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The Implementation of the Program Personnel Support

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ABSTRACT

The article contains analysis software products used in the preparation of professionals through which they can realize themselves in this industry. The aim of the study is the analysis of personnel petroleum education in specialized university. The result is a sociological study on the question of the need and importance of personnel support petroleum and geological formations; the rating of Russian universities, which train specialists in the oil and gas industry training. Discussed the main programs of dynamic simulation solutions for training through new information technologies. Also developed projects to train teachers in new software system that will enable them to improve skills and to improve teaching methods. The principles of structural balanced educational programs and advanced training for educational global networks of production, trade for direction of personnel training. The article includes an analysis of universities that focused on high-quality training to working professionals. The novelty of the research is analytical survey realization personnel program support.

KEYWORDS
Professional training, training. the oil and gas industry, the Russian universities

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Introduction

At the moment there is a huge need for highly qualified specialists of implementation, development and exploitation of oil fields in new undeveloped regions of the Arctic continental shelf. The matter needs to be considered both from a position of the state and at the regional level. Any young person wishing to enter the University for prestigious oil and gas specialty has to have idea of methods and technologies to use to be able to increase the educational level. In general the education system accepted in the Russian Federation is in a reforming stage which purpose is acquisition of essentially new qualities by graduates meeting the demands of modern society (Sheveleva, 2014).

A model of the advance education aimed at formation and development of competences of professions which only appear in the Russian market is of high priority. The aim of the advance education is to train highly qualified specialists for work in information-intensive world having the abilities to accept and model strategically important administrative decisions rather quickly. The advance

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education focuses young people on understanding of the professional knowledge simulated by subjects of training. Realization of the principles and idea of the advance education assumes also change of character of contents statement of traditional training courses. They have to contain much more data on tendencies of development of this or that area of scientific knowledge, and also on its links with other perspective directions of development of science and practice which will be the most relevant in the near future.

There are principles of personality development principle, for example professional education. This principle is entirely consistent with the model of continuous education, which applies in the oil and gas industry currently. The system involves the introduction of multilevel and multi-professional postgraduate education.

Principle of personality self-development. Realization of the principle of self-development of intellectual, willed, emotional and sensomotor spheres of trainees' individuality has to take place on all education levels, including the postdegree education.

The principle of the advance social order means forecasting, formation and the advance satisfaction of future needs of society for vocational training of personnel that is very relevant in oil and gas education in relation to development of the Arctic region. It is necessary to figure out and consider the principle of the regional social order. Professional educational institutions create workplaces for graduates in their structure according to professions challenging for the region. Establishment of rational proportions in training personnel for regions that attracts revision of the available education systems and attraction of innovative methods of training.

The principle of structural balance of educational programs proves providing the general (in country scales in general and in regional aspect of consideration) balanced qualification structure of professional educational programs for levels and branches taking into account the forecast of not only demographic situation but also the demand for the new professions connected with development of new regions in Russia .

The principle of the advance forming manufacturing requirements level of professional education of the population has to be based on forecasting, formation and satisfaction of future needs of production for vocational training of personnel. The priority in training personnel is given to hi-tech production taking into account critical technologies and the directions of technological break. Preliminary personnel training for the developing global network

production, trade and other structures is a priority in personnel training for high-tech industries (Lappo, 1997).

To cope with a problem of specialists' training from a position of the advance education many Russian Oil and Gas Universities such as Ufa State Oil Technical University (UGNTU), Tyumen State Oil and Gas University (TSOGU) and Ukhta State Technical University (UGTU) declared commitment for association and cooperation for joint implementation of the program of development of new oil and gas fields (personnel aspect) projects support. The purposes and problems of such cooperation are presented in the program of development of TSOGU for the period till 2018 (Alekseev, 2005).

TSOGU is a Research University and together with partners is intended by 2018 to meet completely the demand of the oil and gas enterprises for the trained staff who will be able to work in difficult conditions of Far North (Large Tyumen encyclopedia, 2004).

At present the updated Russian legislative framework concerning oil and gas branch has the purpose to develop algorithm of "assistance" in realization of a number of strategically important large projects by 2030. It is supposed that many large Russian and foreign corporations, and also a large number of small firms will be involved in these projects (first of all as contractors and subcontractors).

In our opinion, in such large and complex projects systems of object-oriented forms and methods of management of oil and gas production can be applied.

In structure of any megaproject the following participants are involved:

1) the state acts as the customer. Therefore the megaprojects relevant to development of the Arctic region directly are connected with strategic priorities of economy development of the Russian Federation till 2030;

2) the attracted investors acting both from the state, and from private corporations. The mechanism of receiving profit is a main objective at this stage;

3) administrative personnel of this megaproject. At this stage there are challenging personnel affairs;

4) general contractor (large company);

5) subcontractors (representatives of medium business);

6) main financial instrument - financial group (bank).

7) direct owner and/or landowner of the land property (field);

8) federal level authority which is authorized to grant the license for subsurface use of the company;

9) firms – the producers acting as suppliers of the equipment and materials;

10) universities of the country being suppliers of modern qualified personnel;

11) engineers-managers, technicians and personnel;

12) companies of oil and gas branch;

13) the auditors' firms, firms acting as consultants and experts in technical and financial affairs.

Any life cycle of the project includes three stages: initial – pre-investment, the main – investment and working stage - an operation stage.

On each of above mentioned stages the complex of geological exploration and other works is conducted. It isn't dependent on an orientation of works and a stage of life cycle of the megaproject. Each oil and gas project assumes formation of a state order of the Ministry of Energy of the Russian Federation for the leading higher educational institutions on complex preparation and retraining of administrative and engineering personnel. On the other hand implementation of any project assumes a task for large and medium-sized extracting oil and gas companies of their financial and other resource participation in this preparation (retraining) of needed engineering personnel and professional development of experts.

Many universities of our country are aimed at high-quality preparation of engineering personnel and working experts. The complex analysis of such universities is presented in table 1. In Tyumen region such university center is Tyumen Oil and Gas University ("The Tyumen region today", 2009b).

TSOGU is one of the centers of creation and introduction of technologies which are able to provide effective and successful development of new fields ("Naftogaz", 2003). On the territory of university there are 19 research institutes and laboratories, 4 from them were founded together with the Russian Academy of Sciences. Various innovative development which are most approached to production are conducted. Introduction of some new technologies will allow gaining in three years economic effect more than 25 billion rubles annually ("All Russian refineries", 2012). The university developed and is realizing projects of development of cryogenic resources of our region. For instance, use of gas hydrates or valuable biological raw materials will become very relevant in the future. Such projects are developed together with Institute of Earth Cryosphere which is one of the most advanced research establishment in the field of cryology in the world.

Aim of the Study

The purpose of this study is to find out the result of a sociological research question about the need for personnel support petroleum education. the rating of higher education institutions which train oil & gas specialists.

Research question

What is the need for personnel support petroleum education?

Methods

To methods of direct impact on the implementation of personnel support programs include the training of professionals in the industry in universities. Methods of indirect impact is the training of teachers, training them on new information technologies for training and learning methods.

The concept of solving the staffing problems in General, as well as industry or region is a key to effective development and functioning. Improving the quality of education and motivation of talented young people to work in the field of applied Geology, formation of personnel potential are important tasks of the state and educational institutions for the solution in cooperation.

The authors widely used the Chronological method and the comparative analysis.

The work was based on systemic-structural analysis, as well as on the basis of statistical methods.

Results

It should be noted that high qualification of teachers of universities and improvement of technologies of training also plays an important role in training of highly qualified specialists. For realization of this task it is necessary to develop the project of teachers' training for work in the new operating system allowing to improve skills and to improve training methods. For implementation of this project it is necessary to analyze a rating of the Higher Education Institutions of the country which are carrying out training in specialties of the oil and gas direction. This rating was made by the All-Russian public organization "Business Russia". For drawing up rating surveys of the following departments were conducted ("Business Russia", 2015):

HR departments of the large Russian companies of oil and gas branch (the volume of selection made more than 1000 units);

successful young employees who graduated from the university during 2009-2014 (the volume of selection made more than 2000 units).

Also more than 40 expert interviews were conducted and processed with:

– representatives of the top and average management of the main business structures and divisions who effectively and long enough cooperate with an education system, providing workplaces to graduates of TSOGU first of all ("The Tyumen region today", 2009a);

– heads of authorities in education (regional and federal level was involved);

– heads of the top and average management of the research centers, dealing with problems of the higher education (which acted as experts).

These are the indicators of a rating:

1) cooperation of the promising companies as potential employers with Higher education institutions. This cooperation is conducted by carrying out promotion campaigns for graduates' recruitment, and by the similar promotion campaigns concerning trainees. Much attention is paid to preferences in a choice of future experts for work in the company, from a position of Higher Education Institution and existence of strong contractual links between the employer and Higher Education Institution. It should be noted also that the management of the companies asks Higher Education Institutions from which they graduated for recruitment of promising young personnel.

2) competitive level of a salary of university graduates.

After the analysis and processing of polling data the list of the leading Russian Higher Education Institutions which graduates go to work in the large oil companies was made. Further, the list of the leading Higher Education Institutions was divided into three subgroups which were called leagues: as relevant α, ß, γ - leagues. The group was made by the integrated characteristic from the greatest to the smallest. This list is presented in the table No. 1.

Table 1. The higher educational institutions training specialists of oil branch (fragment)

α- league (alphabetically)	ß - league (alphabetically)	γ - league (alphabetically)
1	2	3
Voronezh State Technical University - VSTU	Altai State Technical University named after I.I. Polzunov - AltSTU	Altai State Agricultural University – the Altai SAU
Higher School of Economics National Research University (Moscow)	Volgograd State Technical University - VolSTU	Volgograd State Agricultural Academy VolSAA
Irkutsk National Research Technical University - INRTU	Voronezh State University of Engineering Technologies - VSUET	Volgograd State Architectural and Construction University - VolSACU
Kaliningrad State Technical University - KSTU	Ivanovo State Power University - ISPU	Vologda State Technical University - VoSU
Moscow State Construction University - NRU MSCU	Kemerovo Technological Institute of Food Industry - KemTIFI	Voronezh State Architectural and Construction University - VSACU
Moscow State Technical University named after N.E.Bauman - MSTU	Kuban State Technological University - KubSTU	Voronezh State University - VSU
Lomonosov Moscow State University - MSU	Moscow Automobile and Road Institute (state technical university) - MARI	Financial University under the Government of the Russian Federation (Moscow) - FUGRF

Moscow State University of Food Productions - MSUFP	Moscow State Institute of Steel and Alloys (technological university) - MSISA	Vyatka State University - VyatSU
Nizhny Novgorod State Technical University - NNSTU	Moscow State University of Press - MSUP	Moscow State Institute of International Relations (university) The MFA of Russia - MSIIR
Orenburg State University - OSU	Moscow State University of Applied Biotechnology - MSUAB	Nizhny Novgorod State Architectural and Construction University - NNSACU
Perm State Technical University - PSTU	Moscow State University of Railway Engineering - MSURE	Samara State Space University - SSSU
Perm State University named after M. Gorky - PSU	Moscow Power Institute (technical university) – NRU MPI	Samara State Technical University - SSTU
Gubkin Russian State University of Oil and Gas (Moscow) - RSU	Novosibirsk State Technical University - NSTU	Siberian State University of Railway Engineering (Novosibirsk) SSURE
Mendeleyev University of Chemical Technology of Russia (Moscow) - MUCTR	Russian Economic University named after V. G. Plekhanov (Moscow) - REU	Tyumen State Architectural and Construction University – TSACU
St. Petersburg State University - St.Petersburg SU	Russian State Social University - RSSU	Ural State University of Railway Engineering - USURE
Tyumen State Oil and Gas University - TSOGU	Ural State Mining University - USMU	

On the basis of Tomsk polytechnical university the master program of Heriot-Watt university is founded and working. Training process duration according to this program takes 1 year.

The Russian graduates have to be competitive in the international market. Carrying out the analysis of educational programs of specialists' training of oil profile it is necessary to list the prestigious universities which are out of Russia: Texas A&M University – College Station, University of Texas at Austin, Stanford University, Colorado School of Mines and University of Oklahoma.

At universities the direction of students' training on the international master programs together with leading universities of the world was formed and is being developed at present.

In September, 2015 on the basis of the Russian state geological prospecting university named after S. Ordzhonikidze meeting on education problems in the sphere of geology took place. At this meeting there were participants from 30 leading educational institutions which carry out training, first of all in the field of applied geology, representatives of the Federation Council of the Russian Federation, the State Duma of the Russian Federation and expert community.

Main objective of this arrangement was that many large companies, such as JSC Rosgeologiya and JSC Transneft – Siberia are aimed at attraction and keeping of young personnel in a profession and improvement of education quality. Thus, much attention is paid to professional orientation work. The solution of personnel problems of the country in general, as well as branch or

the region is guarantee of effective development and functioning of this subject. Improvement of education quality and motivation of talented youth for work in the field of applied geology, formation of personnel potential are important tasks which business, the state and educational institutions have to solve in cooperation.

For the last 15 years staffing level of the geologic exploration organizations by experts with higher education has been decreased almost by one and a half times, the share of the age personnel grew and at the same time the share of the personnel in economically active of age category till 40 years decreased. Now the average age of workers of Rosgeologiya makes 46-47 years. Therefore, each large enterprise is faced by a problem of personnel policy namely achievement of optimum balance of processes of updating and preservation of quantitative and qualitative structure of the personnel. An opportunity to provide continuity of knowledge and experience from the senior generation to youth is important as well. The oil branch needs young qualified personnel.

Following the results of meeting the initiative of formation of all-branch strategy of development of personnel potential was supported.

Today for modeling of various geological processes there is a number of information products of both the Russian and not Russian production. The best from a position of modeling and programming from the existing information systems are Petrel (Schlumberger), Irap RMS (ROXAR), Surfer, Tigress, GOCAD, StrataModel (Landmark). From them Petrel (Schlumberger) and Irap RMS (ROXAR) are widely used. These programs are rather powerful information systems which cornerstone the modular principle is. The modular system allows considering all technological chain necessary for the solution of problems of modeling of geological processes.

Petrel is a software package of the Schlumberger company for creation of geological and hydrodynamic models, and also an assessment of geological deposits.

Petrel is the complex program which includes a wide range of modules and allows working as with basic data for creation of models, and with models.

Important functional feature in work with the Petrel program is opportunity to describe reservoirs in real time that helps to update quickly models in process of receipt of new data, to control scenarios of calculation for the exact analysis of all development and to analyze risks and uncertainty throughout all existence of a field (Kanevskaya, 2012).

IRAP RMS is a modular program complex intended for modeling of geological and hydrodynamic processes. This complex includes innovative technological and information development in the field of dynamic modeling. Hydrodynamic modeling and design allows to optimize development of deposits and to raise economic effect of development. Big plus of this program is that it allows projecting and modelling the processes happening at all stages of functioning of a field: from a choice of a geographical arrangement of geologic exploration works and design of wells and finishing with calculation of stocks.

During work on this subject and the analysis of the available software products authors chose the VisualAge for Java 3.5 program on the basis of the OS/2 WarpConnect 4 operating system.

By means of this, rather simple and effective program it is possible to improve qualification and level of teachers at the considered universities. It is necessary to develop the course directed on training to work with this means of Java-applications, and also to work bases with a new operating system of university teachers for their further use when training experts.

The VisualAge for Java 3.5 program will give the chance of improvement of quality of training. Rather simple in work, it allows creating the innovative, meeting the modern competence-based requirements distributing material, a course of laboratory works with the detailed description and illustrations.

OS/2 WarpConnect 4 represents the new, expanded version of the modern software. The modern interface of the program and a number of innovations facilitates work with it and gives great opportunities. The OS/2 system provides the whole set of innovative means of network interaction that within the large company helps to cut expenses significantly. On the basis of this software the IBM company developed an innovative product the VisualAgeSmalltalk programming language. Unlike other popular programming languages, such as VisualBasik, C++, and the object pascal, VisualAgeSmalltalk differs in proximity to a natural language of human communication that simplifies its understanding and considerably facilitates process of training of this programming language.

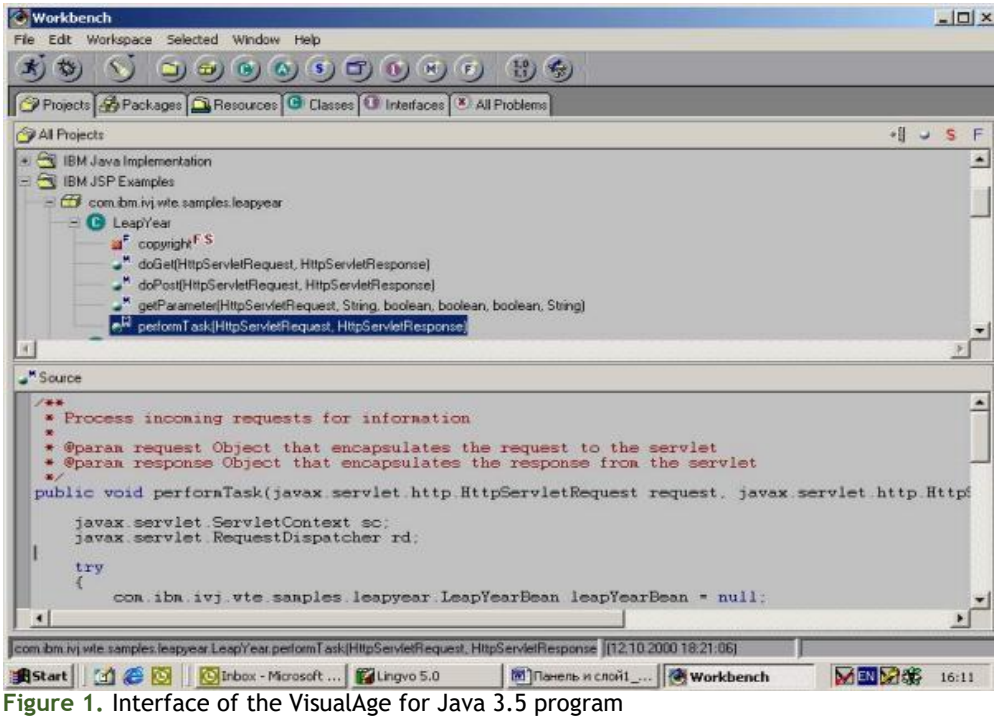

Figure 1. Interface of the VisualAge for Java 3.5 program

Examples of modeling of geological processes are presented in fig.2

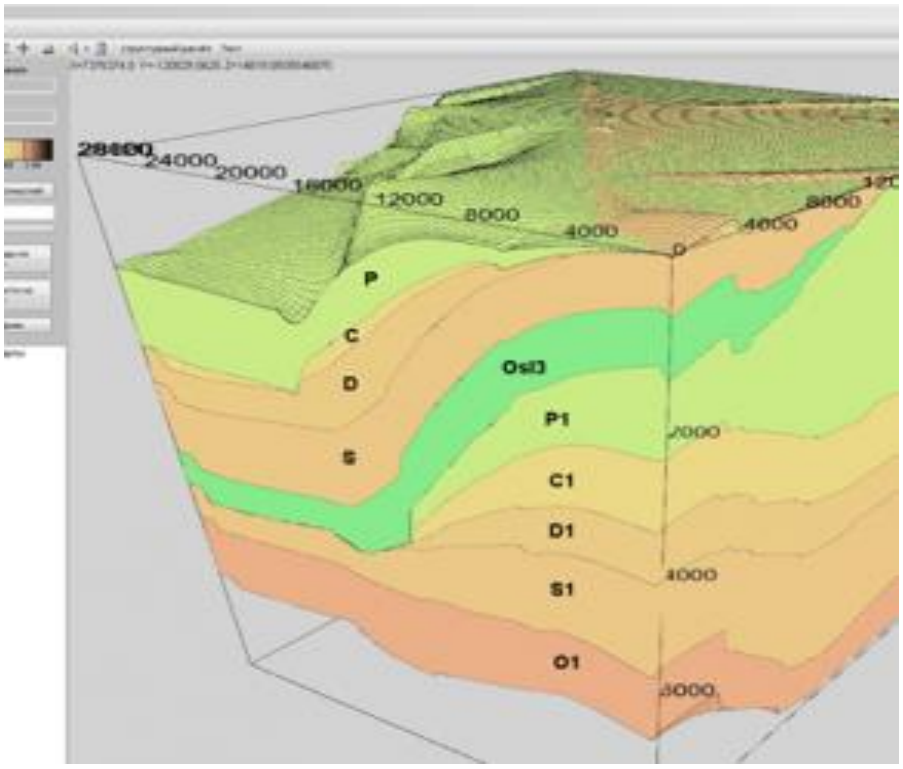

Figure 2. Modeling of geological processes by means of VisualAge for Java 3.5

At possession of skills of work with VisualAge for Java 3.5, creation of 3-D images of objects of research for their visual assessment is initially possible (Glebov, 2006). Also VisualAge for Java 3.5 differs in simplicity of the interface, there are no those numerous windows and buttons which frighten the beginner and complicate to adjust for work in this program (Zakrevsky, 2009).

Now the Institute of development of innovative projects in Ufa proposes some innovative solutions in education, such as interactive boards, a digital microscope. Purchase of similar development at present in Russia costs very much and therefore the course in programming for teachers will give the chance to everyone on the basis of the university to develop independent projects.

The problem has at least two solutions:

The first option is to issue special literature (a series of textbooks) for independent studying in which it is possible to review the main opportunities and examples of use of the software product in oil and gas production.

The second option is to develop a course, using innovative methods of teaching who will help to master for the shortest time the principles of modeling and work with the OS/2 operating system, and also the scheme of work in the VisualAge for Java 3.5 program.

The second option looks economically more attractive because allows to master completely for rather short time methods of dynamic programming under the leadership of skilled teachers or independently (Korzhubaev & Suslov, 2008).

In the course assumed by authors the text of lectures consists of eight parts. The first part is a survey, it is devoted to opportunities of the OS/2 operating system, and in the subsequent parts the detailed description of parameters of the VisualAge for Java 3.5 program is given. The developed course contains ten laboratory works which are devoted to the basic rules and opportunities during the work with VisualAge for Java 3.5. Reasoning from this fact the estimated duration of a course makes ten days. Training will be provided on the basis of Tyumen State Oil and Gas University. Teachers of above-mentioned educational institutions will be sent to the advanced training courses. The scheme of calculation of cost of works is presented in table 2.

Table 2. The scheme of calculation of cost of works

№	*Name of articles*	*Expenditures (rouble)*
1	Salary and insurance payment	65000
2	Materials	16390
3	Expenses on operation of the computer equipment and other office equipment	61530
4	Indirect costs	35230
5	Planned cost of works	176150
6	Charge	5284,5
7	Full cost of works	355584,5

Approximate period of implementation of this project – 3 years.

Also, on the basis of Tyumen State Oil and Gas University it is supposed to introduce system of forecasting and high-quality monitoring of a personnel state in general which will promote formation of target figures of enrollment of students and the order for training of specialists.

Discussion and Conclusion

It was eaten over 40 expert interviews and processed:

– representatives of senior and middle management of key business structures and units, which effectively and long enough to cooperate with the educational system, providing jobs to graduates of TSOGU in the first place;

– the heads of government in education (involved regional and Federal level);

– senior and middle management of research centers dealing with the problems of higher education (who acted as experts).

These are the indicators of the rating:

1) cooperate with the companies as potential employers with higher education institutions. This cooperation is carried out through advertising campaigns in the recruitment of graduates, and similar actions in respect of interns. Great attention is given preference in the selection of future professionals to work in the company, with the position of the University and the presence of a strong contractual relationship between the employer and the University. It should also be noted that the management requests the educational institutions from which they graduated to attract promising young specialists.

2) competitive salary level for graduates.

After analyzing and processing the electoral data list of leading Russian universities whose graduates go to work for a large oil company was done. In addition, the list of leading higher educational institutions were divided into three subgroups, which received the name of the League: in the relevant α, ß, γ League. The group was made an integral feature, from the greatest to the smallest. This list is presented in table 1.

On the basis of Tomsk Polytechnic University master program University Heriot-Watt has been working. The duration for the programme lasts 1 year.

Russian graduates should be competitive in the international market. Analysis of educational programs of preparation of specialists of the oil profile have a list of prestigious universities that are located outside of Russia: Texas A&M University – College station, University of Texas at Austin, Stanford University, Colorado school of mines and University of Oklahoma ("Annual report", 2014).

At universities was formed by the direction of training of students on international master programs in cooperation with leading universities in the world and is currently under development.

In September 2015, was held at the Russian state geological prospecting University named after S. Ordzhonikidze after the meeting on the problems of education in the field of Geology. At this meeting there were participants from 30 leading educational institutions that provide training, primarily in the field of applied Geology, representatives of the Federation Council, State Duma and the expert community (Oil Refining industry of Russia, 2005).

The main purpose of this event was that many large companies such as OJSC Rosgeologiya and Transneft Siberia aimed at attracting and retaining young professionals to the profession and improving the quality of education. Thus, great attention is paid to career-oriented work. The solution of personnel problems of the country as a whole, as well as industry sector or region is key to effective development and functioning of the subject. Improving the quality of education and motivation of talented young people to work in the field of applied Geology, formation of personnel potential are important tasks that business, government and educational organizations for the solution in cooperation.

Over the past 15 years the number of staff exploration organizations, specialists with higher education has decreased by almost half, the proportion of

the age of personnel decreased and at the same time, the share of personnel in the economically active age category of under 40 years has decreased. Now the average age of employees Rosgeologiya is 46-47 years (Analysis and forecast, 2011). Therefore, every major company faces the problem of personnel policy, namely the achievement of optimum balance of processes of updating and preservation of the quantitative and qualitative composition of the staff. The ability to provide continuity of knowledge and experience from older generation to young people is important. The oil industry needs young skilled workers.

Following the meeting of the initiative for the formation of all branch strategy of development of personnel potential support.

Implications and Recommendations

1. A situation in oil and gas branch of Russia from a position of personnel support is not favorable in the organizational and innovative matters. Therefore the model of the advancing education concerning both engineers, and specialists of this branch is necessary.

2. Transition of Russia to "new educational model" has to be reflected in further development of the Russian geological science, and also the principles of reorganization of subsurface use. In this regard there are new priorities of science and technology, nonconventional for Russia.

3. On the basis of Tyumen State Oil and Gas University it is supposed to introduce system of forecasting and high-quality monitoring of a personnel state in general which will promote formation of target figures of enrollment of students and the order for training of specialists (Bakulin & Kozin, 2007).

4. It is necessary to use innovative technologies of training in system of the advancing and continuous education. On the basis of the conducted sociological research and the analysis of the existing software products used in education it is offered to develop the course directed on increase of educational level of experts of oil and gas.

5. In system of oil and gas and geological education of the Russian Federation it is necessary to adhere to the principles of the advancing social order. Only in this case the education system existing at present in Russia will be socially demanded.

Disclosure statement

No potential conflict of interest was reported by the authors.

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References

Alekseev, A. I. (2005). *The Geography of Russia*, Moscow: Drofa, 264 p.

All-Russian public organization "Business Russia" (2015). Direct access: http://www.deloros.ru/issledovaniya.html.

Analysis and forecast of production of commodity group "oil Refining in Russia". (2011). *The Institute for economic forecasting, issue 2*, 253-267.

Bakulin, V. V. & Kozin, V. V., (2007). The Geography of the Tyumen region Ekaterinburg, 1996. *Russian Gazette, 40,* 26-27.

Glebov, A. F. (2006). *Geological and Mathematical Simulation of Oil Reservoir: Seismic to Geo-Hydrodynamics.* Moscow: Science World, 263 p.

Kanevskaya, R. D. (2012). *Mathematical modeling of hydrodynamic processes of hydrocarbon deposits development.* Ishevsk: Institute of Comuter Researches, 352 p.

Korzhubaev, A. G. & Suslov, V. I. (2008). Strategy of developing the infrastructure of transport of oil, oil products and gas in Russia. *Neftegazovaya Geologiya. Teoriya I Praktika, 3(4),* 1-28.

Lappo, G. M. (1997). *Urban Geography*. Moscow: Vlados, 265 p.

Large Tyumen encyclopedia. (2004). Tyumen: Tyumen State Univercity, 312-314.

Naftogaz. (2003). *The encyclopedia of the TSOGU graduates*. Tyumen, 488 p

Oil Refining industry of Russia. (2005). Geography, 13. Moscow: Science, 77 p.

Sheveleva, N. P. (2014). *The prospects for the implementation of University science window" in Russian universities, about new technologies in the oil and gas industry*. Direct access: http://www.tyuiu.ru/wp-content/uploads/2015/08/Sbornik-materialov-konferentsii-Tom-2.pdf

The Tyumen region today (2009b). *The newspaper "The Tyumen region today", 64*, 14-15.

The Tyumen region today (2009a). *The newspaper "The Tyumen region today", 42*, 27-28.

Zakrevsky, K. E. (2009). *3D geological modeling.* Moscow :Mask, 262 p.