Academic Competition: Rating Race

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Abstract

The purpose of the study is to identify the factors of competitiveness among university teachers through an assessment of a modern teacher desire and abilities to be demanded professionally. Three hypotheses were put forward: about the impact of a teacher's qualification level on his competitiveness, about the motivational component role of the personnel policy, and about the improvement of research work quality as the result of competition development.

The authors conducted a questionnaire survey among Russian university teachers (N = 170) aged from 22 to 70, who were grouped into three groups according to 10 indicators of research work: teachers with high, average and low individual rating.

The study result established the correlation between the desire of teachers to reach high rating positions within the conditions of fierce competition, their quantitative indicators, the publication activity and the quality of research activity. The level of a teacher's qualification, which is one of the basic requirements for the university teaching staff, does not ensure the competitiveness of a teacher for a long period. It should be accompanied by an active publication activity of a teacher and high rates of research activity.

The study showed that the motivational component of the personnel policy is an obligatory, but an insufficient factor ensuring the professional growth of scientific and pedagogical personnel. The authors come to the conclusion about the dual effect of the rating race: the factors of competitiveness among university teachers may contribute to teaching staff quality increase and reduction. But it depends on the adaptive features of teachers.

Keywords: university teachers, personnel policy, wage, scientometric indicators, rating system, publication activity.
1. Introduction

Rating race as a new vector for higher education development.

The trends of the world scientific space development in the context of social and economic indicators increase of the leading countries of the world led to the revision of higher education development strategy (King, 2004). This is related to the presence of a direct link between the share a state GDP spent on research and development and the publication activity of its scientists (Must, 2006). However, if recently the higher school functioned according to the model of "entrepreneurial universities", in which teachers should be aimed at an educational institution income increase by developing the links with the real sector of economy and attracting external grants, nowadays the main priority is the access of leading educational institutions to international ratings (Mautner, 2005).

The desire to create world-class universities is a political decision in fact taken by the leaders of many countries (Salmi, 2013). The higher schools of Russia, China, Japan, Korea, France, etc. are included in the rating race, which aims to strengthen academic competitiveness and to bring the most successful educational institutions to the top lines of global university ratings (Altbach, Salmi, 2011). Such ratings are more focused on the comparison of teacher’s work academic and research component implementation (Vinkler, 2008). The drawing up of ratings is aimed not only to restructure scientific knowledge using status competitions, but also serves as an equalizing technology for academic stratification (Tilman Reitz, 2017).

In Russia, the change of higher education institution orientation from traditional teaching to research activity and the tasks of entering into global university ratings were formulated at the same time. Therefore, the mainstream opinion of professional community that resources are given to those educational institutions who lead the rating race (Aref’eva, 2014). Such a situation was reflected in the requirements for teaching staff activity, obliging teachers to increase their competitiveness in the world scientific space. Bibliometric indicators – the publication activity of scientists and the recognition of their publications by the international scientific community (the number of citations) became the main indicators of academic competitiveness (Markusova, 2008).

Publication activity and development imitation.

One of rating fever symptoms can be represented by the increasing publication activity among scientists from different countries. At the beginning of 2010, the international analytical agency Thomson Reuters published a short report on the public activity of the BRIC countries (Brazil, India, China, South Africa, Russia) in comparison with the undisputed leader countries. According to their data, only two countries from 50 countries as scientific leaders show negative dynamics in scientific activity – Russia and Ukraine. In particular, Russia, being in the top twenty of the most active countries in the scientific aspect, has only 1.9 % of publications as compared to total amount. The United States is an undisputed leader concerning the number and the citing of scientific publications – 22.8 %; 5.9 % of articles belong to the authors from Great Britain; 5.4 % belong to the authors from Japan (Koshkarova, Usynina, 2015). The high growth of publication activity (more than 200 % from 2001 to 2011) is demonstrated by Malaysia, Pakistan, China, Saudi Arabia, Thailand and Turkey. Countries with fast-growing publication activity improved their rating position by the number of publications significantly: Iran moved from 42-nd place to 19-th one, Portugal, Colombia and Brazil won 9-th, 6-th and 4-th rating positions (Kotsemir, 2012).

However, although the publication activity grows fast in developing countries, every fifth article is not of scientific value or published in a journal that only formally meets the requirements of a scientific one (Kirillova, Soloshenko, 2012). There is an unacceptably high level of plagiarism in academic communities (Sanna Vehviläinen et al., 2017). The examples from the higher education system in South Africa illustrate such a development imitation where scientists take part in pseudo-activities without taking into account the social value, its results or low-quality studies in order to receive material payments and rewards (Muller, 2017).

Teaching and research components of the work of a university teacher work.

The change of a professor traditional role as a teacher into a scientist with an active research activity led to the blurring of an academic profession concept. According to the opinion of a number of scientists, a teacher should not be a researcher. His job is to work with students in order to generate new experts (Martyn Hammersley, 1993). A teacher and a researcher appeal to different systems of values, which requires their deliberate integration under new conditions (Teelken, 2012) to combat archaic and inert teachers and scientists (Abramov, 2011).
The expectations for success in academic circles are changing, which requires an early career development (Kathryn, 2015).

2. Methodology

The purpose of the study is to identify the factors that develop a new generation of competitive high school teachers. At the same time, competitiveness is understood as a widely used interpretation, which in terms of the specific activity of scientific and pedagogical university staff is interpreted as the ability of a teacher to meet modern demands of social development and be demanded in his field of professional activity. A more local understanding of academic competition is that a teacher has such professional characteristics and personality traits that allow him to achieve set targets for the development of higher education increasing his personal, intellectual and scientific research potential.

On the basis of literature review and the studies on similar problems, and according to the purpose of the research work, the authors' group formulated and tested the following hypotheses: 1) within new conditions of a university teacher evaluation, the qualification of teachers (the presence of a degree and a large pedagogical experience) is not the dominant characteristic of their competitiveness development; 2) the motivational component of personnel policy is an obligatory but insufficient factor to ensure the professional growth of scientific and pedagogical personnel; 3) the aspiration of high school teachers to high rating positions provokes the emergence of an acute competitive struggle, which results in the improvement of their research work quality.

The empirical results of the study are based on the data collected at Russian higher educational institutions in 2016. The sample includes the representatives of the teaching staff at leading Russian universities (N = 170) of various fields of experience at the age from 22 to 70 years (average value – 46.90, median – 46 years, standard deviation – 3.50), including 73 (42.9 %) men and 97 (57.1 %) women, which is adequate for the sex composition of persons engaged in pedagogical activity at higher educational institutions. Among them: teachers without a degree – 23 (13.5 %); Candidates of sciences – 99 (58.2 %); Doctors of sciences – 48 (28.2 %), which allows to analyze an academic competitiveness of different categories of university teachers.

According to the purpose of research work, they performed the grouping of sampling according to 10 key indicators of the research work among respondents. The presence of given characteristics was estimated by respondents depending on the weight of indicators (minimum threshold – 0 points, maximum – 54 points), which made it possible to distinguish three research groups:

1. the teachers with a high individual rating (more than 40 points) – 27 people, where the average score makes 42;
2. the teachers with an average individual rating (from 20 to 39 points) – 78 people, with an average score of 30;
3. the teachers with a low individual rating (less than 20 points) – 65 people, where the average score makes 16.

The gender composition of respondents from different groups is relatively identical and does not have a special research significance for our work. The findings that female researchers have, on average, fewer publications than their male counterparts during the course of their career (Keuntae Kim, Jong-Kil Kim, 2016), the dominance of women among scientists holding the leading ratings (Nina-Sophie Fritsch, 2016) were not confirmed in our sample.

In its turn, the age structure of the research groups has significant differences: in the first group with high indicators the dominant proportion of respondents is in the age interval of 30–36 years; In the second group – 35–44 years; The third group includes the respondents of different age: from 22 to 70 years old with the concentration at the age poles of 22–25 years and 58–70 years. The qualifications of the respondents in research groups are subject to the general logic of the age composition. So the respondents with the candidate of sciences degree prevail the first group, the representation of respondents without a degree and doctors of sciences is insignificant; there is a decrease in the number of respondents with a Ph.D. within the third group, while the proportion of teachers without a degree and the doctors of sciences grows.

A questionnaire survey was used as the part of the study toolkit, the questionnaire included three key blocks: the assessment of general tendencies in respect of higher education reforming, including the intensification of the research work among teachers and the evaluation of their
activities on the basis of scientific and metric indicators; the assessment of personnel policy at universities: the motivational aspect, the development of rating and the nature of competition; the correlative relationships of higher education research potential development.

The group of authors also used the general scientific methods of research in a complex manner; research activities were applied with the reliance on comparative methods, comparative analysis and system analysis. The results of the study were analyzed by the means of confirmation factorial analysis of competitive advantage development process among various categories of pedagogical staff at universities; the analysis performance concerning the dependence of academic competition on a rating race nature among university teachers.

3. Results and discussion

Diagram 1. Components of a university teacher competitiveness development.

According to research results, recently dominating characteristics of a competitive university teacher – the presence of a degree (qualification level) and the period of scientific and pedagogical activity – are not determining factors anymore within modern conditions of requirements review for higher education. In the opinion of respondent majority, the shift of the teacher's labor vector from pedagogical activity to the increase of the research component weight makes the teacher's qualification dependent on the indicators of his publication activity and on purposeful work with an individual rating which is also important. In the opinion to most respondents from the research group with a low individual rating, the current trends of the world scientific space development do not allow us to consider an academic degree of a teacher in isolation from the dynamics of its scientometric indicators. Traditional characteristics of a competitive teacher in the past, such as high quality of teaching, active extra-curricular activities, etc. give way gradually to new ones. This trend is especially brightly illustrated by the example of teachers with a high individual rating.
Diagram 2. Development of competitive advantages among various categories of higher education pedagogical staff

Taking the key characteristics of a competitive high school teacher as the basis, we studied their representation in different research groups. First of all, a relatively identical qualification level of respondents was set with different rating indicators. This provision allows us to conclude that academic competitiveness is conditioned by the interest and the ability of a university teacher to maintain the active rates of their research activities.

In the course of the research they established that teachers with high indicators have the prevalence of publication activity over the pace of their research activity. This provision confirms the existence of imitation production practice and replication of knowledge in Russian higher school. Moreover, a part of teacher publications within this research group does not have a scientific significance. There are low quality research works despite the striving to meet high requirements.

According to the obtained data, the achievement of high rating indicators among university teachers contributes to the development of stable organizational ties among them. The study showed that the respondents of the first group are more involved in teamwork, are distinguished by a high intensity of communication, both in their team and in external academic ties (p<0,01). This state allows them to establish productive contacts with foreign colleagues, as well as to ensure their nominal participation in publications and in research projects of "friendly" colleagues. However, the teachers who are more inclined to research work, look more adapted to academic life, they assess the conditions of work at universities and science in general more positively, and also behave more actively, for example, they are involved in the competitions for state grants more often. The conclusions drawn broaden the provisions adopted today, explaining the reasons of productivity increase among university teachers (Kyvik, Aksnes, 2015).

The respondents from the group with an average rating are significantly behind in all indicators, the results are statistically significant (p < 0,01). Perhaps this is due to an ambivalent professional identification of respondents and, thus, due to the fragmented attempts to combine teaching and research activities. Interviewed teachers are focused on the stabilization of their work activities. As a rule, they do not have a high level of conflict and ambition for career path development, and the entry into working groups is seen by them as a means to minimize their time and resource costs during publishing activity. The respondents of this group pay less attention to
the purposeful work on their academic rating, the main emphasis is on the maintaining of their competitiveness level that will ensure a stable position at a "native" university for them. On the basis of the obtained data, we identified common features typical of university teachers with low rating indicators:
- they are not included in the context of a group work, including the absence of stable organizational ties, they are not initiative;
- they are not able to maintain high rates of scientific research activity due to lower adaptive capacity, high demands on the quality of their pedagogical and scientific activity;
- they are rather negative about how their work organization at a university: they are dissatisfied with the academic reputation of their department, their workload and income more often than others and are more inclined to think that scientific work does not contribute to teaching quality improvement and that these two types of activity are difficult to combine;
- they are focused on pedagogical work and are less subject to the stimulating influence of management.

This conclusion allows us to take a fresh look at the results of the study concerning the relationship between behavior and the productivity of academic work among teachers (Marek Kwiek, 2015).

Diagram 3. Self-diagnostics of competitive advantages among various categories of pedagogical staff

The obtained data illustrate a fairly objective level of respondents' self-esteem with high and average indicators of their competitive positions in new conditions of higher education development. It is noteworthy that the feeling of satisfaction and professional interest arises not because of classroom work (the work with students) quality, but on the achievement of planned scientometric indicators, their high publication activity, etc. They noted that the preparation of publications for Scopus and Web of Science expands their professional horizons, makes them seek and find relevant research topics and establish productive contacts with foreign colleagues. It was found that the orientation of teachers to maintain high rates of research and to increase their scientific potential as the promising areas of entering the world of scientific community, reduce the quality of their teaching activities (p < 0,01).
The respondents with low indicators usually have a distorted idea of their academic importance. The provision of a priority value to the pedagogical component is seen by them as the only important indicator of evaluation, which makes such teachers more qualified specialists in their opinion than the teachers with certain value in research circles.

Table 1. Evaluation of management motivational policy for higher school educational organization by the teachers with different levels of individual rating (the share of teachers with a positive assessment, the motivational component, in people)

<table>
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<th>Research groups</th>
<th>Evaluation parameters</th>
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<td>Stimulation system (x^2 = 31.587, p&lt;0.01)</td>
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<tr>
<td>Teachers with high indicators</td>
<td>24</td>
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<tr>
<td>Teachers with average indicators</td>
<td>57</td>
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<td>Teachers with low indicators</td>
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Russian universities develop the systems of payments for the achievement of certain indicators by teachers in order to increase the share of Russian scientific representation in the world scientific space. Therefore, a stable positive acceptance of their scientific and research activity by the teachers with high individual rating of stimulation systems is quite expected \(p<0.01\). It is significant that incentive payments are considered for the category of respondents with average rating positions as a significant increase in their material security. However, a sufficiently low initiative and an inactive communication position do not allow them to use all advantages of a supplementary system. The third research group is characterized by the emergence of cognitive dissonance between the identification of oneself as a teacher and the requirements of the current evaluation system concerning the work of professors and teachers according to scientific activity results. So almost the third part of the surveyed teachers with a low individual rating note the shortcomings of the most quantitative approach to their work evaluation. In the opinion of this category of respondents, the qualitative content of a teacher's scientific research activity is lost during the pursuit for high scientometric indicators. The obtained data correlate with the conclusions of other scientists making the assumptions about the rethinking concerning the fundamentals of academic performance management towards the dominance recognition of a scientific work intrinsic motivational nature (John Kenny, 2016).

As a negative point, one can note the fact that every second interrogated, regardless of his individual rating, has no confidence in the stability of the established system of additional payments, its invariability in the direction of indicator increase as they reach them. This circumstance stipulates the division of all teachers into two conditional groups: the representatives of the first one are characterized by the desire to retain advanced positions, an increased responsibility for the quality and the results of their work, the satisfaction from the ability to set complex goals and achieve them. At the same time, the teachers of the second group have an emotional decline, passivity in the processes of personal and career growth provision, and somatic disorders are observed. Artificial barriers, in the form of quick publishing ability absence is a significant psychological obstacle for them.

We believe that the revealed differences in the respondents' psycho-emotional reactions are related both to the personal psychological characteristics of the respondents and to their chosen styles of coping with stress under the conditions of instability. A more active personal and professional position of respondents with a high individual rating allows them to adapt to changes better in the scientific and educational space of higher education despite a significant level of stress. In their turn, the teachers with a low individual rating, who usually have either little experience and the lack of stable organizational ties, or considerable experience at the absence of
physical capabilities and psychological flexibility, are unable to adapt to new conditions fully. This fact slows down the pace of their research activities significantly. This leads to the emergence of a general dissatisfaction with professional activities and their "more successful" environment.

The teachers with high performance regard the motivational component of personnel policy as an opportunity to improve their professional level. Respondents noted the emergence of emotional recovery, satisfaction and interest due to the achievement of planned scientometric indicators, their high publication activity. The teachers of this research group pay a special attention to the growth of their intellectual and social activity, the emergence of new professional interests. In the opinion of the respondents, the mastering of a general algorithm for scientific data submitting and the selection of relevant topics consistent with the editorial policy of scientific journal foreign editions, required the work on themselves and a significant revision of previous ideas about the quality of scientific publications. The obtained data supplement the existing analysis of motivating and inhibitory perception factors by a university teacher in respect of his professional development (McMillan et al., 2016).

4. Discussion summary

The change academic work structure and priorities from the educational dominant to the research one changed the very idea about university teacher competitiveness, becoming the cause of the rating fever appearance. Nowadays, an effective contract providing the implementation of the current and final monitoring of employee achievements in accordance with his rating positions is an important tool of the new personnel policy at universities. The main object of monitoring during the conclusion of an effective contract is the indicator of a teacher's publication activity.

After the academic competition analysis, a conditional division of university teachers into groups was established, according to their adaptive abilities, which provide the opportunity to maintain high rates of scientific research for teachers, and thus meet the modern requirements of the scientific community. The attempts of teachers (those who modified their professional activities successfully) to achieve high rating positions are accompanied, on the one hand, by the strengthening of their communicative and social mobility and provokes the emergence of a tough competition for jobs on the other. Striving to reach leading positions, such teachers focus not so much on their professional level increase as on their quantitative indicator increase, often imitating their research and publication activity, without taking into account the social value of its results.

At the same time, the teachers with low ratings, who are characterized by the exclusion from a group work context, low initiative, inability to maintain high rates of research activity, are considered to be uncompetitive as a rule, as they are not in demand within new conditions. The administration of higher education institutions during an effective contract conclusion, seeks to minimize the proportion of such teachers, which causes the leakage of pedagogical personnel oriented toward quality training of students according to research results. The teachers with a low rating considering higher requirements to the quality of their pedagogical and scientific activity have low quantitative indicators with a high enough quality component, which is the reflection of the rating race dual effect actually.

With all the advantages of the rating system, it has its own compensating disadvantage, namely an ambiguous impact on the quality of pedagogical personnel. The factors that ensure the development of a new generation of competitive university teachers in developed countries are closely interrelated with personal and professional attitudes of teachers in Russian conditions. The strategic attitude towards the representation of Russian scientists increase worldwide with the strengthening of the requirements from university administration and the instability of a workplace creates the prerequisites for the emergence of development imitation and fragmentary manifestations of teachers' pseudo activity. Using the Russian example academic competition highlights the problem of student exclusion from the focus of high school attention and the concentration of efforts on research potential increase among workers. In fact, this situation is problematic due to the fact that the knowledge generated by academics is not integrated into the educational process and is not used to develop necessary professional competencies among students. In the pursuit of rating, many teachers forget about the need to prepare students demanded by global economy.
5. Conclusion

In the course of the performed study, the hypothesis was confirmed, according to which, the qualification of teachers in new conditions of university teacher evaluation and the accompanying pedagogical experience are not the dominant characteristics of academic competitiveness development. They established the fact that the qualification level of a teacher is closely related to their publication activity and high rates of research remaining one of the leading requirements for high school employees, without which it is not able to provide teacher’s competitive advantages for a long term.

According to the study results, it was revealed that the motivational component of personnel policy is an obligatory, but an insufficient factor to ensure the professional growth of scientific and pedagogical personnel. This is related to the fact that regardless of his individual rating every second respondent lacks confidence in the stability of the established system of additional payments, its invariability towards indicator increase as they reach them. Besides, the category of teachers was identified, which is characterized by the emergence of cognitive dissonance between the identification of oneself as a teacher and the requirements of the current system for work evaluation of teachers and professors according to the results of scientific activity. At that, the teachers of this group have an emotional decline, passivity in the processes of personal and career growth provision, and the appearance of somatic disorders is observed.

According to the results of the study, the third hypothesis received a partial confirmation. In particular, it was established that the aspiration of high school teachers to high rating positions provokes the emergence of an acute competitive struggle. According to the teachers’ opinion, the rating race provokes the emergence of the following feelings: rivalry, envy of more successful colleagues, irritability and injustice. At the same time, the assumption that the orientation of teachers on high rating indicators ensures the improvement of their research work quality was not confirmed in the course of our study. Moreover, an inverse relationship was established according to which the resulting rating fever provokes the appearance of development imitation effect. The teachers with high rating are characterized by artificial increase of their publication activity through an active co-authorship, the repeated publication of their works in their insignificant processing, and the publishing of falsified studies and data of no scientific value. There is an assumption according to which the orientation toward a quantitative approach to the evaluation of teachers in conjunction with an active academic competition will help to reduce the potential of higher education scientific and educational space.

Besides, the dependence of a teacher’s rating on his research and development activities is revealed, when the work with students and the quality of classroom activities are excluded from the focus of academic competitiveness development. This dependence provokes the development of teachers who are aimed on pedagogical and not research activity that does not allow them to compete and rely on long-term labor guarantees. At that this category of teachers is characterized by higher requirements to the quality of their publications and other product of their intellectual activity, which reduces the quantitative indicators of their publication activity. That is why the motivation policy adopted at Russian universities for this category of teachers is not an effective one, and their systematic leakage provokes the decline of university teacher potential due to the inability of a high rating maintaining. Thus, according to the results of the study, the authors made the following conclusion that was not included initially in the number of research hypotheses, namely: the presence of low rating teachers among university teachers is not an indicator of their low competitiveness.

Each of these arguments points to the shortcomings of the quantitative approach to the development of the rating position among teachers and universities in general. This is due to the fact that there is no sufficiently high level of scientific and research potential among university teachers in Russia due to recently adopted division into pedagogical and research activities. The attempts of a quick transition into world requirements provoke the emergence of academic competition, which will lead to an outflow of those teachers who are interested in qualified training of students, but not in work with their ratings. In fact, the rating fever entails a dual effect, since the factors of a new generation development of competitive high school teachers will help to increase or decrease the quality of teaching staff depending on their adaptive features.
References


