International Journal for Quality Research 12(2) 501–516
ISSN 1800-6450

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Article info:
Received 30.09.2017
Accepted 21.04.2018

UDC – 005.331/332
DOI – 10.18421/IJQR12.02-12

RISK-ORIENTED APPROACH IMPLEMENTATION IN DEPARTMENTS RANKING AND TEACHING STAFF MOTIVATION

Abstract: *In current article the results of performance analysis of St. Petersburg Mining University academic stuff and the methodology of risk assessment of the activities of structural departments in priority direction of university's development are considered.*

Based on the results of the lecturer's performance assessment ratings of the departments for each indicator of activity and overall rating of the departments were assembled. Moreover, in current article, it is represented that type of the department does not affect the place of the department in the general rating scheme, consequently, it is possible to conduct evaluation regardless of the department type.

Comparison of the results with the last year ratings demonstrated that position of department in overall rating scheme and perception of its place in particular risk zone influence positively (motivate) on the head of the academic stuff aspiration to improve their positions in the overall ranking and break out into the leaders, thereby increasing quality of their work.

Keywords: *university, risk, teaching staff, department-indicators, management*

1. Introduction

Issues of qualitative training of graduates and appliance of teaching staff activities quality assessment system are very important for any higher educational institution (HEI). Universities are constantly facing new challenges, with new expectations, with new risks and in order to ensure quality training of graduates they should review and update the system of quality assessment of teaching staff activities.

Analysis of scientific research works shows that the choice of quality assessment systems of teachers' activities is quite wide and is closely related to both the structure of the institution and role and position of the teaching staff in the educational and scientific activities of the university, etc. (Vasilieva, 2015).

In some works, the main emphasis is put on identifying the abilities of the teacher to work in a variety of conditions (Geoffrey et al., 2005). Other works summarize in details assessment models of teacher activity and give recommendations on procurance and use

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of final results (Alexander et al., 2012).

The authors of scientific works (Alexander et al., 2012) share their research experience and present three main conclusions: (a) - the quality of education can not be evaluated only by results, so applied efforts have to be considered; (b) - any parameter at the output is determined not only by one parameter at the input; (c) - the input and output data can not be analyzed without knowing how they were obtained.

In Timperley H. (Timperley, 2008) research asserts that encouraging the participation of teachers in professional development is a key component in achievement of considerable changes in quality of teaching and scientific activity.

Nevertheless, it is assumed that there is still a risk of how exactly the ideas of teachers will be realized. Timperley H. reminds that all actions connected with real changes in quality of education will necessarily require solutions of problems that have been arisen in the implementation process (Gazizulina et.al., 2017; Klochkov et.al., 2017).

Moreover, issue about creation of proper conditions in which the teacher works is also discussed. This is due to the fact that the quality of graduate training is highly dependent on the conditions that are created for the educational process.

In the modern university, the teacher always acts in several roles: teacher, researcher, technical specialist, etc. What competencies are more important, technical, interpersonal, educational or managerial? How to integrate all the skills of the teacher? Current questions are considered in the article (Williams, 2000).

In article (Bardes et al., 1995) authors suggest using weight coefficients for each parameter of quality assessment of teaching staff activity and to count them taking in consideration intensity of work, preparation time, level of responsibility and educational value.

An important point, which should not be missed in determining the criteria of academic staff professional efficiency in higher education, is the attention should be paid not only to the results of research (Ramsden, 1991) but also to functions of teaching stuff in colleges and universities.

The students' opinion and analysis of the intermediate results are very important in assessment of quality of teacher's activity (Boud et al., 2010).

For example, article (Huybers, 2017) emphasizes that students are an important group of the involved participants in the context of quality assurance in higher education. The students feedback on the results of the implementation of the educational process is increasingly used as an indicator for assessing the quality of education.

The authors of current study focused their attention on two main parameters: "good teaching" and "general skills." The results have showed that the most important aspects for students are obtaining problem-solving skills.

It should be noted that the system of quality assessment of teachers' activities doesn't always match the opinion of the teaching staff on their contribution to the quality of graduate training.

Also there is data demonstrating that assessment methods of many departments are in the contrary with students opinion concerning educational process.

A possible solution to the identified problem can be found in is self-assessment and peer review by independent experts (Boud et al., 1990).

Expert assessment is quite effective win case if criteria of experts corresponds with accepted culture of the organization (Capaldo et al., 2010).

The paper (Airasian et al., 1997) discusses the significance of teachers' self-evaluation, which encourages them to analyze their personal pedagogical activity, for further improvement. The article explains what a teacher's self-assessment is, what is an

important of it, self-assessment methods and procedures, the role of evaluation, important factors, standards and criteria for self-evaluation.

It is initially suggested to use eight main approaches which will increase quality of a self-assessment: (1) voluntariness; (2) awareness of importance of practice; (3) to begin with small; (4) honesty of a self-assessment; (5) allocating time; (6) application of well-defined criteria and standards; (7) use of the available resources; (8) studying and analysis of a self-assessment.

The teacher's reactions to the evaluation process should also be taken into account (Robertson et al., 1991).

Based on researches of more than 1000 organizations, authors of scientific work (Ulrich et al., 2016) discovered that culture of the organization influences labor productivity two-four times stronger than individual talent.

Authors presume that the culture of the organization is not just a random collection of values, beliefs or emotions, but also a guarantor of qualitative training of graduates.

It is necessary to emphasize one more aspect - importance of certain quality assessment criteria for various motivated participants (Harvey et al., 1993).

For example, the focus of students and teachers attention may be drawn to the learning process and the competence of the teacher, while employers can focus on the results of higher education.

Therefore, it is impossible to talk about quality as a single unified concept, quality must be determined by the totality of a number of qualities

Ideally, it is recommended to clearly define the criteria that each involved participant uses in assessing quality and then consider those criteria in the quality assessment procedures.

The conclusion that we all can have a different understanding of quality in higher education and that none of us is wrong or right does not mean, however, that we are exempt from responsibility for maintaining and improving quality of education.

In practice, we still have to make decisions: which disciplines should be approved or canceled, where funding will go, with whom teachers shall the contracts be extended, with whom not and so on.

A pragmatic approach defines a set of criteria that reflect all aspects of quality from the point of view of common sense, and then figure out the ways for quantitative assessment of quality.

Unfortunately, this approach sometimes works in the opposite way. First of all, convenient and easiest criteria for quantitative evaluation are considered, which do not always reflect the views of all interested participants.

In order to find the key to quality assessment criteria in higher education, it is important to understand the different quality concepts that determine the preferences of different participants.

Some studies show (Englund et al., 2017) that application of pedagogical concepts and approaches of teaching with use new technologies is basic for the successful implementation of educational programs in higher education system. The results have showed clear differences between beginners and experienced teachers. Teachers-beginners showed more rapid changes than experienced colleagues. Experienced teachers, as a rule, almost did not change the concepts lecturing.

Nowadays there are many studies on teaching and training at the universities which have to serve as the guide to effective (high-quality) practice of teaching (Knapper, 2008).

In particular, there is an wide data set on how methods of training and structure of the curriculum influence on educational process.

However, most teachers are unaware of this. In the real educational process and in the curriculum development system, there are prevailing conventional methods and not the modes of modern scientific research.

The challenges of teaching in universities are being actively discussed. It remains problematic and cannot be improved in accordance with the advice of experienced researchers for a long time.

In particular:

- teaching in the large scale is still didactic and depends on traditional lectures, assessment methods are often trivial and unreliable;
- the development of the curriculum is too much dependent on the disciplinary traditions, opportunities and interests of teachers but not on the needs of students and society;
- there is a "tyranny of academic disciplines", which prevents the integration of knowledge and ideas from different fields;
- evaluation of the effectiveness of educational process and learning outcomes is often superficial.

The need for change is actual, and some researchers offer ways of how it can be done (Knapper, 2008):

- to apply teaching methods which motivate and increase student's activity when performing educational tasks, but not just acquisition of knowledge;
- to create conditions for personal interaction between students and teachers;
- to create opportunities for team learning;
- to apply more authentic methods of assessment, including opinions of peers and a self-assessment;
- to use more active learning processes and encouraging students to reflect on how they learn
- to use training tools that facilitate the integration of information and skills from different fields;
- to plan a curriculum that focuses on realistic results of student learning, rather than on the disciplinary traditions and preferences of lecturers.

Even traditional research tasks, such as thesis work, are of great importance if they force students to act as a researcher while the teacher acts as a coordinator and an expert on the subject.

Universities that support initiatives in teaching methods can take responsibility for encouraging such teachers on the basis of evidence of good practice in teaching - even if in some cases they may have done it inadvertently!

Despite some achievements in the educational process, it is clear that much more needs to be done to make it as professional and systematic as our approach to scientific research.

This certainly includes the efforts of individual teachers, but also requires structural changes, including the development of teacher compensation schemes that recognize the importance of teaching experience and quality assurance approaches that measure learning processes and results much more rationally than previously.

We need a support for research in the field of teaching and learning at the university, as well as changes in the way we prepare new teachers for the profession.

Very important, in our opinion, is the application in universities of the annual forms of raising the qualifications of all teachers, the development of schools of pedagogical skill for young teachers and the combination of the educational process with research activities.

Nowadays, one of the main target of St. Petersburg Mining University is to create and effectively use the mechanisms of preparation and decision making of managing cases, which are stimulating scientific researches and quality academic work of professorial and docent stuff.

Mining University has rich history and actively uses an opulent experience of generations in order to solve such kind of

questions. In University it has been noticed long time ago that high-quality training of students of mining faculty is impossible without excellent educators who possess great theoretical and practical skills (Khokhlov et al., 2017).

Considering the historical data on the organization of the educational process at the St. Petersburg Mining University, the following was noted: from the founding of the university, only the most worthy of worthy Mining Officers, servants and retired, could teach the young alumnus in order to introduce at early stages of career development of alumnus clear and perfect idea of the future service.

Valuable item of expenditures of St. Petersburg Mining University has always constituted the purchase of newest modern equipment, which opened an opportunity for teachers and student to conduct scientific researches and has become indispensable part of educational process.

So in 1834 an observatory for meteorological and magnetic observations was created at the Mining University. According to the German scientist A. Humboldt, nowhere in Europe this useful branch of the physical sciences was not developed at such a high level as in Russia. The famous Royal Society of London had only just discussed the possibility of creating such observatories while the students of the Mining University had already conducted the necessary observations

Nowadays, the total area of the educational and laboratory centers of the university is more than 240 000 square meters. There are scientific and educational centers (RECs) and centers for collective use (CCU) and more than 60 laboratories.

The total cost of the laboratory-equipped facilities of the last generation is more than 2 billion rubles.

This approach allows the university to position itself as a university of model 2.0 (Lane, 2013).

In perspective, St. Petersburg Mining University orientates by the model of the corporate subject of knowledge commercialization in mineral and raw fields (Kazanin et al., 2017).

At the St. Petersburg Mining University, in the context of preparations for the transition to a new version of the quality management system standard ISO 9001: 2015, activities are carried out on internal audit, development of risk-based models of quality management, orientation to the needs and expectations of interested participations.

Since year 2015, the St. Petersburg Mining University, takes into account the interests of "external" stakeholders - enterprises of the mineral and raw materials sector, project-design organizations, public authorities of supervision and control, in which graduates of the university can work. In accordance with these objectives, the university conducts surveys about what skills and knowledge graduates of the university should possess.

It should be noted that the continuing interaction of Mining University with the enterprises of the mineral and raw sector allows to allows us to respond quickly to new challenges. For this purpose, new academic disciplines are being developed, and curricula are being improved.

For example, nowadays, the development of the program of discipline "Corporate programs" zero accidents "has been started, and within the framework of international cooperation with the Freiberg Mining Academy (Germany) and the Mining University in Leoben (Austria) - a joint master's program" occupational safety and health management in mining enterprises "

In addition with the "external" stakeholders, in the system of quality management an important role belongs to the university staff, first of all, to the teaching staff as "internal" involved subjects, without active participation of which it would have been impossible to provide quality training of students.

Thus, one of the priorities of the Mining University in the field of training specialists, bachelors and masters is the continuation of interaction with Russian and foreign partner organizations, as well as the widespread implementations of a risk-oriented approach within the framework of the transition to a new version of the quality management system standard ISO 9001: 2015.

Beginning from 2015, the Mining University uses a rating assessment of the quality of departments work at the university, moreover, for the results analysis of the departments activities, 5 indicators are accepted. These indicators a) are determined by priority directions of the university development, b) have an objective evaluation and c) for which year-round (constant) monitoring are carried out.

An effective motivation system invention is impossible without the presence of explicit analysis of teachers' performance in the priority areas of the University's development.

Aim and Hypotheses: Target of the current research was to estimate an effectiveness of the stuff motivation system based on the rating of teachers and University's departments, which were prepared according to indexes of their performance. Moreover, it was aimed to estimate how objective is the accepted methodological approach to the effectiveness valuation.

Taking all the point above into consideration, we need to test out following hypotheses.

H1. One of the main functions of rating is motivation for development (the motivational potential of the rating).

H2. Accounting of rating for graduating and non-graduating departments should be done separately.

2. Methodology for determining ratings

2.1. Accounting of rating for departments

Assessment of University's department work performance is complicated and unformalized procedure, therefore, for analyzing department's work performance, there are certain parameters assumed. These indexes are objectively estimated and based on the assessment year-round (permanent) monitoring is performed by relevant services of University.

Enumeration of parameters was determined by the priority directions of Mining University's development, in condition of trenchant execution of educational load, which is provided by the individual plan of each teacher in the departments.

For instance of Mining University, such parameters comprise:

- Number of publications in editions included in Web of Science, Scopus data bases (X1), pieces/person;
- Incomes from scientific activities (X2), rubles/person;
- Number of passed defended thesis for obtainment of scientific degree (X3), pieces/person;
- Obtaining patents for invention (utility model) (X4), pieces / person;
- Report at international scientific conference (X5), pieces / person

Due to the fact that number of teachers at the departments is varied, all indicators are translated into relative values for an objective evaluation of the departments' activity (the value of the absolute indicators X1, X2, X4, X5 is divided by the number of teachers at the department, and for the indicator X3 - for the number of professors at the department).
Taking into consideration values of these quantities, rating of each department was accounted according to the formula:

$$Rating_j = \sum_{i=1}^{n} W_i \cdot R_{ji} \quad (1)$$

where: j - index of the department; W_i-weight of i parameter (W=1);

R_{ji}- rating of i parameter at j department, $R_{ji} = \frac{x_{ji} - \min x_i}{\max x_i - \min x_i} \times 100$;

x_{ji} - absolute value of i parameter at j department; min x_i, max x_i- minimum and maximum value for i parameter for all of departments.

In our point of view, such a reduction of absolute parameters allows to take into account the contribution of each department a teach indicator in overall development of Mining University.

2.2. Identification of risk zones

In addition to general department rating, distribution of the departments into particular risk zones was conducted in order to develop measures of work performance and quality improvement (Klochkov, 2016; Klochkov, et.al., 2017). Classification of the risk of activities of the departments is presented in Table 1.

Table 1. Classification of risk of departments

Risk level	Risk significance	Priority of risk reduction measures
1	Insignificant	Special events are not required. The risks requires to be observed
2	Moderate	Measures of risk reduction are necessary, their implementation should be planned and carried out on schedule
3	Impermissible	Measures to reduce the magnitude of risk are mandatory to be taken. Risk elimination events must be started urgently

Distribution was carried out in the following order:

The value of each indicator of the department was compared with the weighted average of this indicator.

- If the value of the indicator was above the weighted average of the indicator, then for this department, a risk class of 1 (green) was assigned.
- If the value of the indicator was below the weighted average of the indicator but higher than 0 then for this department, a risk class of 2 (yellow) was assigned.
- If none of members of the department have the index of activity (value is 0), then assigned a risk class 3 (red).

3. Results

Results of the rating accounting based on the Formula 1. are given in Table 2.

Allocations of individual indicators in the departments demonstrated that many departments have zero ratings in terms of «Number of publications in editions included in the Web of Science, Scopus databases»(X1), «Incomes from scientific activities»(X2), «Number of passed defended thesis for obtainment of scientific degree»(X3), «Obtaining patents for invention (utility model)»(X4) indicators (Figure 1-4). The histogram of the general rating of the departments is shown in Figure 5.

Table2. The ratings of the departments by indicators (Rji) and the overall rating of the departments (Rating**)**

#	Department	X1	X2	X3	X4	X5	Rating
1	Department 1	96,9	100,0	100,0	51,4	65,3	413,7
2	Department 2	83,3	11,7	100,0	33,3	69,5	297,9
3	Department 3	77,9	42,8	50,0	21,8	29,8	222,3
4	Department 4	71,4	27,9	66,7	24,8	25,8	216,6
5	Department 5	58,4	13,3	100,0	7,3	28,4	207,5
6	Department 6	80,4	13,6	50,0	33,3	29,8	207,1
7	Department 7	100,0	15,7	33,3	20,0	32,8	201,8
8	Department 8	68,7	2,6	37,5	5,7	80,6	195,2
9	Department 9	74,3	12,6	50,0	11,2	39,9	188,0
10	Department 10	64,3	7,4	50,0	21,3	43,7	186,7
11	Department 11	57,3	6,9	50,0	32,9	31,4	178,5
12	Department 12	66,3	0,0	16,7	40,0	55,3	178,3
13	Department 13	40,8	0,2	25,0	0,0	100,0	166,0
14	Department 14	26,8	4,5	0,0	100,0	29,8	161,1
15	Department 15	76,5	8,8	33,3	0,0	40,4	159,1
16	Department 16	62,0	8,6	33,3	8,4	29,1	141,4
17	Department 17	66,1	9,3	0,0	30,2	33,5	139,1
18	Department 18	58,3	13,8	25,0	6,3	30,4	133,7
19	Department 19	45,5	26,1	25,0	8,7	19,0	124,3
20	Department 20	42,2	10,0	16,7	25,5	25,3	119,6
21	Department 21	59,5	4,0	0,0	8,9	43,0	115,4
22	Department 22	40,8	12,2	25,0	0,0	36,2	114,2
23	Department 23	61,9	6,9	0,0	11,1	33,4	113,3
24	Department 24	35,7	3,4	33,3	0,0	37,6	110,1
25	Department 25	49,1	13,2	16,7	2,5	26,1	107,5
26	Department 26	51,0	5,9	25,0	0,0	21,3	103,2
27	Department 27	35,7	7,7	0,0	13,3	44,7	101,4
28	Department 28	40,8	0,0	0,0	11,4	46,8	99,1
29	Department 29	51,0	0,3	0,0	0,0	41,8	93,1
30	Department 30	35,7	4,6	0,0	22,9	29,8	92,9
31	Department 31	33,0	3,9	25,0	3,8	22,9	88,7
32	Department 32	33,7	1,4	25,0	0,0	28,1	88,3
33	Department 33	59,5	9,5	0,0	0,0	14,9	83,9
34	Department 34	22,3	1,3	0,0	5,0	54,0	82,6
35	Department 35	26,0	3,7	25,0	0,0	19,0	73,7
36	Department 36	27,2	4,9	0,0	0,0	41,1	73,2
37	Department 37	3,2	0,9	25,0	0,0	37,9	67,1
38	Department 38	35,7	0,0	0,0	8,0	19,4	63,1
39	Department 39	28,6	0,0	0,0	0,0	32,8	61,3
40	Department 40	0,0	0,0	25,0	0,0	27,5	52,5
41	Department 41	11,9	4,3	8,3	0,0	26,5	51,0
42	Department 42	25,0	1,2	0,0	0,0	23,8	50,0
43	Department 43	17,9	0,3	0,0	0,0	24,8	43,0
44	Department 44	5,1	1,1	0,0	0,0	29,8	36,0
45	Department 45	5,1	1,0	0,0	0,0	27,1	33,2
46	Department 46	0,0	0,3	0,0	0,0	7,4	7,8

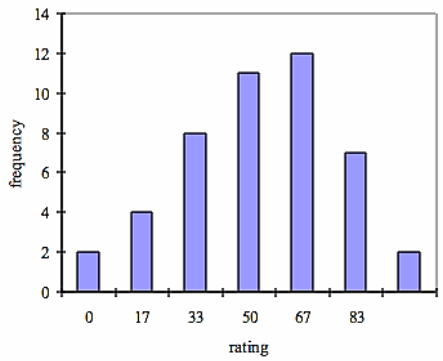

Figure 1. Histogram of rating X1

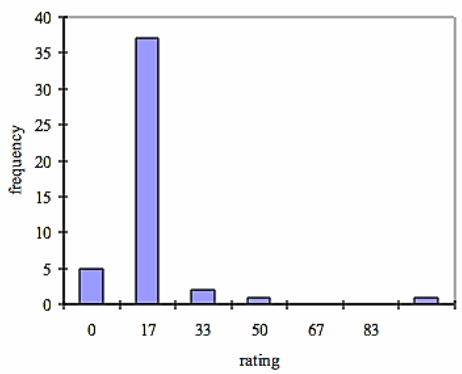

Figure 2. Histogram of rating X2

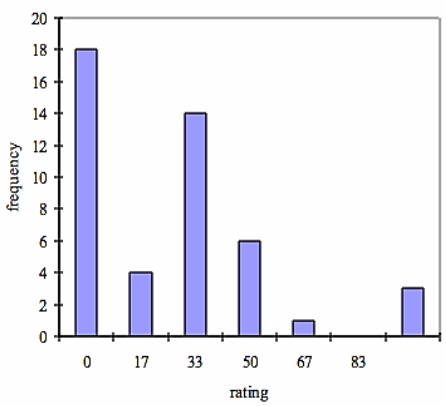

Figure 3. Histogram of rating X3

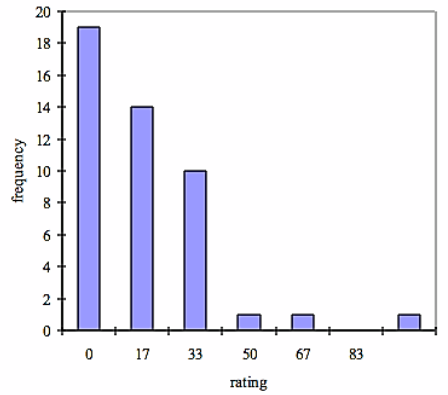

Figure 4. Histogram of rating X4

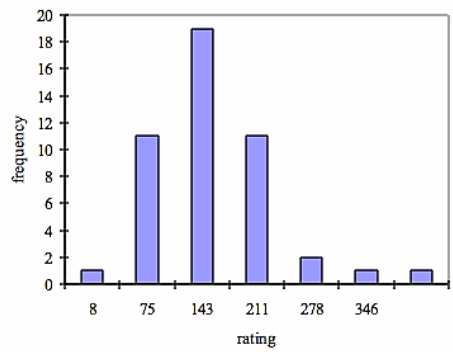

Figure 5. Histogram of overall rating of departments

The presumption has occurred that in knowledge intensive parameters non graduating departments are not competitive and do not contribute into the development of the university (Krivichev et al., 2016). In order to estimate this assumption, the histograms of distribution by the parameters X3 and X4 were build only for graduating departments (Figure 6, 7). As it can be observed from the bar charts, the tendency of distribution remained to stay the same, as a consequence, non-graduating departments do not define "zero" ratings for these indicators.

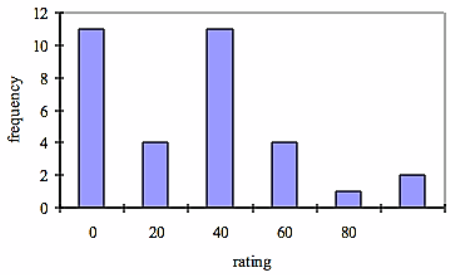

Figure 6. Histogram of rating X3 for graduating departments

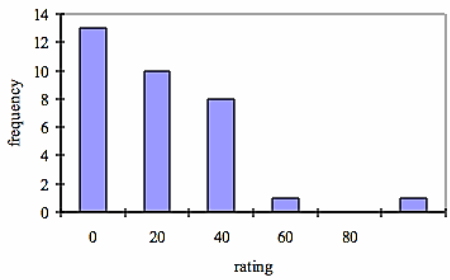

Figure 7. Histogram of rating X4 for graduating departments

As it might be seen, due to their particularity, non-graduating departments are considered to exist in worse conditions while calculating the rating on science-intensive indicators, however, Mining University facilitates these departments to be competitive with graduating. In the way we see it, this fact proves that University has created auspicious conditions for the realizing the potential of academic stuff.

Obtained results provide strong evidence in favor of further ratings accountings on science-intensive indicators for all departments without exceptions.

Plotting of risk zones in the outlook of a "traffic light" allows to visually and quantitatively determine the dynamics of changes in performance indicators of departments in selected areas. Dynamics can be compared by years or by the performance of each department in terms of performance indicators (Table 3).

Table 3. Matrix of university performance evaluation

	2015/16					2016/17					Changes				
Department	X1	X2	X3	X4	X5	X1	X2	X3	X4	X5	X1	X2	X3	X4	X5
Department 1															
Department 2															
Department 3															
Department 4															
Department 5															
Department 6															
Department 7															
Department 8															
Department 9															
Department 10															

Table 3. Matrix of university performance evaluation (continued)

	2015/16					2016/17					Changes				
Department	X1	X2	X3	X4	X5	X1	X2	X3	X4	X5	X1	X2	X3	X4	X5
Department 11															
Department 12															
Department 13															
Department 14															
Department 15															
Department 16															
Department 17															
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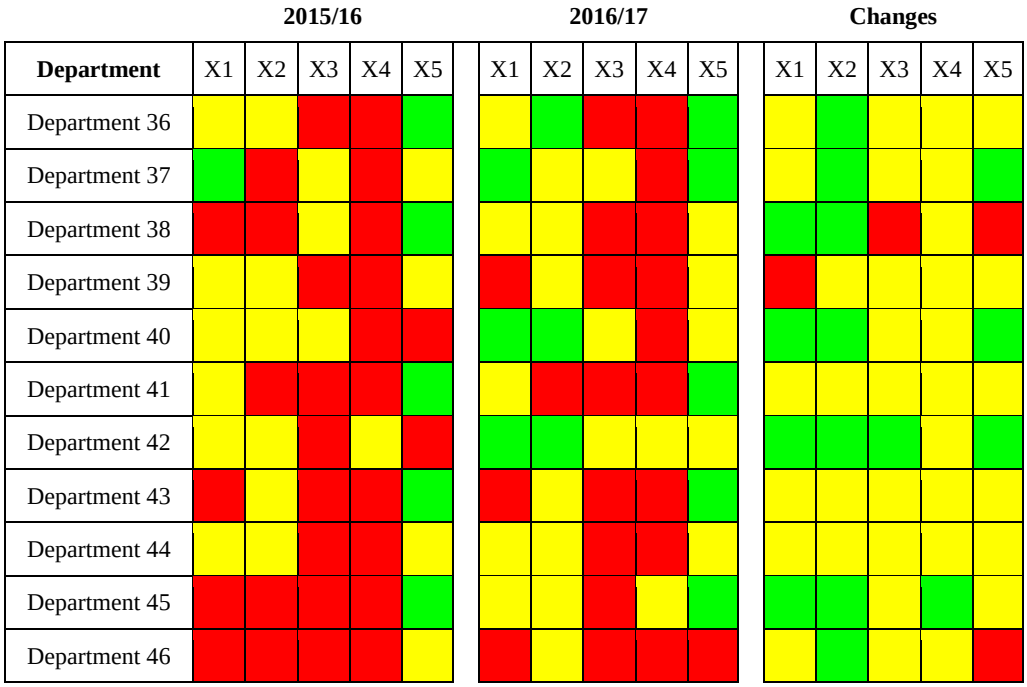
Table 3. Matrix of university performance evaluation (continued)



When it comes to comparison of the department rating results in 2016 and 2017, it can be observed that distribution of departments by indicators in 2017 has changed direction into «green zone» (insignificant risk zone). It can be explained by the fact that after the analysis of the ratings of 2016, measure has been taken in some of departments in order to improve work performance of academic and professorial stuff. The motivation was assembled by the perspective of transition of teachers to higher category of salaries, regardless of the position.

Based on the distribution of departments in the risk zones for each indicator, the percentage of departments with the same level of risk is defined. Such calculations are performed according to the results of the previous years and are given in Table 4.

Table 4. Percentage of Departments with the same level of risk

Risk level	2015/16						2016/17				
	X1	X2	X3	X4	X5		X1	X2	X3	X4	X5
1	44	42	26	2	63		67	54	20	29	61
2	43	41	39	50	30		20	35	32	30	37
3	13	17	35	48	7		13	11	48	41	2

Analysis of current results helps forward in observing holistic picture of dynamics in changes of departments work performance by parameters. For example, according to X1, X2 and X3 indicators, the number of departments in "green" risk zone increased by 23, 12 and 27 percent, respectively. Number of departments in "yellow" risk zone in 2017 decreased by the first four indicators. Furthermore, in "red" zone by parameter X1 the number did not change, in terms of X2, X4 and X5 it has decreased, and by X3

parameter number of departments has increased. In general, the distribution of department-indicators by risk zones is presented in Figure 8, and the dynamics of the change in Figure 9.

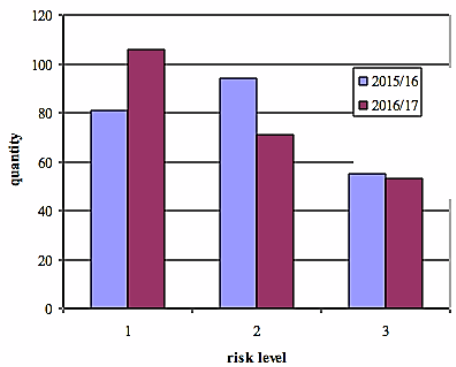


Figure 8. Distribution of department-indicators by years

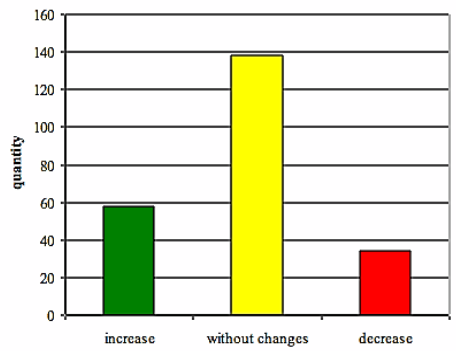


Figure 9. Dynamics of changes in the department-indicators

4. Discussion

Current work concern number of issues that, despite the results obtained from the example of a separate university can cause a wide discussion. To such questions it is possible subsume:

4.1. Is it advisable to divide the departments by type for individual ratings?

4.2. How different are ratings based on the use of thresholds for the indicators and ratings based on the absolute value assessments of the professorial and academic stuff work performance?

4.3. Can the threshold values of indicators "take away" the professorial and academic stuff from achieving maximum results in particular kinds of activity?

In addition, the actual problem is the way of influence on departments which are situated in a red risk zone.

As a consequence, a question is arising: which of administrative decisions will help these departments to get out from this risk zone?

Is it necessary to apply administrative measures of influence, such as reorganization through merging of departments or use a different kind of motivation (personal, group, social, etc.)?

As shown by the experience of the Mining University, reorganization of the departments and personal motivation were the most effective mechanisms.

There are also some cases when after the separation of the department, which was appeared in the yellow zone, one of the newly created departments in the same year had been a part of the leading group.

In other departments, personal motivation of teachers for the high level of earnings gained for achieved results has allowed the departments to become leaders.

During last three years, there have been cases of conflict, when one part of the teaching staff was guided by personal motivation, and they improved performance, and the other part or individual teachers did not respond to motivation and did not improve their performance, due to low level of their professional skills and competences.

In other words, an interdepartmental conflict was created, the solution of which requires a special methodological approach.

At the present time, the Mining University is carrying out the work on creation an expanded list of teachers' performance indicators that will affect not only research activities, but also educational, pedagogical,

international and activities to enhance the image of the Mining University among students, employers and the academic community.

5. Conclusions

The methodology described in current article helps forward to visually illustrate and quantify the process of modification in University basing on indicators included in the ratings, taking into account the motivation of the staff members.

Distribution of each department to particular risk zones in specific areas of activity allows the administration to organize all planned inspections and make managerial decisions based on or taking into account the category of risks.

Current approach (at the Mining University has been applied since 2015) of problems identification in the activity of the departments of the university is fully in line with the current trends in the application of risk-oriented thinking on activities management o of the University.

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