4
Entrance postgraduate study	9,2
I became University teacher incidentally	5,8

90 % of men have chosen as the main scientific and pedagogical activity because of their desire to be engaged in a scientific work, this motive became the basic only for 11 % of women. Women become teachers because of their desire to teach more often – 54,3 %.

The desire to be engaged in the scientific work as the main motive of the choice of teaching work in higher educational institutions distinguishes 91 % of engineers according to the basic education. An opportunity to teach has involved 97 % of lawyers, 70 % of managers and 88 % of economists. Those who got basic pedagogical education remained to teach in higher educational institutions caring for education of future generations (46 %).

If the desire to be engaged in the scientific work is supported with training in this kind of activity in postgraduate study, then an opportunity to teach, as a rule, isn't supported with special pedagogical preparation. In the formation and the development of pedagogical skills of each teacher his personal plan of pedagogical career can play a significant role.

At the same time the analysis of the results of questionnaire has revealed a negative tendency: only 41,7 % of teachers are guided by the personal development plan for the scientific and pedagogical career, the others don't see advantages of work according to the drawn-up plan (Table 4). It demonstrates that the teachers don't plan not only their vertical advance – from an assistant to a professor, but also horizontal development – acquisition of new skills, development of professional skills.

Table 4. The available personal plans of scientific and pedagogical career of the University teacher

The available personal plans of scientific and pedagogical career	Respondents, (%)
Have such a plan	41.7
Unless it is possible to have such a plan, the life is so changeable	37.2
Alternative versions (they have a plan, but it is impossible to realize it; they have a plan – there are no resources; according to requirements of higher educational institution; there is no aspiration to promote in higher educational institution; an approximate plan; they have no any plans; etc..)	21.1
Total	100

Only 41,7 % of teachers had plans of scientific and pedagogical career, 37 % consider that such plans are not possible to have as the life is changeable. 22 % of the respondents have noted that if there is such a plan, then there are no opportunities to realize it or no desires to do career in higher educational institution. At the same time it is traced the following tendencies:

–young teachers with an experience to 15 years have accurate plans of pedagogical career, those who have worked in higher educational institution 16-30 years don't see any sense in planning of scientific and pedagogical career;

–98,3 % of the respondents having basic engineering education are engaged in planning scientific and pedagogical career while only 48 % among basic education teachers make plans of pedagogical career;

–90,4 % of men develop and follow the plan of scientific and pedagogical career while 50 % of women have no such plans because of constantly changing surroundings.

Investigating the career of women teachers in the Universities of the USA, Kerryann O'Meara represents an experiment of California University on women promotion at work. These four perspectives contributed toward agentic actions, as well as women's satisfaction and well-being. The strengths and the limitations of supporting agentic perspectives as a way to advance gender equity and organizational change are presented. (O'Meara, 2015)

The choice of professional teaching activity is influenced also by those moments that do this work interesting. Especially attractive in the work the University teachers consider great opportunities for creative self-realization (45 %) and high intellectual potential of collective (28,7 %). At the same time men at more extent (90 %) are interested in opportunities for creative self-realization, women are attracted by high intellectual potential of collective (34 %), both conditions and the schedule in the educational institution (44 %).

Thus, preparation for pedagogical activity really begins after a potential teacher has finished a higher educational institution and the person who has been formed as an expert not of a pedagogical profile masters teaching activity.

Priority activities of the modern University teacher

What are priority activities of the teacher today when the requirement to be effective (concerning higher education institution and each teacher) increases more and more?

Traditional conditions of the activity of higher educational institutions in the USSR relied on the centralized distribution of graduates, on a priority role of an educational process, the high motivation level of teachers' work. New conditions demand new priority activities of the University teacher who has to be guided by innovative approaches to educating students, pedagogical skills and professionalism now, to raise constantly the indicators of scientific activity, to correlate the educational process to employers' interests, requirements of labor market. But whether the teacher is ready to it?

Teaching activity is an implementation of a number of the functions which are closely connected with the specifics of the taught disciplines, the level of preparation of students' group, its structure, the peculiarities of concrete pedagogical situations, and also with scientific interests of the teacher.

The requirements to psychological and pedagogical competence of the University teacher constantly become complicated that is caused by a variety of reasons. First, the social order for training of the top skills, capable to develop the innovative economy and to provide competitiveness of the state, demands comprehensive improvement of an educational process in higher educational institution, the substantial increase of its quality. Secondly, transition to the competence based approach of educating and reforming the system of higher education is connected with it respectively imposes increased requirements to the competence of high school teachers. Thirdly, because of broad informatization, introduction of technologies of distance learning the nature of communicative interaction of the teacher with students, and consequently, his position and role in the didactic process of higher educational institution changes.

The activity of the modern University teacher is many-sided, it includes such spheres as:

- conducting educational process;
- methodical work and increase of personal qualification;
- educational work among students;
- scientific work;
- participation in management of a department, a higher educational institution and other organizing activities;
- personal activity of the teacher.

Educating students assumes not only classroom lessons (conducting lectures, seminars, laboratory lessons, practical training, consultations), but also managing course and degree projects, educational and work practice, reviewing examinations, examining, credit-tests, testing

knowledge of students. One of the components of the teacher's activities which demands considerable efforts, time and talent is training students for participation in educational competitions.

Communicating with students during usual studies, advising their course and degree projects, examining, involving in the research work, teacher shouldn't forget about need of continuous educational impact on culture and morality of young people, on formation of their life values.

The efficiency of academic work of teaching staff is in direct dependence on the level of pedagogical and methodical skills of the teachers therefore an integral part of educational process is methodical work.

It is hard to overestimate the importance of methodical work of the teacher. The classroom lesson lasts 80-90 minutes, but preparation for it takes even the skilled teacher much more time. Drawing up and updating of the curriculum programs, making manuals, methodical developments, making notes of lectures, practical works, editing educational and methodical materials, development of educational and methodical complexes, development of new technologies, methods, methods of training, participation in the work of scientific and methodical faculty councils of the faculty, higher educational institution and their board – the main forms of methodical work of the University teacher. The teacher can improve his skills not only within specially organized courses, but also participating in the work of educational and scientific and methodical conferences, seminars.

Educational work is an integral part of work with students in a classroom, during out-of-class occupations, within informal meetings, students' excursions, meetings with production workers, exhibitions. This field of activity of the teacher includes a coaching of students' group, and also work with a student's asset, work with parents (participation in meetings).

The sphere of scientific work of the teacher is made by preparation and presentation of a thesis, participation in competitions of programs and grants, preparation and implementation of applications for grants, carrying out research works, preparation of monographs, scientific articles, reports at scientific conferences and seminars, preparation and registration of applications for patents, reviewing and opposition of theses, abstracts, consultations and contractual works on production orders, managing post-graduate students, participation in the work of scientific and technical and dissertation councils and their boards.

Organizing activity of the teacher, his participation in the management of the department, higher educational institution is defined by the performance of the department instructions, the work at faculty meetings, the work on career guidance of the youth (at schools, colleges), establishing contacts with employers, participation and organization of sports, cultural events, establishment and maintenance of cooperation with the domestic and foreign higher educational institutions, research organizations, enterprises and institutions.

Ranging of spheres of activity of the university teacher according to the degree of their importance proceeding from the results of the research looks as follows (Table 5).

For a pairwise comparison of ranks, we use the criterion of signs – Wilcoxon signed rank test (also called the Wilcoxon signed rank sum test). The Wilcoxon signed-rank test is a non-parametric statistical hypothesis test used to compare two related samples, matched samples, or repeated measurements on a single sample to assess whether their population mean ranks differ (i.e. it is a paired difference test).

The conditions of application of Wilcoxon signed rank test correspond to our research: The number investigated when using T-criterion of Wilcoxon has to be not less than 5 and no more than 50; the studied sign can be measured both in quantitative continuous, and in a serial scale; it is used only in case of comparison of two rows of measurements.

Table 5. Ranging of spheres of activity of the University teacher

Spheres of activity	Ranks according to the teachers	Ranks according to the experts	Difference of indicators (d)	Rank of deviations
Conducting educational process	1	1	0	2,5
Methodical work and increase of personal qualification	2	2	0	2,5

Scientific work	3	3	0	2,5
Educational work	4	4	0	2,5
Organization of personal activity of a teacher	5	6	1	5,5
Participation in management of a department, higher educational institution and other organizing activities	6	5	1	5,5

As we see, typical shift of an indicator is the lack of changes noted in 4 cases from 6. In two cases (Organization of personal activity of a teacher and Participation in management of a department, higher educational institution and other organizing activities) the atypical shift was noted. The ranks corresponding to atypical shift are equal to 5,5 and 5,5. When the difference between the groups is zero, the observations are discarded.

We calculate the Wilcoxon T-test, which is equal to the sum of the ranks corresponding to the atypical shift of the indicator: $T = \Sigma R_r = 5.5 + 5.5 = 11$.

We compare T_{emp} . and T_{kr} ., which at significance value of $p=0.05$ and $n=6$ is equal to 2. Therefore, $T_{emp} > T_{kr}$. Thus, the null hypothesis of lack of the statistical importance of changes of an indicator is accepted.

According to the experts, the priority activities of the teachers should be (on decrease of ranks) – training and methodical work (1,2), scientific work (3), educational work (4), participation in management of a department, higher educational institution and other organizing activities (5), organization of personal activity of the teacher (6). Such ranging of the main spheres of activities partly coincides with choosing priorities by the teachers, however the experts consider the participation in management of the department and higher educational institution more significant in comparison with the organization of personal activity of the teacher.

In determination of the importance of concrete kinds of activity there are practically no distinctions in the teachers with different experience: all (both skilled, and unexperienced) consider as primary activity of the teacher conducting educational process (Table 6). For young teachers the organizing work, participation in management of the department is more significant than personal activity.

Table 6. Ranging of spheres of activity of the University teacher depending on experience in scientific and pedagogical work

Spheres of activity of the University teacher	Rank (average value)	Scientific and pedagogical experience							
		to 3 years	3-5 years	6-10 years	11-15 years	16-20 years	21-25 years	26-30 years	31 years and more
Conducting educational process	1	1,33	1,32	1,28	1,36	1,23	1,32	1,1	1,63
Methodical work and increase of personal qualification	2	2,67	2,25	2,45	2,12	2,29	2,18	2,3	2,42
Scientific work	3	3,22	2,82	3,34	3,21	2,94	3,25	3,13	3,02
Educational work	4	3,67	4,57	3,63	3,49	4,13	3,89	4,51	4,02
Organization of personal activity of a teacher	5	5	4,32	5,42	5	4,96	5	4,81	4,33
Participation in management of a department, higher educational institution and other organizing activities	6	4,44	5,28	4,76	5,7	5,58	5,75	5,54	5,56

Defining the priority activities, doctors of science, unlike candidates of science and teachers without an academic degree, almost on one level put methodical and scientific work (Table 7), explaining it with the fact that most often the conducted scientific researches come to an end not only by the publication of their results in articles, monographs, materials of conferences, but also by writing textbooks and manuals.

Table 7. Ranging of spheres of activity of the University teachers depending on availability of an academic degree

Spheres of activity of the University teacher	Total	Academic degree		
	Rank (average value)	No degree	Candidate of science	Doctor of science
Conducting educational process	1	1 (1,24)	1 (1,27)	1 (1,65)
Methodical work and increase of personal qualification	2	2 (2,1)	2 (2,31)	2 (2,53)
Scientific work	3	3 (2,89)	3 (3,26)	3 (2,68)
Educational work	4	4 (4,46)	4 (4,06)	4 (3,37)
Organization of personal activity of a teacher	5	5 (5)	5 (4,85)	5 (4,71)
Participation in management of a department, higher educational institution and other organizing activities	6	6 (5,1)	6 (5,44)	6 (5,37)

The problems of assessment of the activity of the University teachers – a subject of domestic and foreign publications. The results of the researches presented in them allow to gain an impression about practical professional activity of the teachers of higher educational institutions. The results of the carried out monitoring confirm the conclusions drawn by A.G. Efendiyev and K.V. Reshetnikova (Efendiyev, 2008) that the educational and methodical works dominate in real professional activity of the teachers. At the same time the authors note disproportions between research and pedagogical and methodical vectors of professional activity of employees of higher school. For 98 % of high school teachers the main fields of activity according to their spent time is preparation for lectures, addition to them, seminars with new materials. While the work on the monograph, scientific articles has captured 41,8 % of respondents, by systematic work on contracts, grants, orders (that is an evidence of systematic involvement of the teacher of higher educational institution in research work demanded by society-customer) only 26,2 % of respondents.

To the problems of modeling of competences of high school teachers the article “Competences and Competence Model of University Teachers” of Martina Blašková, Rudolf Blaško, Alžbeta Kucharčíková is devoted to (Blašková et al., 2014). The authors emphasize "the competences of university teachers are of exceptional importance, mainly because teachers constitute the basis for the creation of new knowledge and new values beneficial to the university as well as to students, and subsequently also to enterprises in the role of employers, who should be able to use reasonably and develop systematically the mature competences of their employees".

According to the results of monitoring of the teachers of the Russian higher educational institutions we have developed the structure of their professional competence. It includes six groups of competences – profound knowledge of subjects; pedagogical skills; broad scientific outlook; thirst for innovations and scientific creativity; availability of an academic degree, mastering the methods of scientific search; innovative mobility (Table 8).

Table 8. Ranging of the groups of professional and pedagogical competences of the University teachers depending on availability of an academic degree

Group of competences	In general	An academic degree		
	Ranks	No degree	Candidate of science	Doctor of science
Profound knowledge of a subject	1	1 (1,76)	1 (1,61)	3 (2,47)
Pedagogical skills	2	2 (1,95)	2 (2,16)	2 (2,26)
Broad scientific outlook	3	3 (2,84)	3 (2,84)	1 (1,95)
Thirst for innovations and scientific creativity	4	4 (3,62)	4 (3,98)	4 (3,92)
Mastering methods of scientific search	5	5 (4,62)	5 (4,98)	5 (4,71)
Innovative mobility	6	6 (5,65)	6 (5,67)	6 (5,13)

In spite of the fact that as a result of the poll of Penza higher educational institutions teachers the ranks have been appropriated to the main groups of professional and pedagogical competences, we will note that the opinion of doctors of science differs a little: they consider a broad scientific outlook the most important, then pedagogical skills and only after that profound knowledge of the taught subject.

In our opinion, the professional competence of the university teachers is a complete set of competences necessary for realization of the main directions of his activity: educational, methodical, scientific, educational, participations in management of a department, faculty, higher educational institution. Being a difficult, multiple-factor phenomenon, the professional competence of the teacher of technical University is a united complete structure which can't exist without each of the components included in it, and the productivity of the teacher's activity is provided with their interaction.

The activity of modern University teacher is many-sided and multidimensional, educational and methodical work of the teacher is the most important, of the second importance it is the scientific work. Proceeding from studying features of activity of the modern University teachers, at all versatility of the activity of teachers it is possible to speak about the following necessary priorities:

- mastering pedagogical skills;
- orientation to innovative approaches to students' training;
- active participation and increase of results of scientific activity;
- correlation of an educational process with the interests of employers, the requirements of labor market.

How to form and develop professional competences of the University teachers

Some researchers of the problem of the University teachers' professionalism see the link between the level of their professionalism and the resource opportunities not only of different higher educational institutions, but also of different faculties of one higher educational institution. Kelly Ochs Rosinger, Barrett J. Taylor, Lindsay Coco, Sheila Slaughter, according to the results of their research, draw conclusions that deprofessionalization has happened differently for teaching staff in high – and low-resource educational units. They confirm that faculty in high-resource units, like Brint's (1994) "expert" professionals, depend on external research resources and shape their careers accordingly, whereas faculty in low-resource units rely upon teaching revenues distributed by campus administrators (Rosinger et al., 2016).

In the publications on the problem of competence of the University teacher it is offered to use various ways and mechanisms of the development of professional competences, even neurolinguistic programming. "The more of these methods and techniques of self-education and self-development are used by the teacher, and the more he/she focuses on him/herself as a teacher, more probable will be the actual increase in his/her teaching competence. This say result in the fact the teacher continuously "matures" not only in his/her educational work – in relation to the students and development of his/her competences, but also in the scientific research, publications, organisational and other work" (Blašková et al., 2015).

Professional development of the teacher can be carried out in two ways. The first assumes the progress in skill heights that it is connected with the expressed aspiration to creativity and achievement of professional maturity. The second way is characterized by the development of activity at the level of standard instructions, habitual algorithms, traditional pedagogical technologies. Unfortunately, the analysis of practice allows to draw a conclusion that a considerable part of the teachers has no fair idea what are such professional and pedagogical skills and what are the ways of its achievement. To the solution of many questions of educational activity most of the teachers, and not only beginners, are poorly prepared. Many of them give preference to sample, monotonous methods of training influences, are often limited by very poor set of practical skills allowing to conduct lessons and are sure that it is quite enough for teaching work.

The continuous improvement of professional competence and pedagogical skills of the teachers – the most important problem of management of higher educational institution, dean's office, department (and the teacher himself). The choice of forms of work for this purpose is represented rather vast: participation of teachers in the work of scientific and methodical conferences and seminars; visit of open lessons with their subsequent discussion; studying, generalization and introduction of the best pedagogical practices; organization of lectures and seminars for psychology and pedagogics of higher school; training of the teachers in the leading higher educational institutions of our country and abroad; study of young teachers on courses and faculties of increase of their scientific and pedagogical qualification.

However, steps taken by the leaders of higher educational institutions, faculties, departments to the formation and development of professional competences of the teachers are often spontaneous and inconsistent, the optimality of methods of selection and training of teachers isn't confirmed with researches and experiments.

At the university, for example, we have forced the requirements to the heads of departments and deans, one of the key functions of whom is preparation of teaching reserve, we conduct seminars-trainings with the teachers and the selected reserve on promotion, the study of graduate students has been significantly added with training in pedagogical technologies.

The efficiency of teaching of a young teacher depends on the level of his methodical skills therefore the methodical work is an integral part of educational process. The young teachers and graduate students take part in the methodical seminars of the department aimed at increase of pedagogical skills of teachers, development of new effective methods of organization and conducting educational process, generalization and distribution of the best practices of training and education of students, covering the results of control and mutual visits of lessons, exchange of teachers' experience, development of ways of improvement of quality of students' training and education (Reznik, 2012).

For formation of motivation and development of interest in scientific and pedagogical activity at our Institute of Economics and Management of Penza State University of Architecture and Construction the project "School of the Young Scientist" is realized. The main objectives of which are the formation of professional competence of student as the scientific figure and the University teacher, providing basic data on pedagogical activity of the scientist, assistance in the choice of the direction of scientific interests.

In training the young teachers for pedagogical activity it is necessary to conduct seminars in parallel in two directions: the discussion of educational and methodical developments of the teachers and carrying out open lessons in the most difficult for the most difficult for understanding subjects by students.

The main mechanism of management of formation and development of professional competences of the lecturer is the different level scientific and methodical work assuming the inclusion of the teacher in various forms and methods of pedagogical, research activity on the basis of taking into account of his scientific interests, valuable and moral installations. For this purpose at our university we have practice of mentoring of the skilled teachers, visiting the classroom lessons on the discipline conducted by the professor or the associate professor, monthly methodical seminars of the department, participation in preparation of educational and methodical complexes of disciplines and processes, participation of teachers in the work of scientific and methodical conferences and seminars, visiting of open lessons with their subsequent discussion, studying, generalization and introduction of the best pedagogical practices.

3. Conclusion

Monitoring the activity of the University teachers of Russia has allowed to reveal some features of their changes: since 2010 the number of teachers of Russian higher educational institutions has been steadily decreasing, the number of graduates wishing to remain at teaching work in higher educational institutions every year becomes less, therefore, an average age of teachers also grows. Women make the main part of the teachers (2/3), one third – men; 85 % of the teachers have an academic degree of doctor or candidate of science; as a rule, the educators have basic engineering, economic, law education, but have no special preparation for the pedagogical work.

The main motives of the choice of teaching activity are the desire to teach (39,7 %) and to be engaged in scientific work (34,4 %). The tenth part of the respondents became the teachers because of entering postgraduate study, about 6 % became the teachers incidentally. The development of pedagogical activity happens at the main part of the teachers after their getting to work at higher educational institutions: 54,2 % of respondents remained the teachers at the departments after graduating from the University, but at the same time only 47,8 % of the teachers planned during their training in higher educational institution in advance that they would be engaged in pedagogical activity.

The results of the research have allowed revealing the problem of teachers' training for their pedagogical activity: lack of special psychological and pedagogical preparation of considerable part of teaching staff; lack of opportunities of the teachers, and sometimes their desires to follow the requirements of time – the fast updating of educational system of higher educational institutions, constant correcting of curriculum programs, technologies of training according to frequent changes of federal state educational standards; insufficient readiness of teachers for introduction in their practice of educational innovations; aspiration of teachers to work as before, intellectual and psychological unpreparedness of the University teachers for the activity in new conditions, despite the need to solve complex, non-standard problems.

The experts involved to the research consider that for the formation and development of professional and pedagogical competences of the University teachers the control of quality of teaching work of managers of departments is obligatory, the courses of pedagogical skills for the beginning teachers, their training at the enterprises of the region and in the leading higher educational institutions are necessary; exchange of experience with colleagues from other universities, the invitation of authoritative domestic and foreign experts for conducting educational seminars for the teachers, the use of special textbooks on teaching skills.

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