АККОРК

**Агентство
по контролю
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Approved by

Chairman of the Advisory Council

_____ Shadrikov V.D.

_____, 2015.

REPORT
on the results of international independent assessment of the main professional educational program

09.04.03 Applied informatics "Corporate governance arrangements"

**Moscow Region State Educational Institution for Higher Professional Education
Dubna International University for Nature, Society and Man**

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Moscow – 2015

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I.   GENERAL INFORMATION ABOUT HEI

Founder of the Dubna University is the Ministry of Education of Moscow Region Government. Dubna University was founded in 1994 on the basis of the Volga Higher Military Construction Commanding Academy of Ministry of Medium Machine-Building Industry of the USSR. The University has several branch campuses throughout the region, situated in Dmitrov, Dzerzhinsky, Kotelniki and Protvino.

Dubna University consists of four faculties, 26 departments in charge and five departments of general education. About four thousand students study here full-time in 35 specialties and areas on a yearly basis. At the leading university, there are 2729 full-time students and 775 students of part-time education enrolled in 35 specialties and areas. The number of students, enrolled in full-time and with the full recovery education cost is 232 people. In addition, the University provides with training of postgraduate students in 13 specialties. Every year in 120 -130 people study at postgraduate training program.

The educational process at the University is organized in five academic buildings, sports hall, sports complex "Ruslan" (total area of teaching and laboratory buildings is 45 576,4m^2). In general, there are five sports halls, lecture halls and dance halls. The size of a land plot is 13, 3436 hectares. 29 lecture halls, 99 classrooms for practicum and seminars, 25 computer classes, library with reading rooms, an indoor sports complex, administrative and office space are used as a part of the premise. During the education process, 710 personal computers are used. The university network has Internet access, to which 667 personal computers are connected. In order to store and give access to the education information, University uses 16 servers.

Strategic partners of the University are Joint Institute for Nuclear Research (JINR), Research Institute "Atoll", Federal State Unitary Enterprise "Engineering Design Bureau "Raduga" named after Bereznyak A.Ya.", "Special Economic Zone of technical innovation type "Dubna" JSC, State Research Center "The Institute for High Energy Physics" (IHEP), Federal State Unitary Enterprise "Research Institute of Applied Acoustics", "Dubna Machine-Building Plant named after Fedorov N.P." JSC, Company "Progresstekh-Dubna", "Experimental design bureau "Aerospace systems" CJSC.

For selected strategic lines of the roadmap timeline Dubna University includes the development as:

• A classical university, providing with fundamental education on a wide range of areas and specialties (from natural sciences to the humanities);

• A research university, in which the integration of educational and scientific activities takes place with the help of the strategic partnership with scientific organizations and enterprises of high-tech sectors of the economy;

• An innovative university, which has a network of small businesses nearby to commercialize the developed products and help graduates to develop their own companies;

• International University - the university, integrated into the international educational space and the university, which has a significant proportion of students from CIS and foreign countries.

University also set a goal to increase the number of specialties at the University in accordance with the needs of organizations-residents of the special economic zone [From the perspective plan of development of technology-innovative special economic zone in the city of Dubna (Moscow Region)].

As of April 1st, 2014, according to the Russian Science Citation Index among the universities of the Russian Federation (http://elibrary.ru), Dubna University occupies a leading position in the ranking of universities in the vast majority of indicators (from 1st to 10thplace various indicators).

According to the nationwide monitoring of the effectiveness of universities in the September 2013,Dubna University is the best university in Moscow region in a number of key

indicators. According to the results of monitoring of the effectiveness of educational institutions of Higher Education,Dubna University and all its branches areaccredited to be effective. Leading university in Dubna and branch named "Protvino", showed the best results among the universities of regional subordination: threshold values over all the indicators used in assessing of the effectiveness of educational organizations were crossed.

Information on indicators of monitoring of the activity

Positions of the HEI in the main indicators of Monitoring in comparison to threshold values of indicators
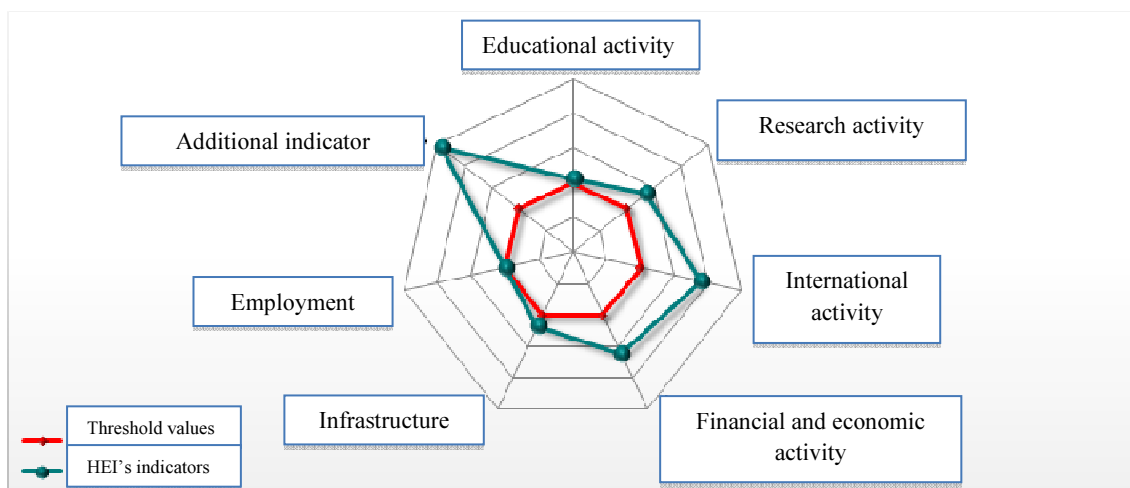
№	Name of the indicator	HEI's indicators	Threshold value
E.1	Educational activity	63,13	60
E.2	Research activity	69,4	51,28
E.3	International activity	1,9	1
E.4	Financial and economic activity	2160,52	1327,57
E.5	Infrastructure	16,4	13,92
E.6	Employment	98,553	98,516
E.8	Additional indicator	6,75	2,78

* Calculation procedure of indicators of effectiveness monitoring of educational institutions of Higher Education
http://miccedu.ru/monitoring/materials/inst_110302.htm

II. REPORT ON THE RESULTS OF INTERNATIONAL INDEPENDENT ASSESSMENT OF THE BASIC PROFESSIONAL EDUCATION PROGRAM

Basic educational program 230700.68 "Applied Computer Science" is implemented within the direction of training 230000 "Information Computer System" by the Department of System Analysis & Management of the System Analysis & Management University and gives the Master qualification. The program is administrated by the Head of the Department of System Analysis and Management, PhD. in Engineering Sciences, Professor, and academic member of the Russian Academy of Natural Sciences - Cheremisina E.N.

Number of students

Program	Enrolled students (full-time)	Budget	Special-purpose funding	Extra budget
230700.68 "Applied Computer Science"	9 (2 course)	9		
09.04.03 "Applied Computer Science"	27 (1 course)	27		

Independent external evaluation of the educational program was conducted by experts of AKKORK in the period from 15.01.2015 to 28.02.2015.

1 CURRENT STATUS AND DEVELOPMENT TRENDS OF THE REGIONAL MARKET OF EDUCATIONAL SERVICES IN THIS AREA

1.1. Analysis of the role and place of the program

To assess the demand for graduates of master's degree programs at the federal and regional labor markets can be possible only indirectly, as long as there were no graduations of this program. Data on the demand and employment of graduates of specialist program provide with an opportunity to assess the demand for graduates in this sphere of knowledge, and to assess their employment opportunities. As follows from the studies, the majority of specialist's program graduates were employed according to their profile.

Analysis of the requirements of the labor market has been carried out in four different ways: expert analysis of the analytical center "Education and Career", monitoring of vacancies in the media, the results of research on the analysis of the staffing requirements of the Nuclear Physics and Nanotechnology & Materials Science clusters of "Dubna".

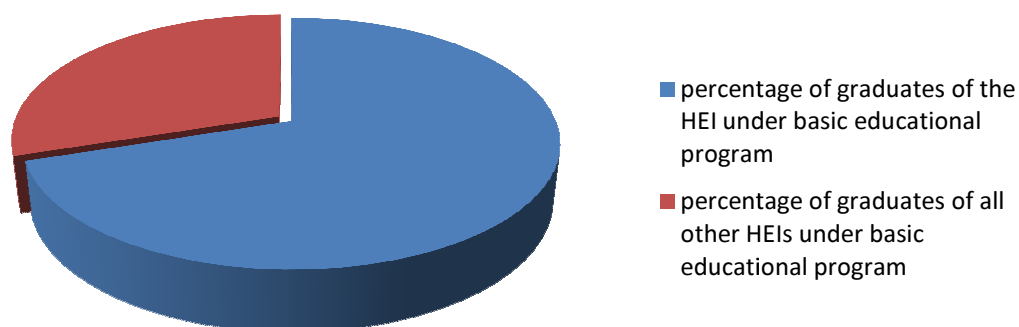According to conducted studies, the percentage of the labor market demand for graduates of this direction from Dubna University is 100%.

About 30% of the students of the Master's degree program combines their education with work on the profile of the specialty. One of the first-year students of master's program has an individual entrepreneur registration certificate of individual person (involved in portal development).

Within the Moscow region, this study program is also implemented in the Financial and Technological Academy in Korolev.

As a result of the analysis of the role and place of the program and the characteristics of the formation of the regional educational market, as well as according to the data provided by the educational institution, the expert provides a chart illustrating the percentage of graduates of this program on the regional labor market.

The role of HEI in formation of labour market

■ percentage of graduates of the HEI under basic educational program

■ percentage of graduates of all other HEIs under basic educational program

1.2. Analysis of the information indicators provided by the university

At a three year-end in "Applied Computer Science":

• in 2012 in 3 months after graduation, 77% of the graduates were employed according to their specialty, in year there were 91%; 68% of them work by the specialty; 60% of jobs are in the Moscow region and 40% in other regions;

• in 2013 in 3 months after graduation, 88% of the graduates were employed according to their specialty, in year there were 96%; 62% of them work by the specialty; 81% of jobs are in the Moscow region and 19% in other regions;

• in 2014 in 3 months after graduation, 58% of the graduates were employed according to their specialty, in year there were 75%; 33% of them work by the specialty; 63% of jobs are in the Moscow region and 37% in other regions;

There was no graduation from relevant specialty in Master's degree program.

According to the results of teaching practicum, one of the nine 2nd-year students (11%) received an offer of employment as a teacher of "Computer Science" and nowadays is working there successfully.

Among the graduates of specialist program "Applied Computer Science", one student was studied within the target learning program in accordance with the agreement on target learning program concluded with the company "Research - and - production complex "Dedal" JSC.

Totally, in 2014, Dubna University signed contracts with 25 organizations on the target learning program and enrolled 67 students in the target learning program of the first course in all areas of study program.

The University received letters with positive reviews of employers about graduate's work from the following organizations: Administration of Dubna (Moscow region),Public Education Department d/d 18.09.2013 N 790 / 1.1-10, "Research and production association "Orion" JSC d/d 20.09.2013 N 2854/8.
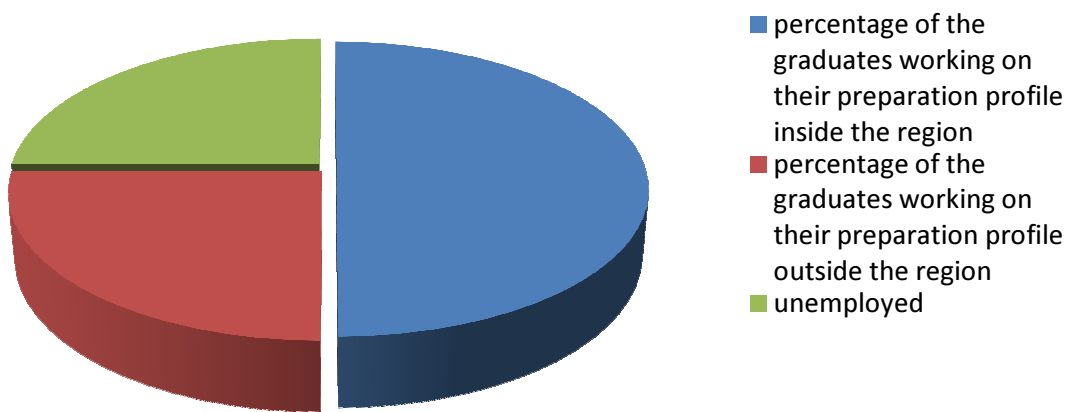
Employment of graduates of the last year graduation

	Full name	Place of employment	Position
1.	Bannikov Oleg Sergeevich	MVideo	Store clerk
2.	Barkhatova Ekaterina Aleksandrovna	MTS	Consultant
3.	Voronina Nataliya Leonidovna	Laber LLC	Manager (internet)
4.	Grishin Semen Sergeevich	M Video	Store clerk
5.	Karpova Lidiya Sergeevna	Performance Lat	Tester
6.	Katanov Evgeniy Aleksandrovich	Military forces	Military forces
7.	Lyubimtseva Ekaterina Pavlovna	ADLABS	Specialist ininternet advertising
8.	Matveeva Oksana Evgenievna	Bank of Moscow	Personal account manager
9.	Sakryukin Sergey Vasilievich	Dubna University	Enrolled in master's degree program
10.	Selyanina Marina Victorovna	Dubna University	Engineer
11.	Simakhina Elvira Alekseevna	Vicman	Tester
12.	Smirnov Andrey Victorovuch	Military forces	Military forces
13.	Sozina Mariya Aleksandrovna	LG-electronics	Sales manager
14.	Ulakina Mariya Nikolaevna	M Video	Manager
15.	Khomyakov Igor Alekseevich	Dubna University	Post-graduate student
16.	Balashova Mariya Vadimovna	Abroad	Abroad
17.	Barashkova Alena Alekseevna	Research - and - production complex "Dedal"	Specialist
18.	Bobrova Irina Evgenievna	Nordavind	Tester
19.	Volostnikova Kseniya Sergeevna	Qsystems	Web-designer
20.	Gromova Dariya Vyacheslavovna	Federal State Institution of Department of Treasury "Gosuslugi"	Leading specialist

21.	Korolkova Liliya Olegovna	Loesk	Leading specialist in treasury
22.	Kuzin Vladislav Sergeevich	Military forces	Military forces
23.	Markova VictoriyaVladimirovna	Unemployed	Unemployed
24.	Sakovich Roman Dmitrievich	Military forces	Military forces

According to the results of self-assessment held by the educational institution, there is data on the distribution of graduates. The data, presented by HEI, was confirmed in the study of relevant documents.

Distribution of the program graduates (labor market)

■ percentage of the graduates working on their preparation profile inside the region
■ percentage of the graduates working on their preparation profile outside the region
■ unemployed

Distribution of unemployed graduates

■ Percentage of graduates who continued the education under the programs of Higher Professional Education, Further Professional Eduction (full-time)

■ Percentage of graduates who could not find the job on their profile
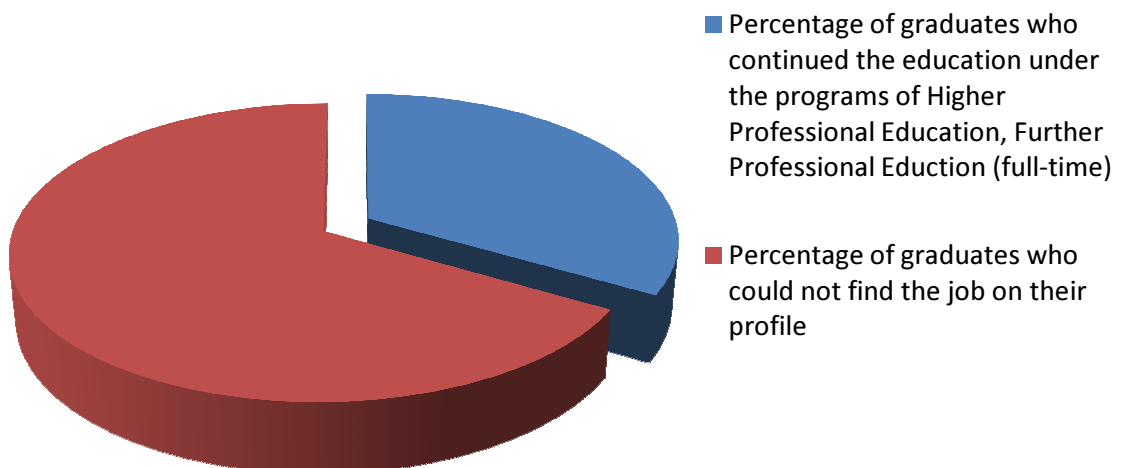
2. PROGRAM DESCRIPTION

2.1. Conclusions and recommendations of experts on the program under analysis

Strong points of the program:

1. University solves modern problems concerning the training of qualified personnel and the reason for that is the availability of qualified teaching staff, coordination of all curriculum subjects and practicums with key partners of the labor market, and external representatives of the scientific community, the availability of logistical resources that enable to implement e-learning program in full extent.

2. University is a concentration of powerful human resources (PhDs and candidates of sciences, including that fact that university professors are the scientist of Joint Institute for Nuclear Research (JINR), the Institute for High Energy Physics (IHEP), professors from Lomonosov Moscow State University (MSU), Moscow Aviation Institute (MAI), Moscow Engineering Physics Institute, etc.). There are foundations of modern teaching and laboratory facilities in the field of nuclear-physical and information technologies, nanotechnology, new materials technology, environmental technology, they started to create their own scientific schools. University became the leading institution providing with staff support of Dubna's special economic zone (SEZ).

3. In the educational institution at the level of implementation of the program there work the following organizations: IBM Academic Center in the Field of Engineering Virtual Enterprises, Innovation Transfer Center of Information Technologies (VNIIgeosystem), Center for geolocation and space monitoring (MKB "Raduga"), Center for Prototyping of Dubna University (together with companies of SEZ "Dubna"), and a business incubator.

4. There are departments of Institute of System Analysis and Management, which are the main consumers of graduates. Participation of employers and practitioners in the expert examination and curriculum development enables to achieve compliance of the requirements of the learning outcomes with requirements of production and labor market and, thus, to increase the competitiveness of both programs and graduates as well.

5. The basic educational program of Higher Education is updated annually in part of disciplines (modules), which are included in the curriculum, and of the content of work programs, subjects, disciplines, educational practicums and internships, teaching materials, ensuring the implementation of appropriate educational technology with the development of science, equipment, culture, economy, technology and social sphere.

6. Much attention is paid to the methodological work with teachers, development of guidelines and clarifications regarding the development of the basic educational program and disciplines during the movement to the educational standards. The exchange of experience is carried out regularly. Since 2009, practicum of the University includes the organization of training courses for the teaching staff of the University, exchange of experience with leading universities in Russia and abroad. Due to the introduction of incentive schemes for teaching staff, their activity regarding the realization of the educational process, teaching materials and other bibliographic resources increased sharply.

7. The level of development of e-learning program at the University allows using new educational methods (distribution methods of seminars and group events, education and training in the workplace on the production and situational cases, the formation of individual

learning paths, etc.) to improve the quality and accessibility of education. The percentage of trainings used in the educational process is 65%.

8. The strong point of the university is the ability to solve modern problems regarding the training of qualified personnel and the reason for that is the availability of qualified teaching staff with high scientific and pedagogical potential. The University involves teachers from leading universities of the country and from abroad. University professors and teachers are regularly invited to other HEIs to give a course of lectures, hold master classes and tuition of graduate qualification project.

9. Dubna University is a part of the Nanocenter, which was created in a special economic zone of the science city Dubna. According to the agreements on cooperation, Dubna University can use modern equipment of scientific organizations of the city.

10. The social partners (JINR VNIII geosistem, IBM, Space communications center) are actively involved in equipping of the laboratories with modern instruments and equipment.

11. The average wage of teaching staff of Dubna University is almost twice higher than the average wage in the Moscow region. The very reason enables to attract highly qualified professionals for faculty work.

12. During the educational process, Institute of System Analysis and Management widely uses hardware-software complex "Virtual Computer Lab" based on cloud computing technologies. This is one of the most important tools for the preparation of highly qualified IT-specialists. The project "Virtual Computer Lab" was interuniversity developed due to the successful cooperation with the Faculty of Business Informatics of Federal State Autonomous Educational Institution of Higher Professional Education "Higher School of Economic".

13. Dubna University is working closely with major scientific and industrial enterprises of the Moscow Region and the Russian Federation, actively creating basic departments and teaching and research units, aimed at training of highly qualified specialists, the implementation of joint development and research, attracting the students to the scientific activity. 30% of the State Attestation Commission is formed of the representatives of employers.

Recommendations:

1. To expand the use of e-learning programs, Distance learning technologies and the development of network forms of education in interaction with other leading universities in accordance with the requirements of fundamental international (ISO/IEC) and national (Russian National Standard) standards of information technology regarding education and training that increase the competitiveness of the educational program in general and its attractiveness to the students.

2. Within the existing quality management system, it is rational to develop a common process model of the university and quality management processes of educational activities in accordance with the fundamental standards of quality management (ISO 9000 series) and international (ISO/IEC) and national (Russian National Standard) standards of information technology regarding education and training, education and training (ISO/IEC 19796 and others).

3. To clarify the content of the educational program towards the harmonization of competencies according to the educational standards and job functions with the new professional IT standards.

4. To increase the level of employers' satisfaction with the quality of the students' preparation during the study of educational program it is necessary to optimize the matrix formation of the competencies according to the job functions contained in the professional IT standards.

5. Since one of the main components of the quality management system of education is to attract students to the management of the university (student government), it is recommended to involve students to the work on assessing the quality of the educational process in accordance with the requirements of ISO 9000, and in the future version of this standard.

6. To expand the range of used types of study sessions during the educational process, including one or more of the following types: laboratory classes, practicums on problem solving, colloquia, workshops, lectures of two speakers simultaneously that will lead the training process for the real conditions of future professional activity.

7. To develop e-learning system in accordance with the requirements of fundamental international (ISO/IEC) and national (Russian National Standard) standards that will regulate the creation and use of electronic educational resources and improve the quality of e-learning system.

8. To increase the cost of research and development activities per one employee of the teaching staff. Nowadays, this indicator stands at 55,74 thousand rubles with minimum standard, which equals to 50 thousand rubles. This is possible due to the expansion of research projects by implementing major projects within the government programs and international grants.

9. The development of the requirements profiles to the unified information system of the University on the basis of international and national standards in IT field is rational in order to increase its interoperability.

10. To carry out large projects within government programs and international grants by expanding the area of research, which will increase the cost of research and development activities per one employee of the teaching staff.

11. Some students would like to organize their own company, and this should be encouraged, because such activities would support economic growth and development. Nevertheless, during the meeting with students, it became clear that they do not know about the possibilities of financing of the launch of their business, so some additional support and consultations in this direction would be helpful if it possible according to the budget.

2.2. Assessments profile of learning outcomes and quality assurance of education

№		Criterion	Evaluation
I		*Quality of education outcomes*	5
II		*Quality assurance system of education:*	
	1.	Strategy, goals and management of the program	4
	2.	Structure and contents of the program	5
	3.	Teaching materials	5
	4.	Technology and methods of educational activities	4
	5.	Teaching staff	5

	6.	Logistical and financial resources of the program	5
	7.	Information resources of the program	5
	8.	Research work	4
	9.	Participation of the employers in the implementation of the program	5
	10.	Participation of the students in determining the contents of the program	5
	11.	Student services at the program level	5
	12.	Career guidance. Evaluation of preparation quality of applicants	4

Assessments profile of learning outcomes and quality assurance of education
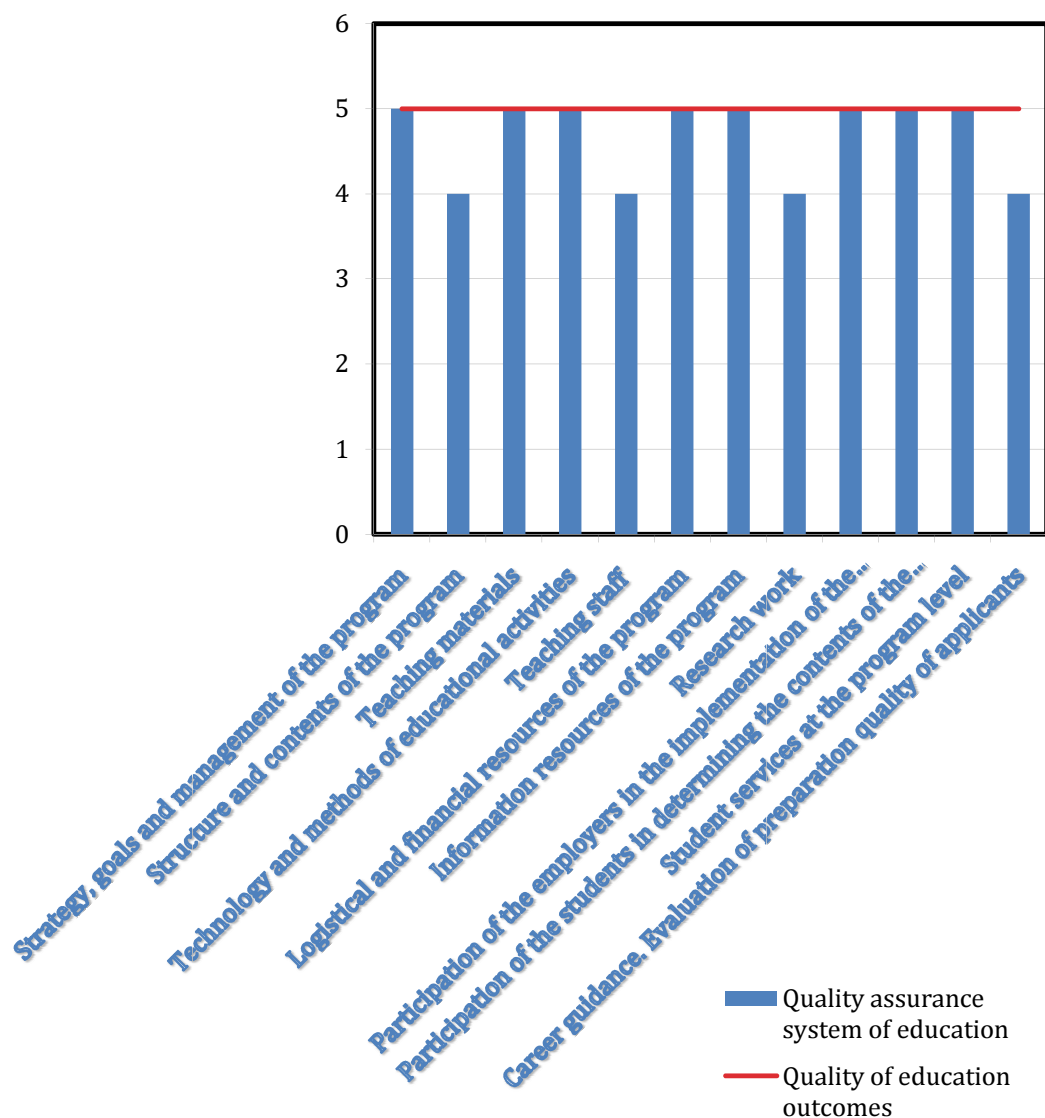
3.   QUALITY OF EDUCATION OUTCOMES

3.1.   Direct evaluation of competencies by the experts

In the course of visit, the direct evaluation of graduates' competencies was carried out. Students of the 2nd year took part in the direct assessment, in the amount of 6 people that is 67% of all graduates.

During the procedure of direct assessment, measurement and control materials prepared by the expert were used.

For analysis of competencies formation, the expert chose the following:

- The ability to explore contemporary problems and methods of applied computer science, scientific and technological development of information and communication technologies (PK -1);

- The ability to formalize the problems of applied field, the solution of which is necessary to use quantitative and qualitative assessments (PK -6);

- The ability to explore the use of different scientific approaches to automation of information processes and information of enterprises and organizations (PK -9);

- The ability to choose the methodology and technology of information system design including project risks (PK -11);

- The ability to manage information resources and information systems (PK-21);

- The ability to use advanced methods for assessing the quality, reliability and information security of the information system during the application of information system application (PK -25);

- The ability to use international information resources and standards of information enterprises and organizations (PK -26);

- The ability to use information services for automation of applied and information processes (PK -26).

In implementing the procedures of direct assessment of competence, the expert used tests as the measurement and control materials.

According to the results of the direct assessment of competence, the experts found that two-thirds of students coped with 80% or more of the following tasks. All students have demonstrated an adequate or acceptable level of competence.

Level Percentage of students	Adequate (completed 80% of the proposed tasks)	Acceptable (completed from 50 to 79% of the tasks)	Low (completed less or equal to 49% of the tasks)
67 %	+		
33 %		+	

When education quality assessment the expert reviewed with five course works and five graduate qualification works, which forms 50% of the final works of the last year in this direction of training.

GRADUATE QUALIFICATION WORKS

No	Objects of assessment	Expert comments
1.	Subjects of graduate qualification works correspond to the direction of training and to the modern level of science development, technique and (or) technology in the area of training.	Subjects of graduate qualification works under the study correspond to the direction of training and to the modern level of Information Computer System.
2.	Tasks and content of graduate qualification works are aimed at the reflection of the competencies formation of the graduate.	Tasks and content of graduate qualification works under the study reflect the requirements of educational standards to the general culture and professional competencies.
3.	Degree of usage of graduate qualification works' materials, when carrying out independent research, collected and received as a result of pre-graduation practical training or course projects.	Most of graduate qualification works includes independent research topics related to the implementation of real-world problems, arising from the direction of work, performed during the pre-graduation practical training and course projects.
4.	Subjects of graduate qualification works are determined by the requests of production organizations and enterprises, which are aimed at the program's graduates.	Subjects of most graduate qualification works determine the real requests of enterprises in which graduates were holding the practicum.
5.	The percentage of graduate qualification works (Master's thesis), which have found practical application in enterprises and organizations / of them - graduate qualification works, which have found practical application in small and medium-sized businesses.	More than 60% of the results contained in the graduate qualification works, have found application in enterprises and organizations
6.	The percentage of use of independent research parts, results of student's research work of department, faculty and third-party research and production and / or research organizations.	More than 40% graduate qualification works under review includes the results of student's research work of department in charge and Institute of System Analysis and Management

3.2. Conclusions and recommendations of experts

3.3.1. Evaluation criteria: excellent.

3.3.2. Strong points of the program:
University solves modern problems concerning the training of qualified personnel and the reason for that is the availability of qualified teaching staff, coordination of all curriculum subjects and practicums with key partners of the labor market, and external representatives of the scientific community, the availability of logistical resources that enable to implement e-learning program in full extent.

3.3.3. Areas of improvement:

1. To expand the use of e-learning programs, Distance learning technologies and the development of network forms of education in interaction with other leading universities in accordance with the requirements of fundamental international (ISO/IEC) and national (Russian National Standard) standards of information technology regarding education and training that increase the competitiveness of the educational program in general and its attractiveness to the students.

2. To clarify the content of the educational program towards the harmonization of competencies according to the educational standards and job functions with the new professional IT standards.

About 30% of the students of the Master's degree program combines their education with work on the profile of the specialty. One of the first-year students of master's program has an individual entrepreneur registration certificate of individual person (involved in portal development).

Direct assessment of the level of student's competencies is held by the results of the tasks for a current control of student's performance with the help of fund assessment tools.

Assessment of the quality of education of students is implemented during the control tests of the university management (audit, reports etc.), under the control of the quality of knowledge (ongoing monitoring of performance, midterm and final examinations, the point-and-rating system of evaluation, attraction of reviewers from third-party organizations, etc.).

Dubna University started the development of a new concept of teaching of general subjects (mathematics, computer science, foreign languages and physics) during the movement to the educational standards (creation of working groups, meetings of academic and methodological commission of Dubna University, seminars, etc.).

Monitoring of the quality of educational programs, curriculum subjects and assessment tools in areas of study programs are held on an annual basis. The scope of point-and-rating system is extended.

The evaluation results are also recorded by analysis of employers' characteristics, comprehensive survey of students (including assessment in the group), and the formation of the graduate portfolio. The motivation for self-development and professional growth are financially encouraged (there is an opportunity to get increased scholarships, contractual work, employment).

The first graduation (and, therefore, the level of competencies formed) in this study program is planned to be in 2015.

Traditionally graduates of Dubna University have high assessments from the employers, and this is the evidence of high demand for graduates of Dubna University in 2013-2014, as theexperts from the analytical center "Education and Career" stated.

A high assessment of employers was confirmed during the monitoring of personnel demand of nuclear physics and nanotechnology cluster of Dubna, where the main preference was given to the Dubna University as to the university, whose graduates have more advantages when entering employment.

The studies conducted among employers show that in general the employer is satisfied with the level of graduates' preparation of Dubna University.

According to the results of questioning of students of educational institutions there was presented data that has been inspected by the expert during the full-time visit. The data presented by the educational institution enables experts to make a conclusion about rather high assessment of quality of education by students in general.

Education quality evaluation of the students in general (according to the results of educational institution)

- ■ Excellent
- ■ Good
- ■ Satisfactory
- ■ Unsatisfactory
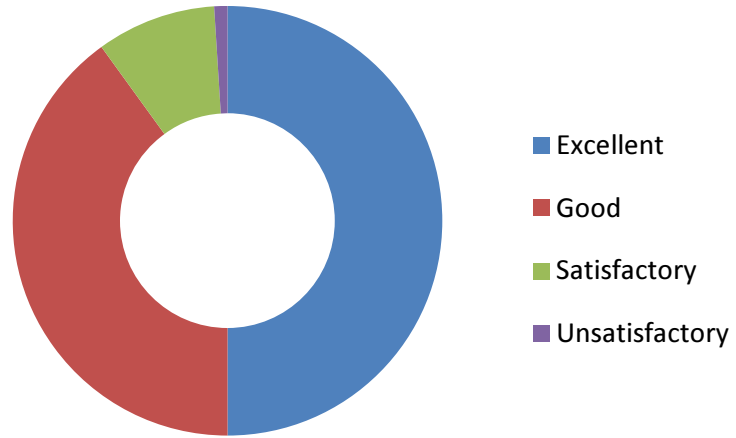
4. QUALITY ASSURANCE SYSTEM OF EDUCATION

4.1. Strategy, goals and management of the program

4.1.1. Evaluation criteria: good.

4.1.2. Strong points of the program:

1. University is a concentration of powerful human resources (PhDs and candidates of sciences, including that fact that university professors are the scientist of Joint Institute for Nuclear Research (JINR), the Institute for High Energy Physics (IHEP), professors from Lomonosov Moscow State University (MSU), Moscow Aviation Institute (MAI), Moscow Engineering Physics Institute, etc.). There are foundations of modern teaching and laboratory facilities in the field of nuclear-physical and information technologies, nanotechnology, new materials technology, environmental technology, they started to create their own scientific schools. University became the leading institution providing with staff support of Dubna's special economic zone (SEZ).

2. In the educational institution at the level of implementation of the program there work the following organizations: IBM Academic Center in the Field of Engineering Virtual Enterprises, Innovation Transfer Center of Information Technologies (VNIIgeosystem), Center for geolocation and space monitoring (MKB "Raduga"), Center for Prototyping of Dubna University (together with companies of SEZ "Dubna"), and a business incubator.

3. There are departments of Institute of System Analysis and Management, which are the main consumers of graduates. Participation of employers and practitioners in the expert examination and curriculum development enables to achieve compliance of the requirements of the learning outcomes with requirements of production and labor market and, thus, to increase the competitiveness of both programs and graduates as well.

4.1.3. Areas of improvement:

1. Within the existing quality management system, it is rational to develop a common process model of the university and quality management processes of educational activities in accordance with the fundamental standards of quality management (ISO 9000 series) and international (ISO/IEC) and national (Russian National Standard) standards of information technology regarding education and training, education and training (ISO/IEC 19796 and others).

2. To clarify the content of the educational program towards the harmonization of competencies according to the educational standards and job functions with the new professional IT standards.

Dubna State University is a multi-scientific, educational and innovative complex of regional and national importance. The Dubna University created the departments, which are focused on high technology and the management of innovation development process, created and developed 18 teaching and research laboratories and scientific innovation centers where the future specialists, which meet the requirements of innovative development of Russia and the demand on the current labor market, can be trained.

The University confirmed their own mission, policy, developed a strategy to ensure the quality of graduates with the involvement of employers. The program's objectives are clear and concise; they are adjusted to the overall development strategy of the educational institution with the professional field to the activities, in which study program for students and graduates is held.

Since the beginning of 2013, the University is a member of the University Education Development Program of the Moscow region for 2013-2018. The basis of the program of education is based on the State program of the Russian Federation "Development of Education" for 2013-2020.

All implemented educational programs are provided with all necessary teaching materials, which are published on the website of the University and the websites of faculties and departments. In order to ensure the quality of training of students, Dubna University developed a system of quality monitoring and a single statutory framework as well. The University conducts regular monitoring of teaching documentation and its accessibility to the students.

Master's program "Applied Computer Science" in the profile "Corporate governance arrangements" is implemented at the Department of System Analysis and Management since 2013. Study programserves the interests of economic entities, which have informational infrastructure (medium and big businesses, government establishments, administrative bodies and municipal government) with qualified personnel, capable of taking part in the development of automation systems of corporate governance, their deployment on multiple platforms and support.
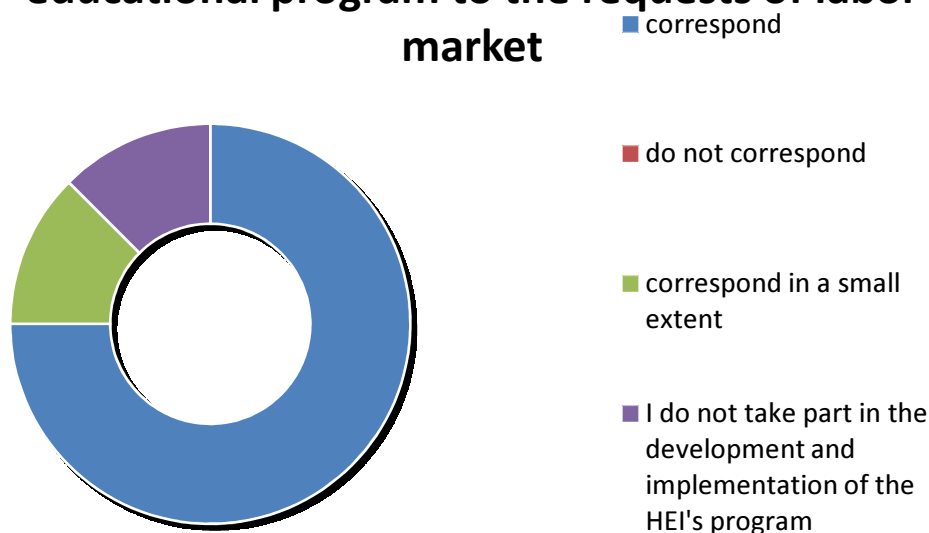
Study program is conducted by taking into account the objectives with the requests of the federal (regional and local) labor market. Relevant parts of the university annually monitor the employers' job vacancies, applications andthey also review staffing needs at all levels.

The main task of the established education quality management system is the transition from the management schemes of the University, which are based on traditional mechanisms of quality control, to the quality management at all stages of the life cycle of educational services.

In the course of full-time visit the surveys (interviewing) of employers were conducted, the results of which compiled the diagram.

The data presented in the diagram, allows experts to conclude that there is a high degree of correspondence of the goals of the basic educational program to the requests of labor market.

Correspondence of the goals of the basic educational program to the requests of labor market

- correspond
- do not correspond
- correspond in a small extent
- I do not take part in the development and implementation of the HEI's program

In the course of full-time visit the surveys (interviewing) of students and teaching staff were conducted. The results allow drawing the conclusio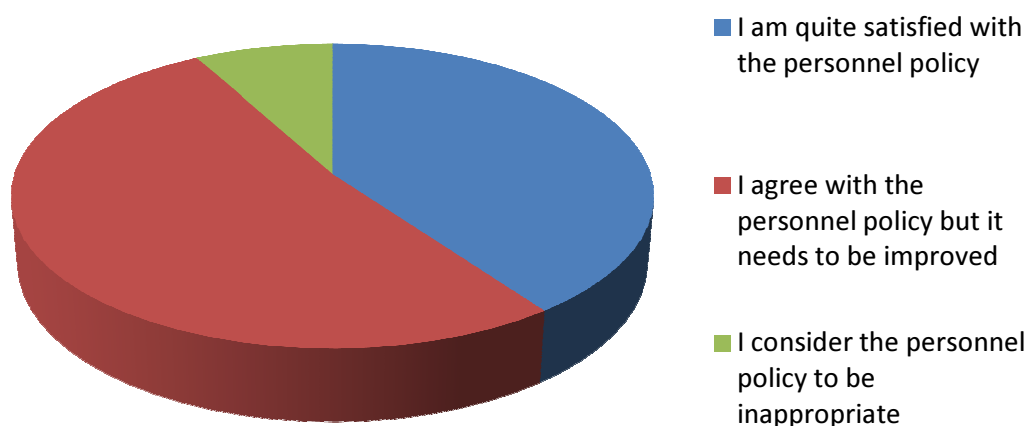n about the awareness of teaching staff about the goals of basic professional education program and at the same time to conclude that the quarter of students don't know what the goals of basic professional education program are.

Characteristics of awareness about the goals of basic professional educational program

- **They don't know what the goals of BPEP are**
- **They unclearly formulate goals of BPEP, but they know where to find themo целях ОПОП**
- **They clearly formulate goals of the BPEP**

(Administation, Teaching staff, Students)
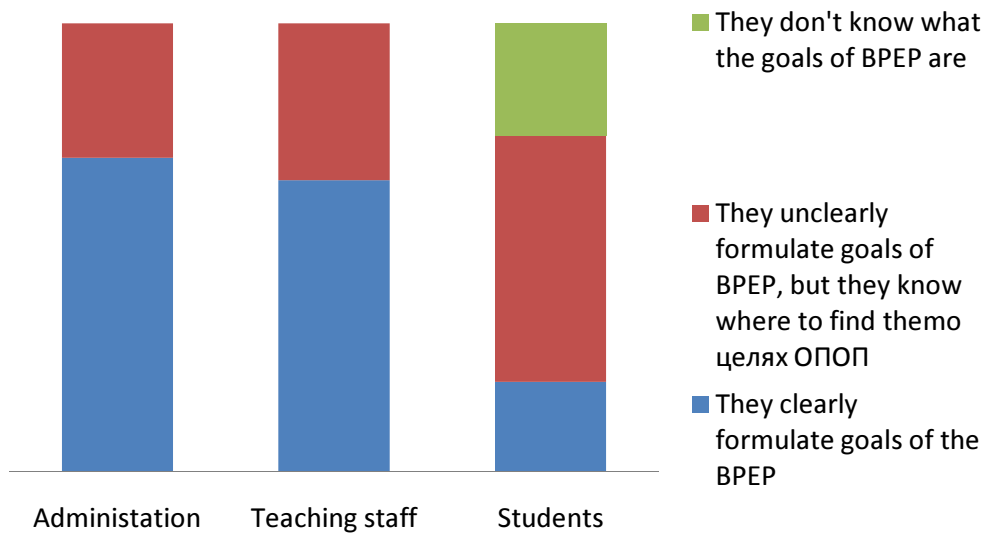
During the self-assessment by the educational institution, the data on satisfaction of teachers by the personnel policy and motivation system was presented. This data shows that the majority of teaching staff of Institution of System Analysis and Management is quite satisfied with the personnel policy (more than 90%) and quite satisfied and agree with the policy of motivation system (more than 80%).

Satisfaction by the personnel policy

- **I am quite satisfied with the personnel policy**
- **I agree with the personnel policy but it needs to be improved**
- **I consider the personnel policy to be inappropriate**

Satisfaction with motivation system

- ■ Motivation system is fair and allows the teachers to develop their skills
- ■ Motivation system doesn't take into account all the pecularities of teaching activity
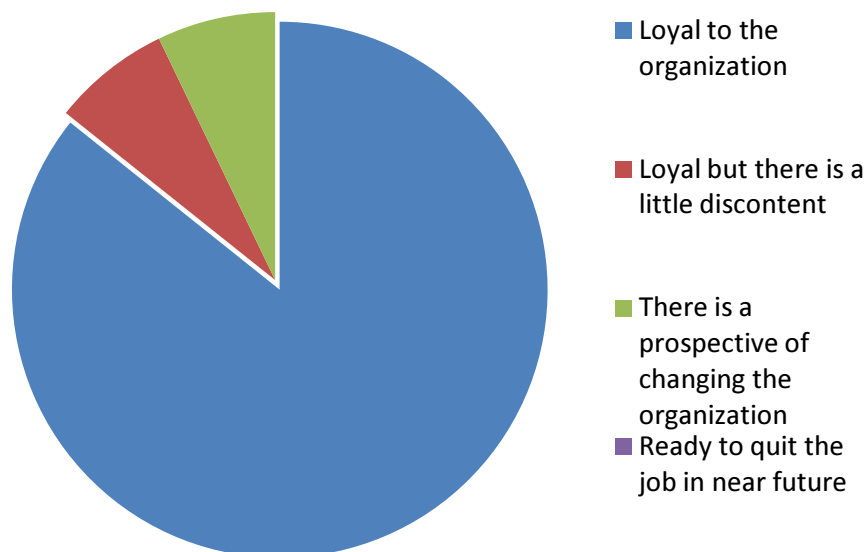- ■ Motivation system doesn't work and/or is ineffective
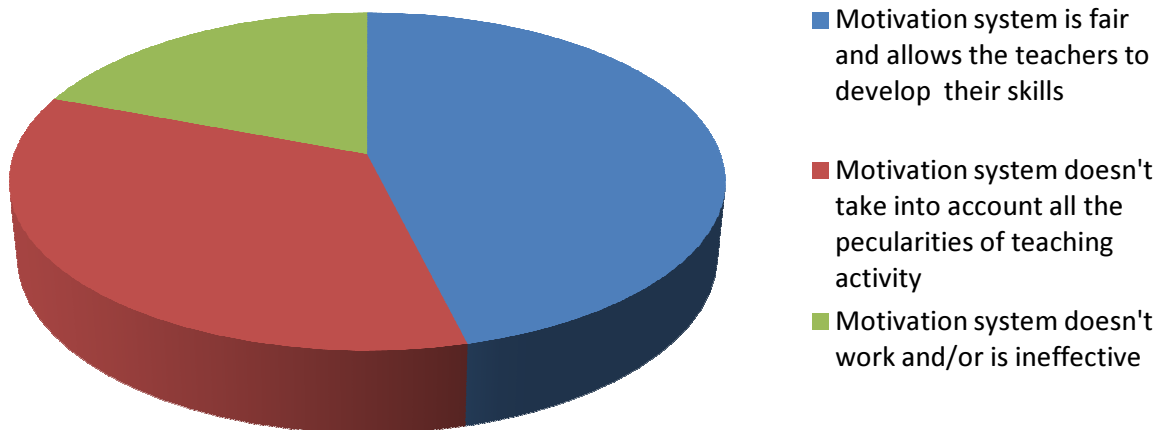
In the course of full-time visit the surveys (interviewing) of teaching staff, which takes part in the program implementation, were conducted. The results of study are presented in the diagram "The level of employees' loyalty".

The data presented in the diagram, allows experts to conclude that there is a high degree of satisfaction of teaching staff with the personnel policy, motivation system and the high level of loyalty to the Institution of System Analysis and Management.

The level of employee's loyalty

- ■ Loyal to the organization
- ■ Loyal but there is a little discontent
- ■ There is a prospective of changing the organization
- ■ Ready to quit the job in near future

4.2. Structure and contents of the program

4.2.1. Evaluation criteria: excellent.

4.1.4. Strong points of the program:

1. The basic educational program of Higher Education is updated annually in part of disciplines (modules), which are included in the curriculum, and of the content of work programs, subjects, disciplines, educational practicums and internships, teaching materials, ensuring the implementation of appropriate educational technology with the development of science, equipment, culture, economy, technology and social sphere.

2. Distribution of educational disciplines of the curriculum corresponds to the correct logical sequence of study subjects, which is confirmed by the matrix of competencies, disciplines' programs and content-logical relations study subjects.

3. Students are actively involved in various activities aimed at the development of study level: the visit to the major conferences, exhibitions, libraries, etc. From the first semester of the education processan individual work with students is conducted. This helps them to correct their level of preparation.

4. Tasks and the process of implementation, connected with the graduate qualification works are consulted by the employers and executed on their behalf. More than a half of employers composes a State Attestation Commission.

4.2.2. Areas of improvement:

To increase the level of employers' satisfaction with the quality of the students' preparation during the study of educational program it is necessary to optimize the matrix formation of the competencies according to the job functions contained in the professional IT standards.

The Dubna University developed a technique that allows you to identify the level of employers' satisfaction. Firstly, such studies allow you to keep, and often develop close connection with employers, secondly - to monitor the quality of the students, thirdly - to identify objects (general cultural and professional competencies), which require adjustments. Employers interact with the university, participating in the formation of an order for specialists of the required qualification and profile, and in the quality assessment of the content and preparation of graduates.

The basic educational program undergoes the examinationconducted by the employers and it must be signed and sealed by the authorized person. Also during the development, the basic educational program takes into account the requests of employers to develop additional competencies that form in the course of the study subjects.

While developing the basic educational program of Higher Education in the direction of training, a matrix of competencies formation is used. This matrix is a methodological basis for the design of competencies' formation through the study of subjects in general. Meaningful and logical connections of academic disciplines (modules), practicums of the basic educational program of Higher Education and matrix of competencies' formation are used in the development of the curriculum, academic process calendar and during the coordination of working programs of disciplines.

The program's structure includes compulsory and elective subjects, which provides students with individual learning paths.

Learning outcomes in relation to the competencies are formulated in curricula disciplines (modules). Practicum's programs reflect formed competencies.

The entrance test, which determines the initial level of preparation and development opportunities of the student, is conducted to ensure the implementation of the program for students with different initial levels of preparation. All students have the opportunity to use e-

learning materials from Distance learning system during their independent work. Materials provide with effective study program due to their ability to take into account the different initial levels of the users.

University holds constant work in order to expand the range of institutions, organizations and enterprises, which are the bases for practicum, student's research work and subsequent places of employment of graduates.

Traditionally graduates of Dubna University have high assessments from the employers, and this is the evidence of high demand for graduates of Dubna University in 2013-2014.

A high assessment of employers was confirmed during the monitoring of personnel demand of nuclear physics and nanotechnology cluster of Dubna, where the main preference was given to the Dubna University as to the university, whose graduates have more advantages when entering employment.

During the full-time visit the experts met with the students of the evaluated program. One of the issues under discussion was the correspondence of the structure and contents of the program to the expectations of the program consumers, i.e. students. Data collected following the results of questioning and interviewing is shown in the diagram and allows the experts to make conclusions on high level (more than 85%) of correspondence of the structure and of educational program content.

Correspondence of the structure and the contents of basic educational program to the students' expectations

- Correspond
- I don't know what it is about
- Do not correspond
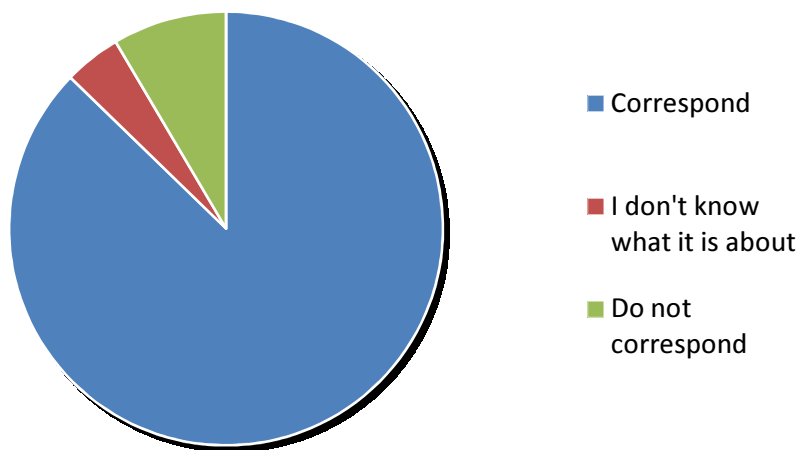
4.3. Teaching materials

4.3.1. Evaluation criteria: excellent.

4.3.2. Strong points of the program:

1. Much attention is paid to the methodological work with teachers, development of guidelines and clarifications regarding the development of the basic educational program and disciplines during the movement to the educational standards. The exchange of experience is carried out regularly. Since 2009, practicum of the University includes the organization of training courses for the teaching staff of the University, exchange of experience with leading universities in Russia and abroad. Due to the introduction of incentive schemes for teaching staff, their activity regarding the realization of the educational process, teaching materials and other bibliographic resources increased sharply.

2. At the department there are available guidelines for the organization of students' independent work, guidelines for practical and laboratory work, guidelines on the implementation of course works (projects), which are represented in the curriculum.

3. All curricula disciplines and practicums comply with the key partners of the labor market. The percentage of curriculum disciplines, practicums, complied with external representatives of the scientific community, is 100%.

4.3.3. Areas of improvement:

1. Within the existing quality management system, it is rational to develop a common process model of the university and quality management processes of educational activities in accordance with the fundamental standards of quality management (ISO 9000 series) and international (ISO/IEC) and national (Russian National Standard) standards of information technology regarding education and training, education and training.

2. Since one of the main components of the quality management system of education is to attract students to the management of the university (student government), it is recommended to involve students to the work on assessing the quality of the educational process in accordance with the requirements of ISO 9000, and in the future version of this standard.

The teaching complexes are an essential component of the educational process and are designed to provide each discipline with professional educational programs of the university.

Development and updating of teaching materials are carried out in accordance with the instructions regarding the development of the basic educational program in the second edition by the teaching staff of the faculty according to the plans of department's teaching activity.

All the work programs of disciplines are the main components of the basic educational program, which is developed and expertized by the representatives of employers. Therefore, they are required to undergo the procedure of consultation with key partners of labor market.

In addition, at the stage of curriculum development realization reviewers are encouraged to appoint the leading specialists of research and other organizations on the profile of discipline or professors (associate professors) of similar profile departments or universities. At the design stage of the basic educational program's development, methodological commissions include at least 2 representatives of employers on the profile of the basic educational program's development.

All the basic educational programs of Higher Education, programs of disciplines and practicums in their composition are required to undergo reviewing and expert review of the scientific community. In these cases, the reviewers are recommended to invite leading experts to research and other organizations on the profile of the discipline or professors of similar profile departments or universities.

In accordance with the requirements of the educational standards for ongoing monitoring of progress, midterm examination and assessment of the level of formed competencies there are

established relevant funds of assessment tools. Funds of assessment tools are an integral part of disciplines (modules), practicums and research work.
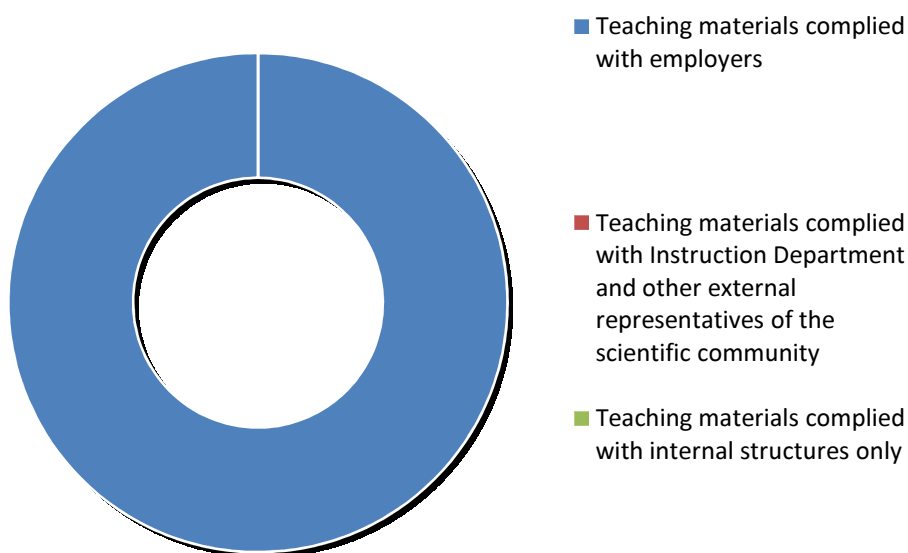
An important component of the quality management system of education is to attract students to the management of the university (student government). Department of education quality and innovation in education is an interlink in the work process with students and bring them to work connected with assessing the quality of the educational process.

According to the educational standards of Higher Professional Education in the direction of the program 230700"Applied Computer Science" (master's degree), final state examination is set by the decision of the Academic Council of the university. By the decision of the Academic Council and according to the curriculum of this direction, final state examination is not conducted.

During the full-time visit, the experts acquainted with newly developed educational institution teaching materials. According to results of a study of more than 10 teaching materials, the following diagram is compiled.
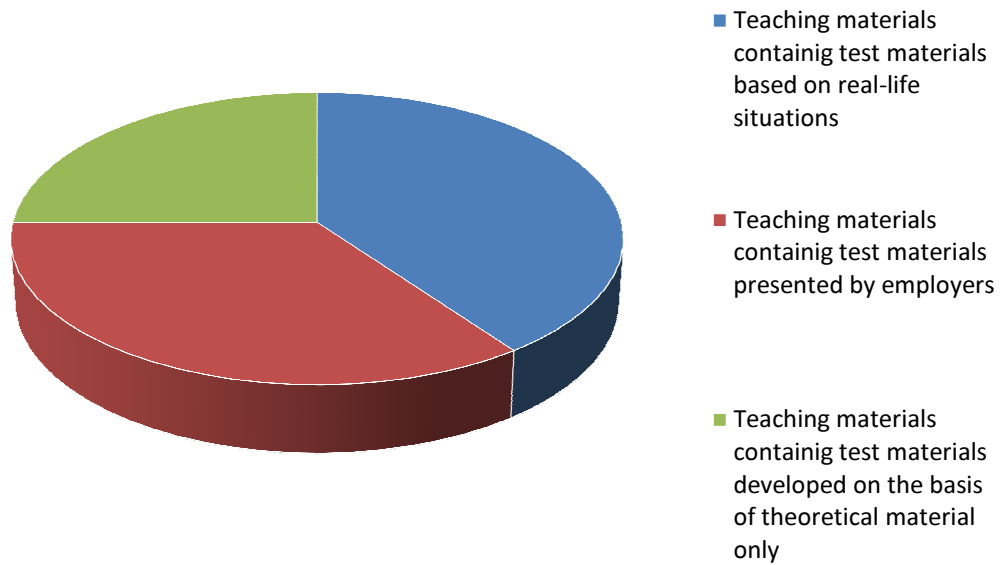
These data allows experts to conclude that there is full (100%) correspondence of teaching materials with employers and external representatives of the scientific community.

Teaching materials

- Teaching materials complied with employers
- Teaching materials complied with Instruction Department and other external representatives of the scientific community
- Teaching materials complied with internal structures only

During the full-time visit, the experts analyzed the measurement and control materials that are used by the educational organization for monitoring progress. Data for the analysis of test materials is shown in the following diagram. This data allows the experts to make a conclusion on the correct formation of the measurement and control materials.

Measurement and control materials

- Teaching materials containig test materials based on real-life situations

- Teaching materials containig test materials presented by employers

- Teaching materials containig test materials developed on the basis of theoretical material only

According to the results of the questionnaire submitted by the educational institution, the results of which were confirmed during the full-time visit, the majority of the students were undecided to answer the following question: "Do the authors during the development and updating of teaching materials take into account student's opinion?" In this regard, experts recommend involving the students actively in the development and updating of the teaching materials.

Taking into account the students' opinion when developing and maintaining teaching materials

- Yes

- No

- It is difficult to answer
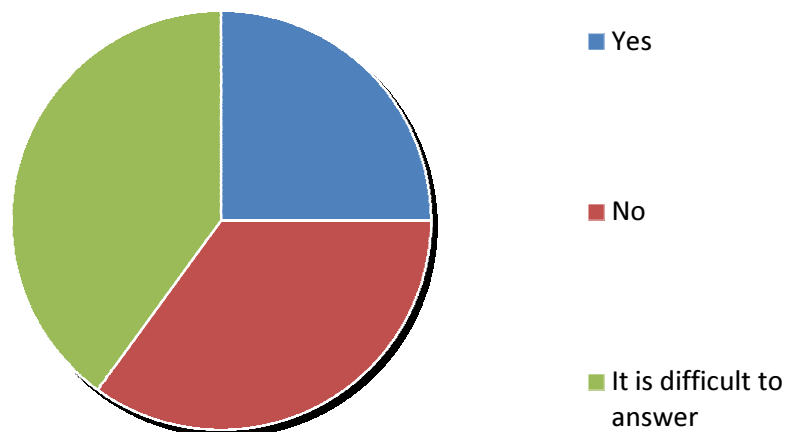
4.4. Technology and methods of educational activities

4.4.1. Evaluation criteria: good.

4.4.2. Strong points of the program:

1. Distribution of the electronic teaching materials for the students of all modes of study through the public access on continuous conditions.

2. The level of development of e-learning program at the University allows using new educational methods (distribution methods of seminars and group events, education and training in the workplace on the production and situational cases, the formation of individual learning paths, etc.) to improve the quality and accessibility of education. The percentage of trainings used in the educational process is 65%.

4.4.3. Areas of improvement:

1. To expand the range of used types of study sessions during the educational process, including one or more of the following types: laboratory classes, practicums on problem solving, colloquia, workshops, lectures of two speakers simultaneously that will lead the training process for the real conditions of future professional activity.

2. To develop e-learning system in accordance with the requirements of fundamental international (ISO/IEC) and national (Russian National Standard) standards that will regulate the creation and use of electronic educational resources and improve the quality of e-learning system.

3. To continue the development and integration of the technology into the teaching process in order to support the development of skills that will be so helpful throughout life.

Within the educational process Institution of System Analysis and Management widely uses active and interactive forms of lessons, which are supposed to involve a cooperative learning. Thus, all participants in the educational process (teacher and students) interact with each other, share information, solve problems together, and simulate the situation in an atmosphere of business cooperation, which is suitable for the development of skills and qualities of future specialist.

The activity of the department includes work with representatives of employers, experts and scientists, in which the technologies and methods are formed and developed (method of case studies, role play and others). These technologies and methods are defined by agreement with the employer and used for educational programs.

Electronic teaching materials are available for the students of all modes of study through the public access on continuous conditions in the system of Distance learning of Institution of System Analysis and Management.

Two-thirds of teaching staff during the educational process actively use new educational technologies. These include the problematic group work, discussions, technology of "Brainstorm", case-method, project-method, business and role-playing games, the analysis of real situations of professional activity, lectures with pre-planned errors, master classes, lectures at research seminars with an overview of current results of a master's dissertations. They all allow us to assess the level of formation of general cultural and professional competencies of students.

Distribution of e-learning system on the program level is a part of university's strategy of quality improvement and accessibility of education. Webinars are actively introduced and put into practice. The system of video lectures is also introduced in the educational process. Nowadays, this practice is considered to be tried and tested, and there is a two-way communication, which provides the educational process with required interactivity. The university develops the Distance learning courses for students of the distant and part-time mode

of study, as well as for retrainees of the Distance Learning Department of the Institute of System Analysis of the Dubna University.

The main objective of the Centre of Distance learning is an implementation in the educational process of Distance learning models that include teleconferences, information sessions, and the use of new organizational forms of training. These approaches change fundamentally the way of learning and gaining knowledge and the way of interaction between the student and the teacher. Technological basis for the implementation of an innovative IT-education and organization of continuing education is a system of Distance learning, functionality of which is partially aimed at the formation of teaching support of the educational process, preparation of the teaching staff, the organization of e-learning program. A number of teachers developed electronic funds assessment tools and electronic teaching materials. For a number of specialized disciplines there were developed the original e-learning courses, which are available for students with different entry-level of preparation in order to acquire the master's degree programs.

During the full-time visit, the experts visited the lesson, the analysis of which is presented below.

Name of professor: Krystina Dumbrice, associate professor.

Group /specialty: group N 5072, "Applied Computer Science "Corporate governance arrangements (attainment level: Master's program).

1. Discipline/module: "Business-reengineering"
2. Type of class:
    □ lecture
    ✓ seminar
    □ laboratory work
    □ practical task
    □ complex lesson _____
    □ other _____
3. Theme of the class: "Identification of business processes".
4. Goal of the class: an introduction to the subject area, the study of the basic definitions of business processes, business models, the characteristics of business processes.
5. Tasks of the class: to explore the concept and purpose of business model, business model components, the characteristics of the business process, procedure descriptions of business processes. To discuss the difficulties on the general and specific examples, which can arise during the allocation and description of the processes of the enterprise.
6. Logistical support of classes: specialized computer class connected to the Internet and to the local network of the University, software – Microsoft Visio, Sybase Power Designer, Microsoft Office (Excel, Word).
7. Indicate:

No.	Knowledge, abilities, skills that are planned to be formed during the class and competencies, which influence on mentioned above issues (the teacher must annouce them)	Forms, means, methods and approaches, that are planned to be used at the lessons for the formation of a competency.
1.	To know the detailed definition of the business process (PK-3, PK-15)	Discussion and spoken questions.

|			
2.	To be able to single out the main businss processes of the enterprises (PK-3, PK-15)	Computer simulations, case studies, discussions.	
3.	To possess the skills in applying the main elements of notations for building the enterprises' business models (PK-3, PK-15)	Computer simulations, case studies, discussions.	

EVALUATION OF THE TEACHER

No	Analysis criteria	Indicators	Evaluation (0,1,2)
1.	The maintenance of the lesson order.	The well-timed beginning and termination of the lesson, well-timed sections.	2
2.	Organizational moment.	Greeting. The statement of the topic, purpose (connection of the purpose to the formed competencies).	2
3.	The listeners' motivation to the forthcoming activities.	Pointing at the actuality, at the formed professional and/or social-personal competencies.	2
4.	Psychological climate in the classroom.	The presence of positive emotional interaction between the teacher and the students; mutual benevolence and involvement of the audience.	2
5.	The quality of the presentation.	The structure of the material; the accuracy of current tasks; system and simplicity of statement; adjustment of the statement to the specifics of the audience; the presence of examples, actual facts.	2
6.	The correspondence of the content to the course program.	Compare with Working Actual Study Program of the Discipline (Teaching materials of the disciplines).	2
7.	Application of visual materials.	Student's book, practical book, handouts, tables, pictures, etc.	2
8.	Oratory skills.	Audibility, clearness, harmony, literacy, speech tempo; body language, gestures, pantomimic; emotionality of performance.	2
9.	Sensitiveness towards the audience.	Ability to react in time to the perception changes of the audience.	2
10.	Correctness towards the students.		2

11.	Approaches of the attention organization and regulation of students' behavior.	Increase of the listeners' interest (original examples, humor, rithorical approaches, etc.); involvement of the listeners to the dialogue, to the process of tasks' fulfillment, etc. To avoid an open appeal to the listeners' attention; demonstration of disapproval; psychological pressure, blackmail.	2
12.	Maintenance of the "feedback" with the audience during the lesson.	Control of the perception of the material.	2
13.	Summarizing (organization of reflection).	Organization of reflection, by which the students actively discuss the results.	2
14.	Image.	Maintenance of corporate style, presentability, charisma.	2
15.	Final evaluation.		2
16.	Comments and suggestions of the expert: the lesson was carried out at a high level in accordance with the content of the course and compliance with regulations.		

By the cameral analysis of the self-examination report, the analysis of curriculum and academic process calendar, the expert pointed that the part of lessons, conducted in an interactive form, compiles approximately 40% of the academic hours. During the personal visit, the teaching materials of five disciplines were studied. The data about the lessons, conducted in the interactive form considering the studied EMC, are presented below. On the basis of these results, experts concluded that for the formation and development of professional skills, as well as general cultural and professional competencies of students during the educational process, active and interactive forms of classes are widely used. Implementation of appropriate educational technologies is reflected in the curriculum of disciplines.

Percentage of the lessons conducted in the interactive form
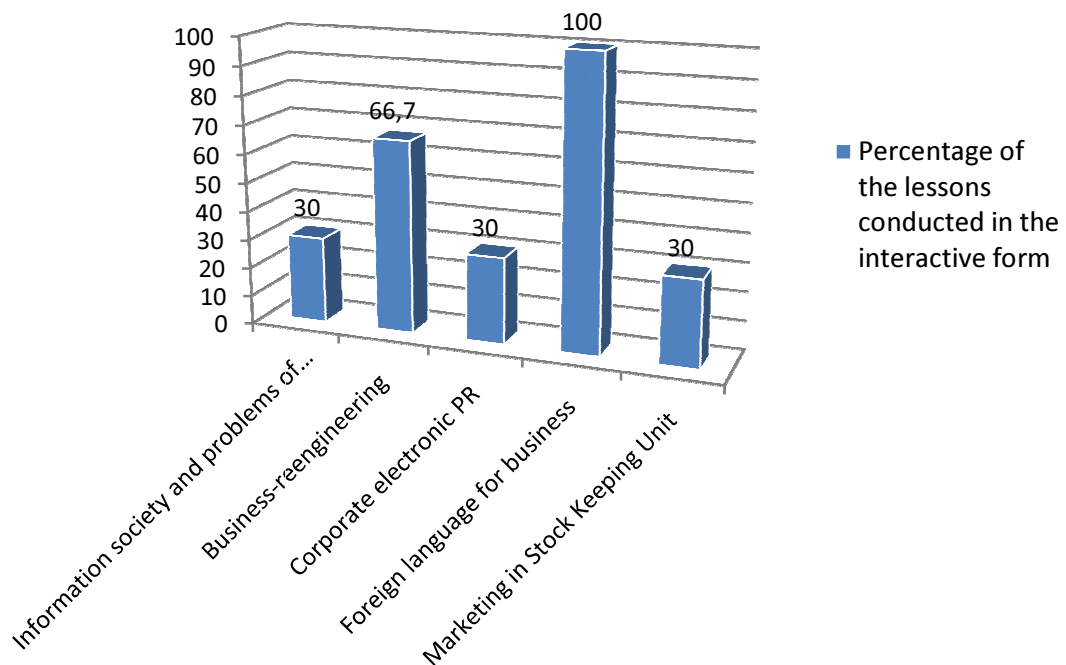
4.5. Teaching staff

4.5.1. Evaluation criteria: excellent.

4.5.2. Strong points of the program:

1. The strong point of the university is the ability to solve modern problems regarding the training of qualified personnel and the reason for that is the availability of qualified teaching staff with high scientific and pedagogical potential. The University involves teachers from leading universities of the country and from abroad. University professors and teachers are regularly invited to other HEIs to give a course of lectures, hold master classes and tuition of graduate qualification project.

2. The opinion of the personnel is also taken into account during the development of the policy, strategy and plans of the university.

4.5.3. Areas of improvement:

In order to improve the educational program it is recommended to continue to increase the proportion of teaching staff, which possess a compliance certificate to the requirements of the professional industry standards and qualifications frameworks.

Dubna University formed a qualified teaching staff, which has high potential and the ability to solve modern problems regarding the training of qualified personnel. University's teaching staff includes highly qualified teachers from Moscow Universities, such as Lomonosov Moscow State University (MSU), Moscow Engineering Physics Institute, Moscow Automobile and Road Construction University (MADI), Moscow Institute of Physics and Technology (MIPT), Moscow Power Engineering Institute (MPEI), Moscow State Institute of Radio Engineering, Electronics and Automation (MIREA), Bauman Moscow State Technical University and the leading specialists of Joint Institute for Nuclear Research (JINR).

University professors and teachers are regularly invited to other HEIs to give a course of lectures, hold master classes and tuition of graduate qualification project.

The involvement of teachers from leading universities and from abroad promotes not only a high level of cooperation and joint activities with other educational institutions and organizations regarding the questions of ensuring and improving of the preparation quality of graduates, but it also stimulates the development and maintenance of cooperation in the within the Dubna University.

40 people among the teaching staff are awarded with national and government awards of Moscow region for outstanding achievements in the field of Education and Science.

The University developed the point-and-rating system's criteria and the regulation on the rating of departments, faculties and the Institution of System Analysis and Management of Dubna University, the basis of which were laid the basic (accreditation) and additional indicators that are of great importance for the university. Rating estimation is a direct tool for management decision-making.
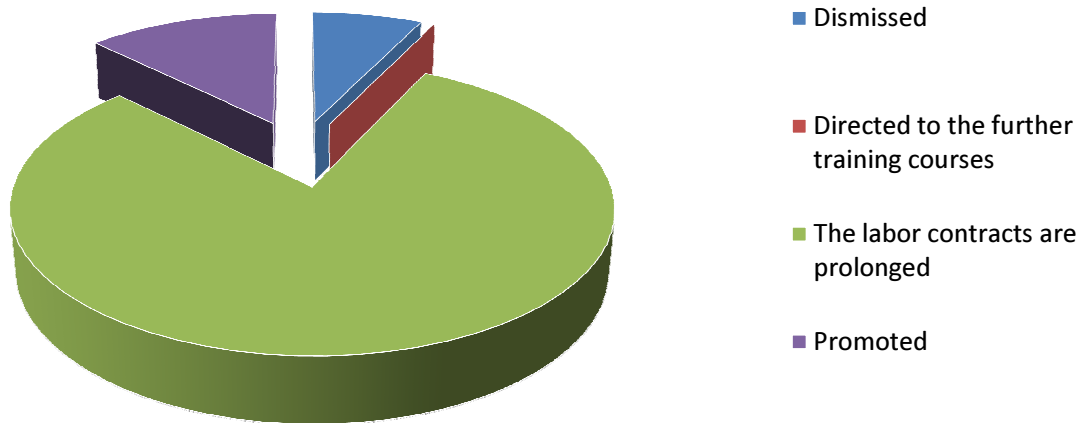
The opinion of the personnel is also taken into account during the development of the policy, strategy and plans of the university. Yearly they study opinion of the personnel and students of different fields of activity through questionnaires and surveys. Nowadays issues of educational quality, criteria definition of qualified education are priority areas of opinion polls.

The teaching staff is satisfied with personnel policy and existing motivation system.
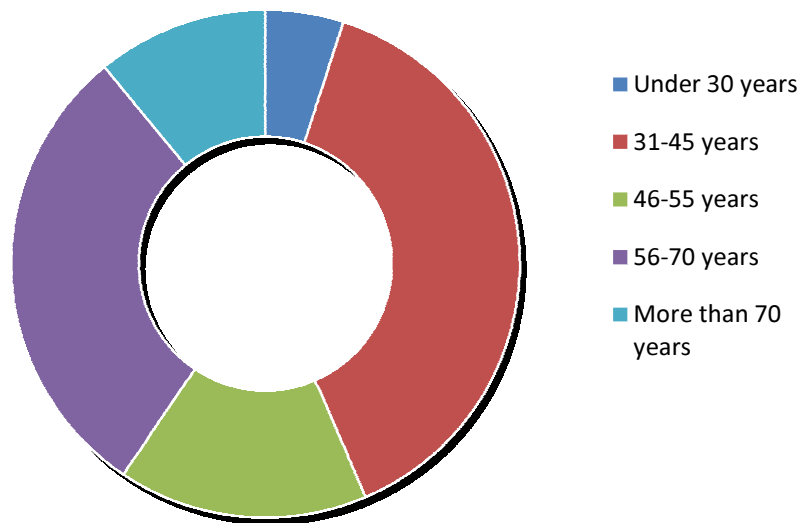
Analyzing the facts stated by the educational institution in the self-assessment report, the experts came to a conclusion that the given data is actual and trustworthy. The results of complex evaluation of the teaching staff (on the results of the previous year) and the age of teachers, participating in the realization of the program, are given in the following diagrams.

According to the results of the analysis of the data presented, the experts conclude that there is a high scientific and pedagogical potential of the teaching staff and recommend program managers to strengthen the work on attracting and training of young and perspective teachers:

On the results of complex assessment of teaching staff of the basic educational program

- Dismissed
- Directed to the further training courses
- The labor contracts are prolonged
- Promoted

The age of the teaching staff

- Under 30 years
- 31-45 years
- 46-55 years
- 56-70 years
- More than 70 years

4.6. Logistical and financial resources of the program

4.6.1. Evaluation criterion: excellent.

4.6.2. Strong points of the program:

1. Dubna University is a part of the Nanocenter, which was created in a special economic zone of the science city Dubna. According to the agreements on cooperation, Dubna University can use modern equipment of scientific organizations of the city.
2. The social partners (JINR VNIIIgeosistem, IBM, Space communications center) are actively involved in equipping of the laboratories with modern instruments and equipment.
3. The average wage of teaching staff of Dubna University is almost twice higher than the average wage in the Moscow region. The very reason enables to attract highly qualified professionals for faculty work.
4. Logistical resources of the program enable not only to implement the e-learning program in the educational process but to improve the mechanisms of its use.

4.6.3. Areas of improvement:

To increase the cost of research and development activities per one employee of the teaching staff. Nowadays, this indicator stands at 55,74 thousand rubles with minimum standard, which equals to 50 thousand rubles. This is possible due to the expansion of research projects by implementing major projects within the government programs and international grants.

Logistical base and financial resources allow implementing the educational program in a full extent. There were created conditions to ensure the access to the educational services.

The university has enough classrooms for lectures, practical and seminar classes, computer classes, which are sufficiently equipped with instruments and equipment of natural sciences, general trade and special purpose. Unique research facilities are concentrated in the centers and laboratories of Dubna University, which allows students to conduct the research activities. There is a library with reading rooms, modern indoor sports complex and publishingcompany, which prepares and produces all the necessary educational and teaching literature.

The financial resources of the program can provide the educational process with teaching staff and personnel with a high qualification and competencies, and also can acquire, maintain, and use the logistical base and equipment needed to implement the program due to the budgetary and extra-budgetary funds. Remedial work of the classrooms and university buildings are carried out every year. A number of classrooms equipped with multimedia facilities are constantly increasing.

The University formed a system of Distance Part-time Learning Department of Institution of System Analysis and Management, which carries out there search and production work on the implementation in the educational process of electronic educational resources, on the development and constant improvement of Distance learning technologies, training and retraining of specialists.

During the internal visit, the experts interviewed the students and teachers, participating in the realization of the program on the subject of satisfaction with the quality of auditory fund. The received data is introduced in the following diagram and lets the experts conclude that a majority of students and teachers consider the atmosphere in the university to be favorable for the educational process.

Satisfaction with the quality of classrooms, laboratories, chair rooms, funds and reading halls of the library
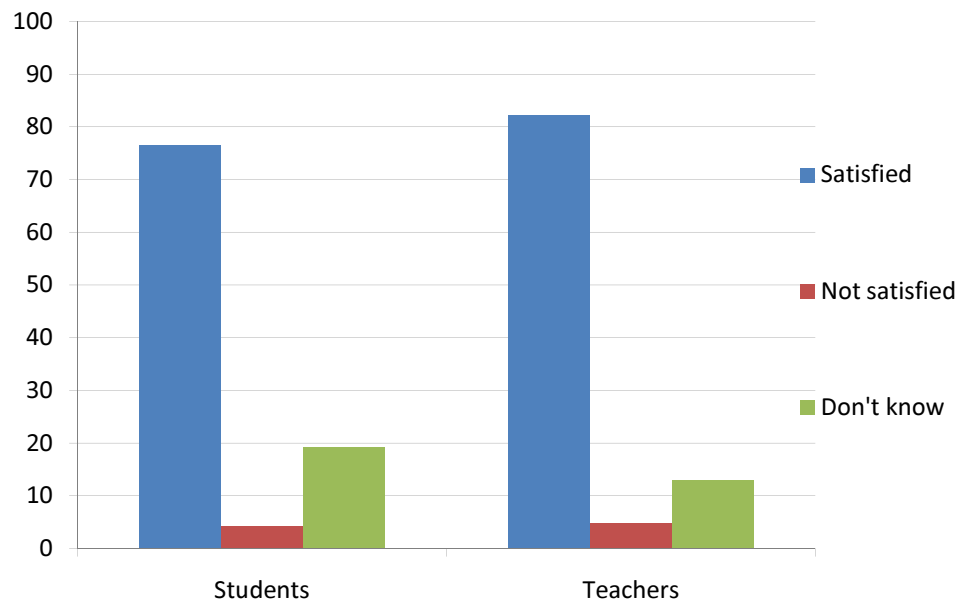
By the internal visit to the educational institution the expert team examined the logistical base. Below are given the data about the modern equipment of the laboratories. The presented data let the experts make a conclusion about the full equipment of the laboratories by the modern equipment and also about active participation if social partners (JINR,VNIIIgeosistem, IBM, Space communications center) concerning this question.

Equipment of the laboratories
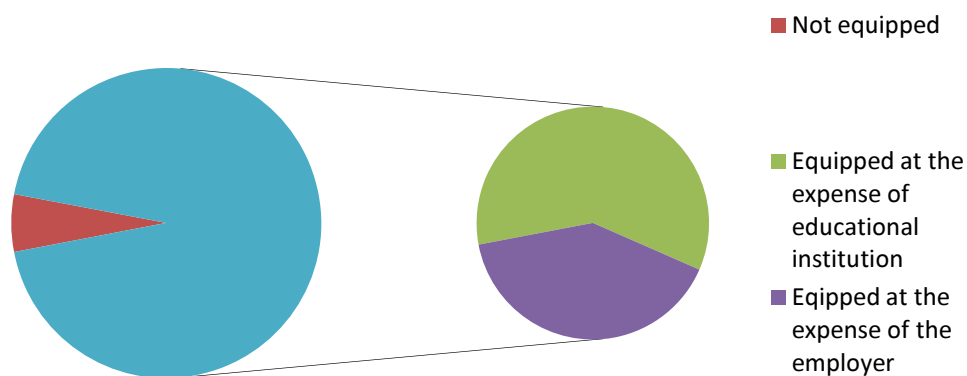
4.7. Information resources of the program

4.7.1. Evaluation criterion: excellent.

4.7.2. Strong points of the program:
1. The university created a center of cloud technologies based on high-performance computing cluster, in which specialized software works to support the document flow and automation.

2. During the educational process, Institute of System Analysis and Management widely uses hardware-software complex "Virtual Computer Lab" based on cloud computing technologies. This is one of the most important tools for the preparation of highly qualified IT-specialists. The project "Virtual Computer Lab" was interuniversity developed due to the successful cooperation with the Faculty of Business Informatics of Federal State Autonomous Educational Institution of Higher Professional Education "Higher School of Economic".

4.7.3. Areas of improvement:
1. Further development of common informational space according to the national (Russian National Standard) and fundamental international (ISO/IEC) standards of informational technologies in educational process and preparation will strengthen the effectiveness of use of e-learning resources and Distance educational technologies. This will increase the level of quality of e-learning system on an interuniversity level; create additional opportunities for development of corporate e-learning system together with other leading universities of the country.

2. The development of the requirements profiles to the unified information system of the University on the basis of international and national standards in IT field is rational in order to increase its interoperability.

Dubna University widely uses information and communication technologies. In the academic buildings of the campus of the University there is a high-speed data network, which can give an access to more than 700 jobs departments and units of the university and to 26 computer classes.

In order to optimize the cost of supporting users' workstations the University uses virtual machine technology and applications.

Depending on the direction of the basic educational program, the use of information and computer technologies in the educational process takes from 30% to 75%.

For the processes of collecting, storing, processing and delivery of analytical information, which allows to make decisions in the management system of the educational process, there is an information system of management process based on the software "1C: University PROF", which increases the efficiency and speed of decision-making.

On the basis of the high-performance computing cluster, the University created a center of cloud technologies, in which specialized software works to support the document flow and automation, based on such software products of "1C" company like: "1C: Document Flow", "1C: University PROF", "1C: AccountingSuite", etc.).

Institute of System Analysis and Management has its own online service that allows faculty and staff to share information with each other and work with online resources. University students have authorized access to the local university network. It allows them to follow the academic process calendar, have access to the teaching materials of their teachers, as well as to the electronic library. Students also have an opportunity to log in the Distance learning system to work with online training courses in order to study various disciplines independently.

A Distance Learning Department operates as a structural unit of Institute of System Analysis and Management. This Department organizes different training activities using the Distance learning technologies in programs of higher professional and further education of Dubna University for full-time, part-time, additional and external studies. It studies the market

demand for educational services and organizes recruitment for students in the directions of the University for part-time mode of study with the use of Distance learning technologies; implements the creation of electronic textbooks, teaching manuals, teaching materials, scientific publications and other materials, which are connected with the use of Distance learning technologies in the educational process of all modes of study.

The University Library has two profiled reading rooms and on the basis of one of them there was created an electronic reading room. The access to the online catalog of the library, digital resources, services, information about external databases is implemented via the library website. In order to provide the students with electronic scientific and educational resources there is an access to educational and scientific database on the basis of license agreements (16 agreements) and applications (10 applications) for testing.

4.8.   Research work

4.8.1   Evaluation criterion: good.

4.8.2   Strong points of the program:

1. Development of an integrated system of research works of young scientists, postgraduate students and students of Dubna University contributes to gaining of new knowledge in priority areas in the field of natural, social-economic sciences, humanities and information technology, improving of the quality of preparation of students, as well as significantly expanding the scientific and technical cooperation with other universities and research organizations.

2. For deeper involvement of students in research work, university holds interdepartmental seminars, organizes inter-university research activities, scientific-practical conferences of students and postgraduate students, participates in the Summer Student Scientific-Technical School "Work force of the future".

3. Participation of the students, postgraduate students and teachers in national and international scientific and practical conferences, artistic and creative activities, carried out within the scientific and creative research, helps to improve the quality of education and training of qualified personnel.

4.8.3   Areas of improvement:

1. To carry out large projects within government programs and international grants by expanding the area of research, which will increase the cost of research and development activities per one employee of the teaching staff.

2. To increase the percentage of patents and certificates of conformity of research by national (Russian National Standard) and international (ISO/IEC) standards of quality in general amount of R&D within the specialty profile.

The increase of students' involvement into the research work of Dubna University is carried out within the program of research work, work plan of the Council of young scientists and researchers, activity of student research and academic bureaus, activity of educational innovation departments.

The process of engagement and participation of students in research work often begins with scientific student clubs. In Institute of System Analysis and Management there are seven scientific student clubs led by the teachers: Programming in C#, Robotics, "S.M.A.R.T. Engineering", geoinformation system (GIS) in environmental management, Academic Competence Center IBM, Academic Competence Center Oracle, virtual laboratories, GRID-technologies. According to the selected subject of scientific research, the student gets the task for

practice, which allows him/her to expand, deepen and put into practice that knowledge that the student has gained in the process of learning and training in the scientific club.

Research work, carried out by the students, postgraduate students and the staff of the program is accompanied by the defense of the candidate's and doctoral dissertations, which, in turn, are supported by the acts on the implementation in practice of enterprises and organizations.

The university has a system of internal financing aimed at supporting of the initiative groups of employees, conducting research in priority areas of the university's development.

In 2014, the Department organized two interdepartmental scientific seminars ("Processing of experimental data in the new era of Big Data", "Big data in artificial intelligence systems"), two university research events (section "Information Technology" within the XX Research Conference of students, postgraduate students and young scientists of Dubna University, research and practice conference of students and postgraduate students dedicated to the memory of Sisakyan A.N.), Regional Festival of Institute of System Analysis and Management (scientific and organizational activity for students, postgraduate students, young scientists, students of secondary vocational education, students of primary and secondary schools, teachers of municipal educational and secondary vocational education institutions) and the section "Information Technology" within the Russian Summer Student Scientific-Technical School "Work force of the future".

For the previous year11 teachers acted as plenary speakers in the national and foreign scientific conferences.

In the documents about self-assessment presented by the educational institution there was introduced the data on the results of the monitoring of students' opinion "The influence of research work on the quality of education". The diagram shows the data, certified by the experts during the full-time visit. These results lead to the conclusion about the students' understanding of great influence of the level of research activities and its outcomes on the quality of educational process.
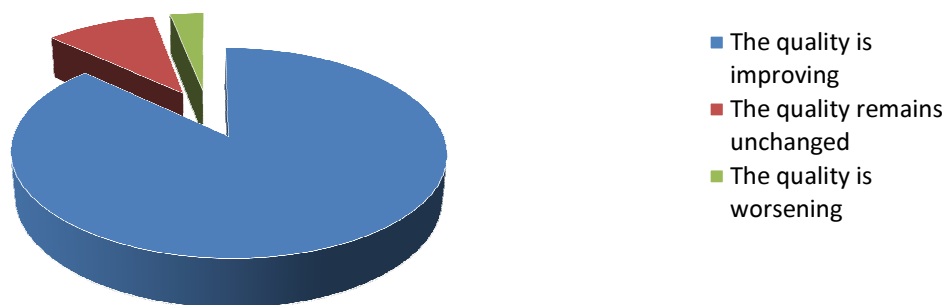
The students' occupation in scientific clubs has been analyzed. There are seven scientific student clubs led by the teachers: Programming in C#, Robotics, "S.M.A.R.T. Engineering", geoinformation system (GIS) in environmental management, Academic Competence Center IBM, Academic Competence Center Oracle, virtual laboratories, GRID-technologies. The main purpose of the organization of scientific clubs is the involvement of the students in the research work. The percentage of students, which are regularly visiting scientific clubs, is 15% from the

general quantity of students. Following the results of the work in scientific clubs, the students are involved in the research work and following the results of their research, they publish them in the native and foreign periodical publications.

Involvement of the students in the scientific clubs

- Students that are not involved in scientfic clubs
- Programming in C#
- Robotics
- «S.M.A.R.T. Engineering»
- Geoinformation system (GIS) in enviromental management
- Academic Competence Center IBM
- Academic Competence Center Oracle
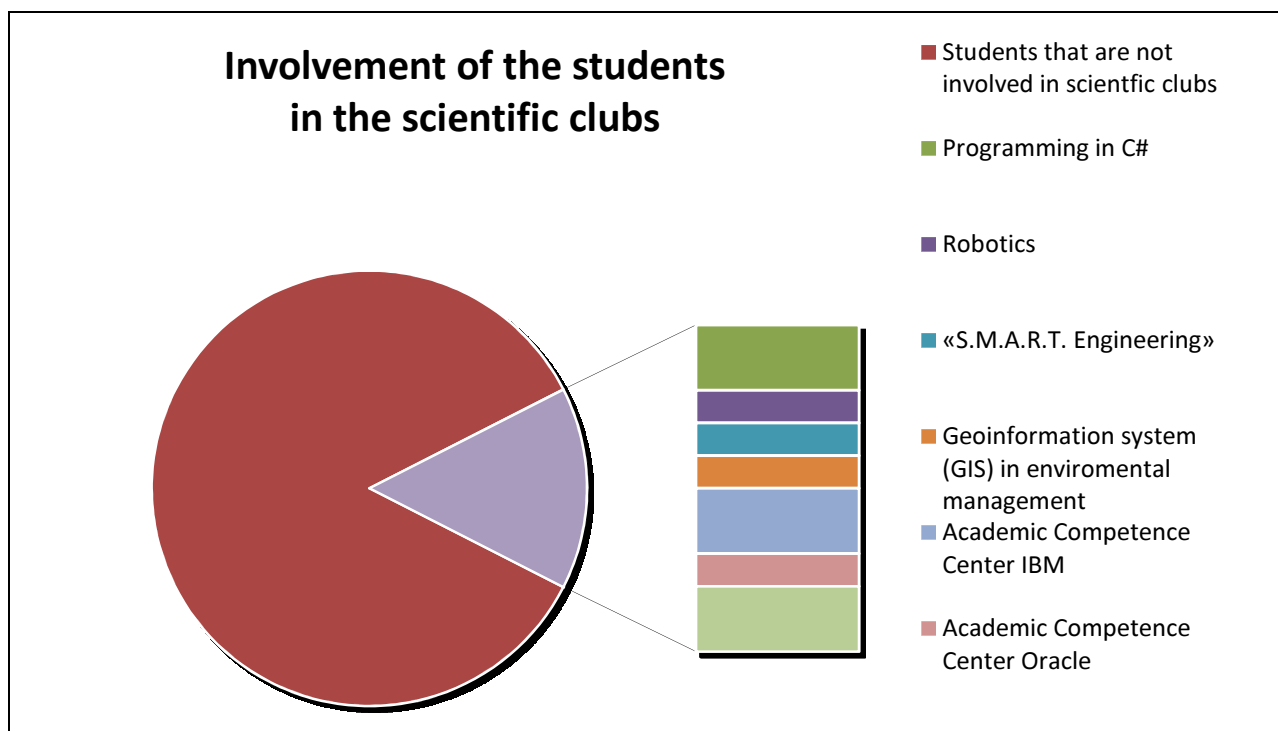
4.9.   Participation of the employers in the implementation of the program

4.9.1   Evaluation criterion: excellent.

4.9.2   Strong points of the program:

1. Dubna University is working closely with major scientific and industrial enterprises of the Moscow Region and the Russian Federation, actively creating basic departments and teaching and research units, aimed at training of highly qualified specialists, the implementation of joint development and research, attracting the students to the scientific activity. 30% of the State Attestation Commission is formed of the representatives of employers.

2. Employers, participating in the program, provide the students with material and technical resources, offices, laboratories, equipment and software to ensure the educational process.

3. Employers contribute to the employment of graduates of the program by the conclusion of agreements on the target learning, target enrolment, offer of appointment after practice, the recommendations on the results of the defense of graduation qualification work.

4.9.3   Areas of improvement:

In order to improve the practice-oriented education program it is necessary to take into account employer's opinion as on lack of competencies' formation of graduates so on the introduction of competencies in the basic educational program according to their requests.

Representatives of employers are taken on the staff of the university on a part-time work, which allows them considering the requirements of professional standards and specialty combine successfully the career of professionals and the training of personnel for a particular company. They also conduct ongoing monitoring of student's formation of competences, depending on the course and performance of various tasks assigned to the student. In agreement with the head of the department, the employers can be involved in as a leaders of course works (projects). Representatives of employers necessarily involved in the organization and conduct of the intermediate and final certification. At least 50% of representatives of employers are included in the State Attestation Commission and in the State Examination Commission. Representatives of the employers are reviewers, directors and consultants of graduation qualification works. The work on gaining the recommendation letters from employers regarding the quality of the graduate's preparation is conducted by the departments in charge on the annual basis.

Employers and leading experts in the subject area in the profile of basic educational program are included in the committee on the development of the basic educational program. They are actively involved in the development, adjustment and examination of the basic educational program.

The university has a local act regulating close cooperation with employers regarding their participation in the program. Thus, in the developed teaching materials the compliance with the requirements of employers and professional standards is the responsibility of the Head of the Department in charge and the compliance of the concept of the educational program to the requirements of the Educational Standards of Higher Education is the responsibility of Dean of the faculty.

Social partners of the Department of System Analysis and Management are Joint Institute for Nuclear Research (JINR) and VNIIgeosystem.

The employers participate in the supervisory and academic councils and other bodies of collective management. The number of employers in various councils counts 17 people.

Faculty meetings are held with the participation of employers and representatives of the business community. For example, an interaction with representatives of the Department of the Laboratory of Information Technologies, JINR, VNIIgeosystem, "InterGraphics" LLC, ADLABS, "Nordavind-Dubna" LLC and others companies is a long-standing practice.

The self-assessment report of the educational institution shows the results of the employers' survey concerning their satisfaction with the quality of graduates' training. This diagram illustrates the data confirmed by experts during the interviews with employers and the data, which complies with the self-assessment results.

The opinion of the employers regarding the lack of formation of the following graduate's competencies should be noted:

• The ability to apply the technology of cloud services for the information systems of corporate governance (PK-29);

• The ability to put into practice the technology of internal and external electronic PR (PK-31).

This testifies about the active involvement of employers in the implementation of the program.

Employers' satisfaction with the quality of the students' preparation

- Absolutely satisfied
- Satisfied, but there are some unsufficient remarks to the graduates
- There are few graduates of this program, whose preparation quality is satisfactory
- Not satisfied
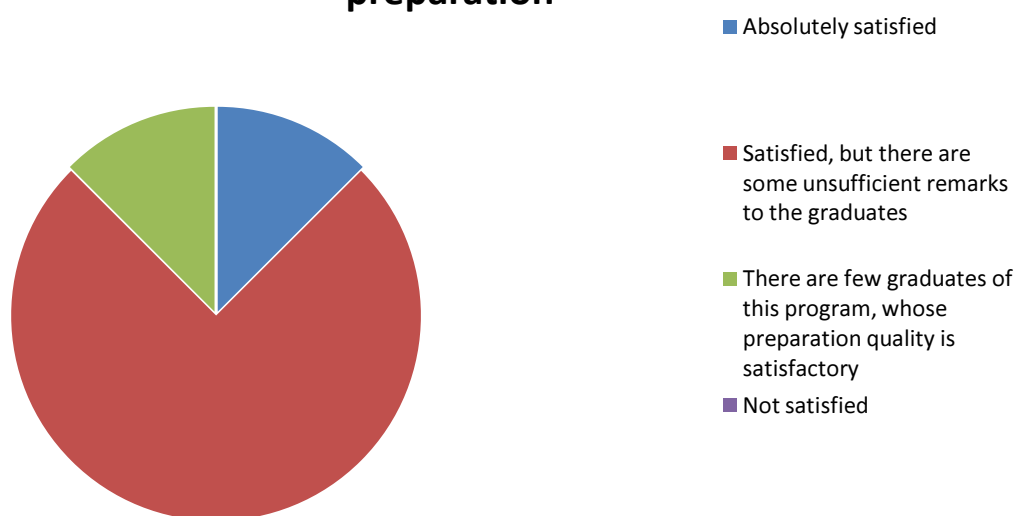
4.10. Participation of the students in determining the contents of the program

4.10.1. Evaluation criterion: excellent.

4.10.2. Strong points of the program:

1. Student's participation in student government and scientific clubs is a strong point of the university. It contributes to the improvement of program's content, increase of students' interest in its study and, as a result, successful development of students' general and professional competencies. Senior students participate in the realization of program regarding the development of quality education.

2. Every year students have an opportunity to assess the quality of education in general, by participating in a sociological survey, on the results of which the interviews with heads of departments are organized. Through the questionnaires and interviews the students get an opportunity to participate in the process of improving the discipline, thereby influencing and improving the activity of the educational institution as a whole.

4.10.3. Areas of improvement:

It is necessary to improve the content of the program, taking into account the views of students, which will increase the interest of students in its development and the successful formation of general and professional competencies. It will help to improve the quality of master's preparation. In order to achieve this goal, you need to involve the students actively to participate in scientific clubs, attend public master classes, seminars, workshops, conducted by representatives of the business community and employers.

Student's participation in student government and scientific clubs as well as in the development of the education quality program is a strong point of the university. It contributes to the improvement of program's content, increase of students' interest in its study and, as a result, successful development of students' general and professional competencies. Student's work in assessing the quality of education includes participation in the following units of Dubna University, ensuring the effective implementation of the educational process: the academic council of Dubna University, teaching council, department of education quality and innovation

in education, student council, the Analytical center "Education and Career", Bureau of Social Research.

Students take part in determining the content of the program by analysis of the results of surveys and questionnaires. Due to that it is possible to estimate motivational potential of students from different courses.

In the Analytical center "Education and Career" students conduct interviews and surveys among employers on the subject of the quality of education graduates.

Therewas developed an electronic form of questionnaire "Quality of teaching", which is available on the website of department of the quality of education and innovation in education and on the university site in the section "feedback" that gives students the opportunity to evaluate the quality of the classes.

The interviews with the heads of departments are organized following the results of questionnaires and oral surveys.

Questions of the survey are formed in such a way that students have an opportunity to participate in the process of improving the discipline through influencing and improving the activity of the educational institution as a whole.

In the course of full-time visit, the experts analyzed the students' participation in student government. This diagram illustrates the data that reflects the students' participation in decision-making regarding the organization and management of the educational process.

Based on the analysis of the data presented, experts conclude that there is quite active participation of students in determining the content of the program. At the same time, as it can be seen from the diagram, more than 40% of the students find it difficult to answer the question about their real participation in the development of the program, and only one in four of the total number of respondents indicates the possibility of taking into account the views of the students concerning the development of the educational program.

Participation of students

- I can influence on the decision making process regarding the organization and management of educational process

- I can't influence on the decision making process regarding the organization and management of educational process

- It is difficult to answer
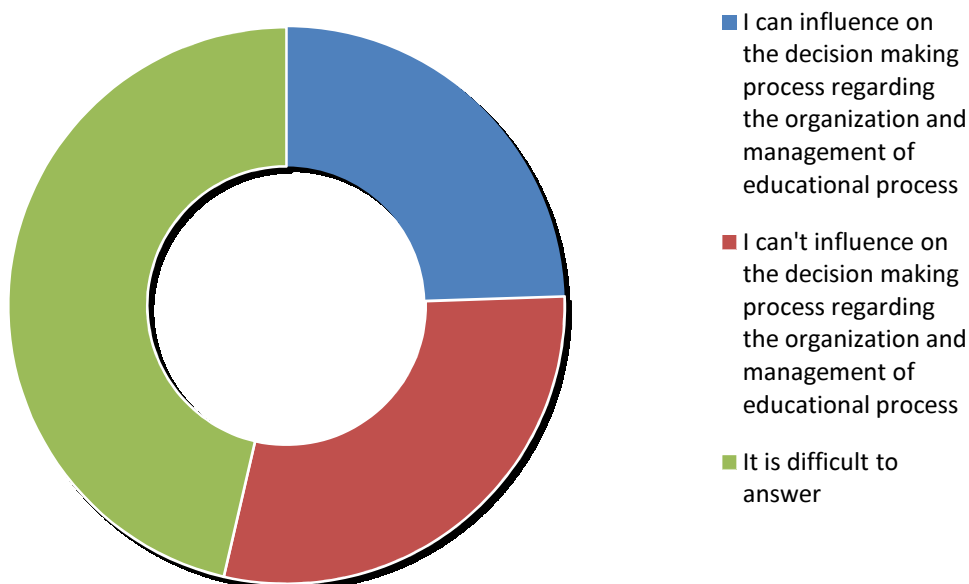
4.11. Student services at the program level

4.11.1. Evaluation criterion: excellent.

4.11.2. Strong points of the program:
1. Analytical center "Education and Career", founded to promote the employment of students and graduates as a socially vulnerable group, holds regular training sessions on employment, gives advice concerning resume writing, informs about the information that can be found on the bulletin boards of the University and on the Center site and in social networks. Basic principles of the employees of the center are an individual approach to each person, professionalism and personal interest, employment assistance to students and university graduates, labor market analysis, interaction with companies-residents of SEZ "Dubna".

2. Students of Dubna University and its branches provide students with various forms of financial support.

3. Great opportunities for quality recreation and sports activities are provided by one of the best sports facilities of the Moscow region - sports complex "Olymp", which regularly organizes cultural and sport activities for students.

4.11.3. Areas of improvement:
1. It is necessary to develop different ways of implementation of educational programs, oriented more on e-learning and Distance educational technologies within the inclusive education for disabled students and students with reduced capabilities.

2. Some students would like to organize their own company, and this should be encouraged, because such activities would support economic growth and development. Nevertheless, during the meeting with students, it became clear that they do not know about the possibilities of financing of the launch of their business, so some additional support and consultations in this direction would be helpful if it possible according to the budget.

There are several ways of socialization and adaptation of the students from the vulnerable groups of population in Dubna University. Department of extracurricular educational work realizes the events aimed at creating a fully developed socially competent personality, which is able to adapt quickly to the changing socio-economic and socio-political conditions. Service of Social Protection deals with such matters as the appointment of social scholarships, allocation of financial aid, assignment of compensation for travel and meals. The service of crisis center for students is designed to help and support students in solving a variety of psychological problems and overcoming difficult life situations. Analytical center "Education and Career" was founded to promote the employment of students and graduates as a socially vulnerable group. The activity of welfare support is aimed at creating an effective management of social issues, working on the implementation of safeguards material and social accommodation of students and graduate students in Dubna University dormitories, creating of adequate living conditions there.

The university takes up training of disabled students and students with reduced capabilities. The main aim of such activity is to create conditions to ensure the inclusive education of disabled students in higher education programs, pre-university training and carrier guidance with disabled applicants, to support the inclusive education of students with disabilities, to solve the development issues and serve the information and technological base of inclusive education, Distance learning programs for disabled, socio-cultural rehabilitation, promote employment of graduates with disabilities, create a barrier-free architectural space. The Dubna University has the property to ensure the education of people with disabilities and people with reduced capabilities, which is used in everyday educational process to support inclusive education.

A distinctive feature of the concept of physical education, adopted at Dubna University, is the desire to achieve good sports results, based on the desire of students to form their physical health as in the classroom and in the sports sections as well.

Sports complex "Olymp", located on the territory of Dubna University, is one of the most modern and multi-functional sports facilities not only in Dubna but also in the Moscow region. Sports halls are equipped with modern sports equipment, they meet the highest requirements and provides with an excellent opportunity for taking up different sports throughout the year. The classes in sports complex are hold by the highly qualified teachers. Sports activities at the University are conducted in 11 directions. The following kinds of sports is developing in the University: volleyball, basketball, street ball, mini football, swimming, table tennis, chess, power lifting, kettlebell lifting, ultimate frisbee.

According to the Regulation on the provision of scholarship for students at Dubna University, the system of student's encouragement for achievements in extracurricular activities involves the appointment of high academic scholarships for success in such areas as: science, social activities, cultural, artistic and sports activities.

Dubna University organized the work of creative, sports associations and groups, associations of students and teachers with the same interests. Among the creative associations and clubs there are: the theatre "Talion", Film Festival "Goodwin", adventure camp, eco-school, student council, student scientific society and others.

Additional educational services for learning of foreign languages are provided by the school LEX. Language departments regularly organize internships for students abroad.

Free of the educational process, students can prepare for classes, take advantage of network learning resources of the university in computer classes. Information online resources are available in the public domain via WI-FI. In the humanities and science reading rooms there are computers for students with scientific databases and Internet sources.

In the course of full-time visit, the experts were presented the documents proving with the information of the students' attendance of additional courses and programs.

Basing on the analysis of the data presented, experts conclude that there is a good attendance of additional courses by the students and recommend to continue this line of work.

Attendance of additional courses and programs

- Students, attending different additional courses and programs
- Students, who don't attend different additional courses and programs
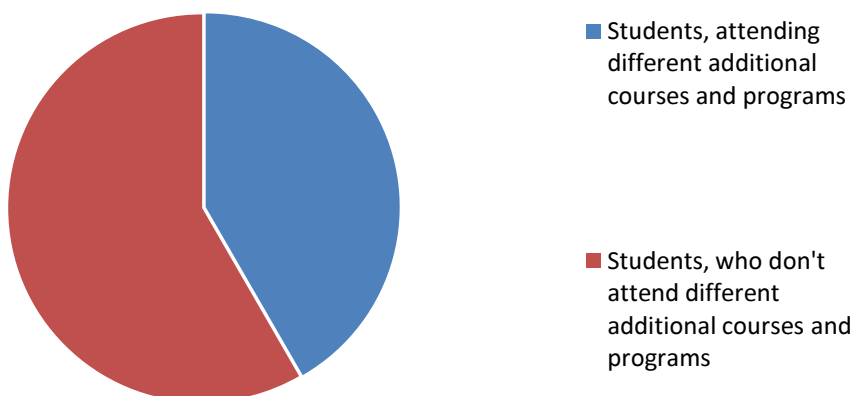
4.12. Carrier guidance. Evaluation of preparation quality of applicants

4.12.1. Evaluation criterion: good.

4.12.2. Strong points of the program:

1. The representatives of the University take part in annual education fairs, conducted by the employment center of the Moscow and Tver regions, international fair "Education and carrier", hold in the bazaar of Moscow.

2. In order to inform future applicants about the directions of preparation, target preparation, carrier guidance events of Dubna University there is an annual "Reference book for applicants of Dubna University", information leaflets of the university, faculties and departments.

4.12.3. Areas of improvement:

1. To continue concluding the agreements on the target enrolment with city and district administrations, enterprises and organizations, as well as on the directions of the Ministry of Social Welfare, Moscow region.

2. To increase the number of scientific and practical conferences in order to invite prospective bachelors from other universities. On the one hand, it will enhance the prestige of the university and on the other hand, it will increase the number of those who wishes to study at Master's degree program of Dubna University.
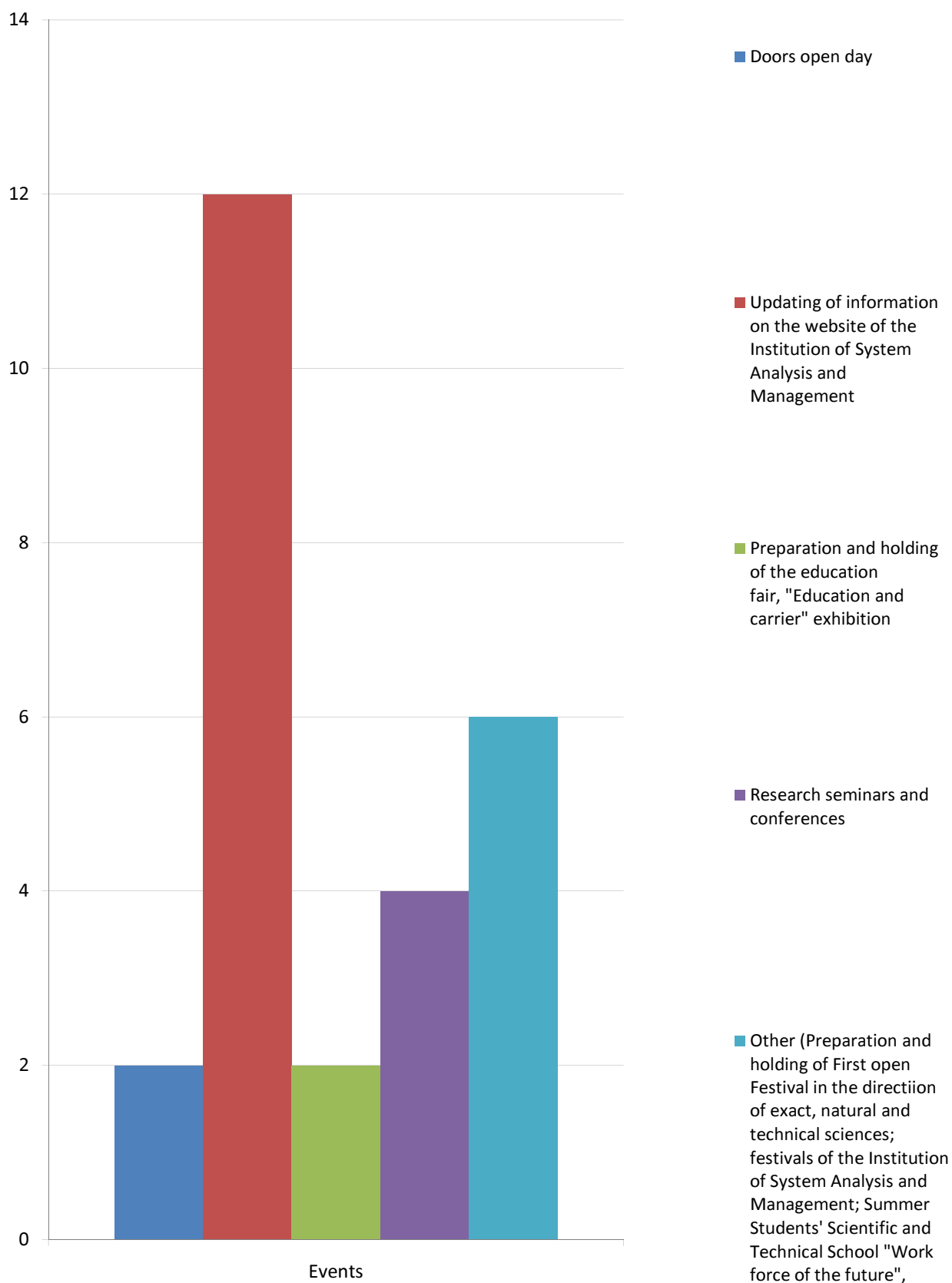
Enrolment in master's degree program is conducted in a competitive basis based on entrance examination.

In order to attract potential applicants and provide the university with full admission there was organized the cooperation with educational institutions and the city administrations of public education of Dubna, Protvino, Kotelnikov, Taldom and Taldom region, Dmitrov and Dmitrov district of Moscow region, Kimry, Kashin, Kalyazin, Konakovo of Tver region, Uglich and Yaroslavl of Yaroslavl region, Kolchugino of Vladimir region. During the year, representatives of the department and faculty conduct a career guidance trips with presentations on the directions of study and enrolment conditions the State Dubna University.

The Doors open day of the University's faculties and Institution of System Analysis and Management is conducted in the period from October to April.

Based on the analysis of documents and interviews with program managers, experts made a diagram illustrating the number of events carried out during the past academic year. During the year there were 26 events, including 2 doors open days. The information on the site of the Institution of System Analysis and Management was regularly updated, they prepared and conducted the education fair and the exhibition "Education and Career", 2 scientific seminars and 2 research conferences, first open Festival of the exact, natural and technical sciences, Festival of the Institution of System Analysis and Management, Summer Student Scientific-Technical School "Work force of the future".

Career guidance arrangements, conducted by the teaching staff within the admission to the program

Legend:
- Doors open day
- Updating of information on the website of the Institution of System Analysis and Management
- Preparation and holding of the education fair, "Education and carrier" exhibition
- Research seminars and conferences
- Other (Preparation and holding of First open Festival in the directiion of exact, natural and technical sciences; festivals of the Institution of System Analysis and Management; Summer Students' Scientific and Technical School "Work force of the future",

CVs of experts

Expert's name: Boris M. Pozdneev

Place of work, position:	Federal State-Funded Educational Institution of Higher Professional Education Stankin Moscow State Technological University, Head of the Department of Information Systems, Prorector for Quality Management
Scientific degree, academic status:	Ph.D. of Engineering Sciences, professor
Deserved degrees:	Acting member of the Academy of quality problems, the International Informational Support Academy. Twice a winner of the Prize of the Russian Federation in the field of quality
Education:	Higher Education
Professional achievements:	In the period of 20 years I am managing the department of Informational Systems, published more than 300 scientific and educational works, 10 textbooks
Sphere of scientific interests:	Research and design of information management systems, creation of informational and educational environmental and electronic educational resources
Experience of practical work in the direction of program under the expertise:	The head of more than 20 major R&D of control systems for Education and Science

Expert's name: Nikita Y. Pustovoytov

Place of work, position:	"1C- Moscow Institute of Physics and Technology" LLC, director of information technologies; Federal State-Funded Educational Institution of Higher Professional EducationMIPT (State University), senior teacher of the Department: Corporate information systems of Faculty of Information Computer Science; Federal State-Funded Educational Institution of Higher Professional Education MIPT (State University), senior teacher of the Department of Innovations and High Technologies of Faculty of Information Computer Science; Federal State-Funded Educational Institution of Higher Professional EducationMIPT(State University), Research Officer of innovation laboratory of Faculty of Information Computer Science.
Scientific degree, academic status:	No
Deserved degrees:	No
Education:	Higher Education, Bachelor and Master of Faculty of

	Management and Applied Mathematics of MIPT (State University). Direction: Applied mathematics and physics, specialization: "Mathematical and Informational Technologies"
Professional achievements:	The State Prize Laureate of "Talented young people". The winner of the competition "Umnik" and "Start" of the Foundation for Assistance to Small Innovative Enterprises in Science and Technology. During the leadership of the Department of algorithms and programming technologies of MIPT (SU), the total number of the courses assigned to the Department increased from 3 to 16, the number of teachers – approximately from 10-12 to 55.
Sphere of scientific interests:	Computer Science, algorithms, data analysis, Data Mining, Machine Learning, Big Data
Experience of practical work in the direction of program under the expertise:	Since 2007 I am working as a project manager. I participated in the creation of several youth innovation projects connected with the data analysis, as CEO and technical director. Since 2009 I am holding classes of computer science at the Department of Innovations and High Technologies of Faculty of Information Computer Science of MIPT (SU); Since 2010, I am teaching the courses on the following subjects: "Introduction to Programming", "Object-oriented programming", "Algorithms and data structures", "The Design and Analysis of Algorithms", a major part of which have been redesigned in their content in comparison with previous years. In 2011-2013 I was the deputy of the Head of the Department of Innovations and High Technologies of Faculty of Information Computer Science of MIPT (SU). Being on this position, I developed a part of the profile of bachelor's degree program of Faculty of Information Computer Science of MIPT (SU), which is connected with the Computer Science and Software Engineering. During that time, the Department opened more than 10 new courses, which appeared in the new edition of the training profile, so that the number of courses of the program is also increased. In 2010-2012 I was an executive in charge by the MIPT (SU) in joint project with 1C Company connected with the building of a multi-purpose integration of software and technology platform, made within the Government Resolution of the Russian

	Federation #218.
	A member of working group for the development of professional standards "Programmer" and "Head of software development".

Expert's: Elizabeth Alison Kabler

Place of work, position:	University of Greenwich(Great Britain), Prorector's deputy
Scientific degree, academic status:	Ph.D. in artificial intelligence, Bachelor in Computer Science
Deserved degrees:	No
Education:	University of Greenwich
Professional achievements:	President of the British Computer Society, Chairman of the Board of Teachers, Head of department of computer technology More than 100 of publications. The invited speaker and presenter of the conferences.
Sphere of scientific interests:	Artificial intelligence, e-learning, programming
Experience of practical work in the direction of program under the expertise:	The development of a significant number of IT systems in industry, management of many research projects

Expert's: Denis A. Nikolaev

Place of work, position	MIPT, student (Department of innovations and high technologies, "Applied Mathematics and Computer Science")
Degree, title	n/a
Rank	n/a
Education	Not finished higher education
Professional achievements	
Sphere of scientific interests	
Experience of practical work in the direction of program under the expertise	