

# *Sociological Analysis of the Use of Evaluation Technologies in Russian Universities*

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**Abstract:** Applying rating technology has become widespread in Russian higher educational institutions. During this process, both achievements and outstanding problems, organizational and methodological difficulties become apparent. In the presented article it gets a goal to determine the application effectiveness of highly rated technologies in Russian universities. Achieving this goal foresees solving a number of research problems that are joined into four social aggregates: cognitive tasks (determining the level of rating awareness of participants in the educational process); emotive tasks (evaluation of emotional reactions caused by ranking scores); socio-psychological tasks, (determining the nature and direction of changes in social relationships); motivational tasks (assessment of the motivation level of participants in the educational process). Research methods: sociological survey of professors and students, system modeling of empirical measures and indicators, a comparative analysis of effective application of highly rated technologies in specific Russian universities. The object of sociological research is application of highly rated technologies in a research university (National Research University of Belgorod), a technological university (Technical University of Belgorod), and institute of management (RU Moscow). On the basis of the research, we can make a conclusion about the lack of practice effectiveness of highly rated technologies in examined universities (a low level of rating awareness, the absence of noticeable positive changes in the motivation and relationships of participants in the educational process) and comparative advantages and disadvantages of the application of highly rated technologies.

## 1. Introduction

The rating system of education and control, which originated in English-speaking countries, was established very firmly as one of the most objective and effective control systems at all levels of education in our country

This model, is more adapted to the requirements dictated by Russia's entry into the world educational space, than to the traditional system of assessment. This is the priority of active forms of education, focused mostly to form readiness for self-education, learning activities motivation , as

well as education in the concept of democracy and human rights and, of course, an unbiased assessment of personal qualities and knowledge [12; 6].

Applying rating system is common in higher education institutions in many countries of the world, which allows for realize a comprehensive record of the progress of each student, both in individual subjects and in general, compared with other students [5; 7]. The reasons for the transition to a rating system in Russian universities is not only the unification of evaluation system in the framework of joining the Russian Federation to the Bologna process, but also the need to improve the efficiency of the educational process [15].

At the same time, in the rating system, precisely, in the practice of its use, can arise certain problems, the late resolution of which causes corresponding risks with possible negative consequences [1; 2].

Risk is the likelihood of a hazard (problems, difficulties), which goes out of control and the severity of the associated negative consequences [3].

Within this context, become actual the tasks of correct diagnostics and timely resolution of evolving problems, according to these facts increases the effectiveness of rating technology in the educational process. [5], [13]. The object of diagnostics is the practice of applying rating technologies in a research university (Belgorod National-Research University), a technological university (Belgorod Technical University), and Institute of Management (RU Moscow).

## 2. Purpose and Questions of Research

The purpose of the study involves the level of effective application of rating technologies in the institutional system. To evaluate the effectiveness, it must be considered several criteria: efficiency (end of purpose degree), economic feasibility (ratio of planned resources to expended), quality (quality of conformance of the management system with applicable requirements and expectations), ratio of results and costs (ratio of reality to economy). ), job satisfaction (prestige value, confidence in future, sense of security), the introduction of innovations (the use of new technologies to solve problems) [9]. All these criteria, in one way or another, can be used to rating technology, but only one of them, namely, performance, can be considered as the main criterion.

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In the process of research were identified a number of tasks, united into four conditional groups:

- *Cognitive tasks* related to determining the level of awareness of students and professors about personal rating, its “components”, distribution of rating ratings [14];
- *Emotive tasks* that involve the assessment of emotional reactions of participants in the educational process, caused by rating scores;
- *Socio-psychological tasks* related to determining the nature and direction of changes in social relationships as a result of the application of rating technologies [11];
- *Motivational tasks* that envisage an assessment of the interest of participants in the educational process in improving educational and operational indicators [10].

### 3. Research Methods

In order to determine and evaluate the effective application of rating technologies in educational practice, it was used a method of sociological survey by professors and students. As respondents were selected students (n = 409) of three types higher education institutions: Research University (Belgorod National Research University); University of Technology (TU Belgorod); Institute of Management (RU Moscow). The professors of these universities were also interviewed (n = 109). At the same time, we proceeded from the premise that there are significant differences in the application of rating technologies in technical [4], humanitarian [8] and institutions of managerial profile [13].

Going to empirical analysis of effective application of highly rated technologies in the university educational space, we, first of all, used the definition of efficiency as a result; secondly, we identified four indicator sets for analysis: cognitive, emotional, socio-psychological, motivational.

A system of empirical measures and indicators of effective application at the university has been developed through the *modeling method* (Table 1).

Table 1: Criteria and indicators of effective application of rating technologies.

Criteria	Indicators
<p><i>I. Cognitive criteria.</i>                      The level of awareness of personal rating.                      The level of awareness of the "components" of personal rating.                        The level of awareness of the distribution of ratings.</p>	<p>Awareness of professors and students about their place in ratings.                      The awareness of professors and students about the "components" of their personal rating.                      The awareness of professors and students about the "weight" of individual "components" of their personal rating.</p>
<p><i>II. Emotive criteria.</i>                      The nature of emotional reactions caused by rating scores.                        The predominate emotional reactions caused by rating ratings.</p>	<p>Distribution of respondents` responses due to the nature of the reactions caused by ratings.                      The ratio of positive, moderate and negative reactions caused by rating scores.</p>
<p><i>III Socio-psychological criteria</i>                      The nature of changes in social interrelationships due to applying rating systems.                        The nature of changes in competitive relations due to applying rating systems.</p>	<p>The nature of changes in the relationship of professors due to applying rating systems.                      The nature of changes in student relationships due to applying rating systems.                      The nature of changes in competitive relations in the workforce due to applying rating systems.                      The nature of changes in competitive relations in the student team due to applying rating systems.</p>

<p><i>IV. Motivational criteria.</i> Interest in improving labor and educational indicators.</p> <p>The desire for changes in work and study.</p>	<p>Increasing the interest of professors in improving vocational indicators. Increasing students` interest in improving educational indicators. The emergence of professors additional motivation to work. The emergence of students additional motivation to study. The distribution of respondents' answers to the question: "Do you have a desire to improve something in your work (study) due to results of the rating assessment?"</p>
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It was also developed a system of indicators showing the socio-psychological effectiveness of applying rating technologies, including:

- the nature of changes in relationships in the workforce due to application of a rating system;
- the nature of the change in relationships in the student team due to applying a rating system;
- changes in the intensity of competitive relations in the workforce due to applying a rating system;
- changes in the intensity of competitive relations in the student team to applying a rating system;

In terms of *comparative method* were revealed inconsistency of rating technologies, their functional reversibility, which polarizes their supporters and opponents. The first ones emphasizes on advantages of rating technologies, giving arguments "for", the second, on the contrary, emphasizes on their disadvantages, giving arguments "against".

Two thirds of the students (67.9%) and a little under (60.3%) professors know their rating for the year. There is a certain contradiction between the levels of rating awareness of students and professors. There are some interuniversity differences, which are mainly related to the competence in applying rating technologies.

Students of Institute of Management have highest rating awareness just as students of research and technological universities have the lowest. Comparatively higher rating awareness have female professors and professors with work experience of over 10 years. There is a noticeable tendency for changing the indicator of rating awareness due to teaching experience, namely: the more teaching experience, the higher the rating awareness indicator. This tendency appears in the respondents' answers to the question of whether professors know what rating position they occupy in the department. As in the previous case, female professors and professors with work experience of 5 to 20 years are more informed. A similar question was asked to answer students. Among them, unlike in previous cases, students-boys have a higher rate of rating awareness, which also increases with a duration of training: among first-year students it is zero, among fifth-year students it is 50 percent. Rating awareness of a student or professor is a prerequisite for taking actions aimed at maintaining or changing their rating position. But for this it is important to know the "components", meaningful elements of the rating. Three quarters of the interviewed professors know these "constituents". The level of rating awareness among students is noticeably lower.

As part of the study it has been found how well the students know: a) who is in front of them; b) who is behind them; c) who has the highest rating; d) who has the lowest rating. It emerged that the surveyed students know better who are in front of them (60.9%) rather than those who are behind them. A relatively higher level of awareness is demonstrated by students of a research university,

and a lower level by students of a technological university. Further, students know better who has the highest rating in the group and know worse who has the lowest rating.

In both cases, students of the institute of management are apparently more aware. There are certain differences in the level of comparative awareness of students depending on their gender and course of study. The level of comparative awareness among students girls is rather high than among students boys in all considered positions. Further, the level of comparative awareness during training at the university increases by three of the considered positions, except for the position “who is in front of you”. In this position, the opposite tendency is manifested: the most susceptible "to those who are in front of" are second and third year students; in the senior years this orientation weakens. Further, the level of comparative awareness during training at the university, increases by three of the considered positions, except the position “who is in front of you”. In this position, there is an opposite tendency: second and third year students want to know "who is in front of them", in the senior years this orientation gets low. In general, students are more susceptible to the best results of their group mates and same-year students, which indirectly indicates their dominant orientation towards these results.

Applying of rating systems for assessment of student and professor performance is associated with certain emotional effects. Thirteen possible *emotional reactions* to the results of the rating were highlighted and offered to the respondents: joy, pride, satisfaction, unindifference, indifference, dissatisfaction, perplexity, disappointment, irritation, discomfort, shame, guilt, anger. It should be noted, first of all, a variety of emotional effects (reactions) caused by use of rating assessments. The emotional range is large enough - from joy to anger. The ratio of positive, moderate and negative emotions: 22: 16: 9.

The most common emotional effects are satisfaction (most likely in the case of high rating), indifference (in the case of a moderate rating) and disappointment (in the case of a low rating). Gender differences are noticeable: male teachers are relatively more likely to experience emotions (effects) of pride, satisfaction, and indifference; their female workmates - the effect of joy (which men do not recognize) and all other effects - from indifference to anger. Thus, women in general are more sensitive emotionally and more susceptible, in particular, to negative emotional effects. Teaching experience has an ambiguous impact on emotional resonance of rating scores with age. Positive emotional effects are comparatively more often experienced by teachers with teaching experience of 5 to 10 years. That makes sense, because by this time they usually reach a high level of professionalism, which has an impact on their rating position. A moderate emotional effect (indifference) is experienced more often by respondents with teaching experience of up to 5 years. With increasing teaching experience, appearing the effects of frustration and inconvenience

The emotional effects caused by the students' rating system were also investigated. They have predominate emotional effects (indifference) and moderate positive (satisfaction, indifference) and negative (disappointment, irritation, discomfort, dissatisfaction, perplexity) emotions. In the context of individual universities can be point out the following. Firstly, positive emotional effects are predominate among students of the institute of management while a more ambiguous emotional landscape can be noted among students of Belgorod universities, in any case, positive emotions are balanced by negative ones. The structure of students and professors emotional reactions is close enough, which indicates the priority of universal emotional reactions over social status. In emotional effects of applying rating system, appears certain gender and status dependencies. First, girls - students demonstrate a higher sensitivity level across all emotional clusters — positive, neutral, and negative. Secondly, students of 2-3 courses are comparatively more show positive emotions, senior students show moderately positive and neutral emotions.

Only 5.1% of surveyed professors noted a positive trend in changing *work-team relationships*. Significantly more those (33.4%) who noted a deterioration of relationships. Nearly two thirds of respondents confirm that work-team relationships have not changed at all. Women professors maintain conservative position, while men professors maintain radical position. There is a dependence: teaching experience of respondents influences on susceptibility level to positive changes in relationships.

The overwhelming majority of students claim that study group relationships has not changed in consequence of applying rating system. The analysis shows, firstly, the absence of significant gender differences in the responses of surveyed students; secondly, strengthening the “positive” position over the period of study and, on the contrary, weakening the “conservative” position. Positional differences in answers of university professors and students are clear: students maintain “positive” and “conservative” position in assessment of communicative consequences by applying rating system, and professors maintain the “negative” position.

Over half of interviewed professors claim that competitiveness has not changed. According to sex and teaching experience there were some differences in respondent` assessments. First, women are comparatively more prone to an affirming position, men - to a denier. Secondly, when teaching experience of respondents increases, the affirming position in their assessments strengthens and, accordingly, the denying position weakens. Approximately the same opinion is shared by students. Female students and senior students are more susceptible to competitive effect of the rating system. During the period of study at the university, students increases the “affirming” position and, accordingly, weakens the “denying” position. It should be pointed out that evaluation positions of professors and students have more similarities than differences.

In the overall assessment of the motivational effect of applying rating system, negative ratings (64.1%) outweigh the positive ratings (26.9%). As it turned out, men and women differently assess the motivational effect of applying the rating system: the first are more optimistic and, accordingly, the second are more critical. In the students' answers, negative marks clearly prevail over positive ones. This difference is more noticeable in Belgorod universities: the technological university (73% to 16.5%) and the research university (55.1% to 30%). At the Institute of Management, on the contrary, positive ratings outweigh the negative (49% to 41%). Sociological data reveals a fundamental agreement of professors and students opinions towards limited motivational effect of applying the rating system.

#### 4. Conclusion

Thus, this study showed the following. First, judging by the results of a sociological survey the effectiveness of the practice of applying the rating system (rating technologies) in Russian universities is assessed as low. Two-thirds of surveyed students know their ratings at the end of the year (academic, calendar). Only a third of professors notes a positive tendency in the changing human relationships by applying rating technology. The overwhelming majority of students claim that study group relationships has not changed in consequence of applying rating system. Over half of interviewed professors claim that competitiveness has not changed. Female students and senior students are more susceptible to competitive effect of the rating system. Secondly, negative ratings outweigh the positive ratings - both for professors and students. At the same time, survey reveals a fundamental agreement of professors and students opinions towards limited motivational effect of applying the rating system. At the same time, according to the rating score, two thirds of the students have the desire to change something in their studies. The same desire, but comparatively more modest, also arises among teachers.



Thirdly, there were identified advantages and disadvantages of the practice of applying rating technologies.

Advantages:

- ratings simplify and clarify a complex picture of higher education for potential students and concerned parties outside the educational industry;
- ratings provide advertising and promote recognizability of universities;
- ratings motivate for improving the quality of training and the effectiveness of scientific research;
- ratings improve the quality of data collection in higher education;
- ratings provide a multifaceted picture of higher education.

Disadvantages:

- ratings are misinforming about the quality of education (often a set of indicators is dictated not by their connection with the quality of education, but by the availability of information);
- ratings give a distorted picture of the quality differentiation (this is due to the choice of weighting coefficients for the summation of attributes);
- ratings give a distorted picture of changes over time;
- ratings are pushing for inappropriate behavior on the part of students and organizations.

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