Theoretical and Methodical Foundations for the Process of Forming Professional Logistics Competences of Spa managers at the Higher Educational Institution

Natalya Ivanovna Nikitina\textsuperscript{a}, Elena Yurievna Romanova\textsuperscript{a}, Irina Nikolaevna Nikishina\textsuperscript{a}, Veronica Mickhailovna Grebennikova\textsuperscript{b}, Natalya Avtioni\textsuperscript{a}, Maria Danilova\textsuperscript{c}

\textsuperscript{a}Russian State Social University, Moscow, Russian Federation; \textsuperscript{b}Kuban State University, Krasnodar, Russian Federation; \textsuperscript{c}Moscow Regional Institute for Humanities, Moscow, Russian Federation

ABSTRACT

The article reveals theoretical and methodological foundations of the process of forming logistics competences in a future Manager of a sanatorium complex at the University. A set of theoretical and empirical methods was used in the study to analyze and systematize Russian and foreign experience in logistics training of the Spa managers at the University and normative-legal documents relevant for the subject matter of the study. The authors applied interviewing of respondents, monitoring of educational-professional practices; testing of students; methods of mathematical statistics were employed for quantitative and qualitative analysis of the research results. The logistics training for students majoring in ‘Management of organizations (specialization: hotel, resort and tourist business)’ is one of the important elements of the higher professional education system at Russian universities. For graduates in this specialty (managers of the Spa complexes) logistics is not only an academic discipline but also a professional tool of analysis and management of the processes for the provision of a wide range of Spa services. The necessity to form different types of competences (including professional-logistics ones) of the graduates majoring in ‘Management of organizations’ is associated with the transition of the Russian system of higher education to the competence-based training model. The authors of the article analyze the results of the long-term (2003-2015) experimental work in the field of vocational and applied (practice-oriented) logistics training of future managers of Spa resorts. This research has shown that the formed system of professional and logistics competences of the sanatorium complex managers significantly increases their competitiveness and mobility in the labor market, contributes to the successful labor adaptation of young professionals.

KEYWORDS

Sanatorium Complex Manager, Spa Services, Professional-Logistics Competence, Professional Training in the University, Students’ Logistic Projects

ARTICLE HISTORY

Received 14 July 2016
Revised 17 September 2016
Accepted 22 October 2016

CORRESPONDENCE Natalya Ivanovna Nikitina nn0803@mail.ru

© 2016 Nikitina et al. Open Access terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/) apply. The license permits unrestricted use, distribution, and reproduction in any medium, on the condition that users give exact credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if they made any changes.
Introduction

A significant role in health promotion of citizens of the Russian Federation belongs to the industry of Spa services in the framework of recreational, therapeutic and preventive potential of the balneal regions.

The sphere of Spa services of the Krasnodar region is a rapidly developing component of Russia's economy and requires creating a practical mechanism for improving the competitiveness of national products in the global market of health services. Today in the Krasnodar region the work to bring the resort infrastructure to the international standards is actively carried out. It implies mandatory realization of logistic approach to the hospitality industry management.

In the Krasnodar region an extensive infrastructure of health resort complexes (more than 680 complexes) is considered as a multifunctional network of medical and health institutions, as well as their serving organizations, for the purpose of prevention, improvement and treatment of citizens with the help of natural (climate, mineral water, mud) means predominantly.

A modern manager of the Spa complex operates in the highly competitive market where logistics, since the 90-ies of the XX century, has become one of the leading tactical and strategic management and decision-making tools in the field of business activity development and improvement of the quality of provided services.

Vocational logistics training of a sanatorium complex manager is determined by the segmentation and differentiation of the market of treatment and prevention, therapeutic, recreational services in the Krasnodar region; the specificity of the marketing positioning of a particular company in the hospitality industry.

The analysis of consumer market of medical, health and recreational services at the Spa complexes of the Krasnodar region showed that the main demand for services and treatment is expressed by following categories of people: a) 'organized' tourists who have received vouchers for treatment; b) the pensioners who have arrived for recreation and treatment under the social program; c) 'unorganized' vacationers, who have arrived at the Spa resort; g) parents who have come to visit their children treated in the establishments of a sanatorium type; d) citizens who have arrived to the cities of the Krasnodar region as business and scientific tourists and wish to obtain Wellness, balneological and recreational services.

The Russian State standards of higher professional education on training specialists in 'Management of organizations' contain the basic requirements to the results of mastering educational programs in the University in the form of competences according to the types of activities. One of the leading positions is occupied by the professional competence of the manager in the field of logistics services, procurement logistics, transport logistics, information logistics, and logistics management.

Literature Review

Today with the growth of demand and supply for Spa services applying logistics services mechanisms in the activity of sanatorium establishments to ensure their competitiveness, high economic performance and better adaptation
to changing conditions of internal and external environment is an objective necessity.

There have been certain preconditions established in science for the development of theoretical and methodological aspects of the problem of forming professional (including logistics) competences of specialists in various fields (the hospitality industry managers as well) at the universities.

Theoretical-methodological foundations and didactic peculiarities of higher vocational education of future hospitality industry managers are represented in the works of several researchers (Anzina, 2015; Baburova & Tarkhova, 2011; Khudakova, 2015; Shuljak, 2008).

The issues of logistics servicing application in various sectors of the economy are discussed in detail in the works of many authors (Christopher, 1992; Gribtsova, 2011; Johnson et al., 2002; Simchi-Levy & Bramel, 1997; Mirotin & Tashbaev, 2004; Nerush, 2006). According to Anikin (2002), logistics can be defined as integrated organizational and managerial activities including planning, implementation, coordination, monitoring and management of the provision of the required services, the movement of material flows, as well as information and financial flows interconnected with them at all stages of the delivery of the necessary components of services, transportation and distribution of products under optimal satisfaction of consumers’ demand within accurate deadlines. Gadjinski (2004) treats logistics as a science that teaches approaching the arrangement and management of any process in practice in an optimal manner (whether it be movement of material flows or of knowledge flow when creating intellectual capital).

In the works of a number of scholars the features of modelling the system of specialists’ competency and competences are thoroughly discussed (Evers et al., 1998; Fleming, 1993; Mirabile, 1997; Tatur, 2004; Zhukova, et al., 2011; Zimnyaya, 2003), as well as the implementation of the competence approach in vocational education (Curry & Wergin, 1993; Everwijn et al., 1993; Farmer, 1988; Fedorova & Fyodorov, 2013; Marchibayeva et al., 2015; Nikitina & Rudko, 2012; Zeer et al, 2001).

In modern Russian Pedagogics of vocational education 'competence' is regarded as a target category of professional training of graduates of colleges and universities, and as a basic category of functional goal sets of the development and implementation of standards, quality norms and curricula (Okorokov, 2013; Solovev, 2007; Zimnyaya, 2004).

Competence is the underlying characteristic of the subject of activity, which is causally linked to the criteria of effective (successful) actions in their professional/casual situations. The competence determines professional behavior (action) of a specialist in a specific labor situation, in solving certain professional tasks. The basis of the graduate’s competencies is represented by the system of knowledge in the respective professional field and primary experience in performing basic labor operations (Everwijn et al., 1993; Markova, 1998; Tatur, 2004; Zeer et al., 2001).

In general, the professional competence means the willingness and ability of University graduates to solve relevant problems and challenges methodically organized and independently on the basis of the conscious system
of interdisciplinary knowledge and mastered skills, as well as to assess adequately the results of their activities.

However, the Russian scientific research sufficient attention is not paid to the disclosure of the specifics of the process of forming vocational and logistics competences of the future managers of spa complexes based on the consideration of complex features of a particular health-resort region of a Federal State.

**Methods and Data**

The study was conducted at the branches of the Russian State Social University (RSSU) in the resort cities of Anapa, Kislovodsk, Stavropol, Sochi, Armavir and Pyatigorsk. At various stages of the experiment the study included 568 of students majoring in 'Management of organizations (hotel, Spa and tourist business)', 56 University professors; 83 managers of the Spa complexes (bases of practical training of RSSU branches). All the subjects of the experimental work took part in it voluntarily and understood the importance of the pedagogical experiment on the formation of the professional-logistics competences based on the set of features of the specific health-resort region of the Federal State.

In the course of the study a complex of methods was used: *theoretical methods* (study, analysis and systematization of Russian and foreign experience of logistics training of the Spa managers at the University; modeling of the process of forming logistics competences of future managers at higher educational institution; analysis of normative-legal documents regulating the requirements for the professional training and professional competence of the managers, etc.): *empirical methods* (questionnaire surveys and interviewing of students, university professors, managers of the Spa complexes and employers); *monitoring*, including participant observation over the process of educational-professional practices; *testing* of students, analysis of the results of students’ practical activities, pedagogical experiment, etc.): *methods of mathematical statistics* (quantitative and qualitative processing of the research results).

The graduates of the specialty 'Management of organizations' - 2010 (83 persons) were identified as a notional control group. A notional experimental group consisted of the 2015 graduates (85 persons).

**Results**

**Meaningful Rationale Essence of the Professional-Logistics Competences System of the Spa managers**

In this article we share concepts of 'competence' and 'competency': the competences are the atomic units in relation to competency.

In the studies of a number of scientists (Kondakov, 2005; Markova, 1998; Shadrikov, 2004; Tatur, 2004) the competency is treated as an integrated professional and personal characteristic of a specialist, which has a complex hierarchical structure that includes a set of professionally important and personal qualities, the system of competences which are necessary for productive activities in solving professional tasks.

We have assumed that professional competency is not a spectral set of certain competences, but is a complex hierarchical system of interdependent and
interrelated competences, professionally important and socially significant personal qualities of the specialist.

Professional-logistics competency of the Spa managers reflects the level of their proficiency in methods of planning and coordination of joint activities of various enterprises, firms and organizations for the effective promotion of high-quality goods and services from the producer to the consumer at the required place and time with minimal costs (see Figure 1).

![Figure 1. Functional-theoretical model of professional-logistics competency of a Spa manager](image)

We consider the professional-logistics competences of the Spa manager as the required result of the educational activities of the University, including not only a set of interdisciplinary knowledge, but also mastered ways of actions, techniques, business and personal qualities that are necessary for the productive activities on solving specific professional tasks. The content of professional logistics competences of the graduates includes interdisciplinary knowledge, basic (primary) experience in professional logistics activities with manifested independent professional thinking, motivation to self-education in developing new technologies of the logistic service.

The manager’s systemic worldview is a basic foundation of the formed professional and logistics competence system enabling to identify the causal relationships of the studied process, to formulate the contradictions and
problems, to carry out the search for adequate means to address them with logistic tools.

During the research it was necessary to reveal the essence and content of professional-logistics skills of University graduates majoring in 'Management of organizations'. The analysis of the content of requirements of the State Standard of higher education 'Management of organizations' was carried out. We analyzed also the professiograms of managers of the Spa organizations, presented in the scientific literature; the qualification requirements for managers of the Spa facilities established in the relevant sections of the All-Russian Classifier of Employees' Positions; understanding of this phenomenon by employers of the Krasnodar region and the RSSU graduates employed.

The analysis revealed the following professional-logistics competences of the Spa manager:

- **informational-analytical competences (skills)** (include mastery of methods and technologies for creating logistics information systems; skills of analysis and formation of the informational and material flows; ability to solve problems of information support of logistic system of the enterprise; analytical skills to identify the reasons for the decline of the enterprise competitiveness and to develop evidence-based projects to improve the efficiency of the various departments of the institution);

- **marketing competences** (the skills to identify relevant and promising trends in consumer demand; the use of the segmentation analysis technologies for the market of Spa, tourist, recreational services; the marketing research technologies) (Beketov & Fedorov, 2008; Degtyarenko, 2002; Vetitnev, 2001; Gribtsova, 2011);

- **optimization-technological competences** (mastery of organizational skills in logistic processes at the enterprise and skills of optimization modeling; the use of technologies in procurement logistics, production logistics, distribution, marketing and inventory logistics, transportation logistics, service logistics);

- **organizational and managerial competences (skills)** (include the ability to solve problems of organization and effective functioning of logistics services at the enterprise; skills of planning, regulating and managing of material and information flows; the ability to effectively manage the conflicts in the field of logistics activities; the ability to work in a team to achieve goals; knowledge of the logistics management organization) (Mirotin et al., 2003; Niecheva, 2014; Sotnikova & Osipov, 2008);

- **professional-ecological competences** (the introduction of ecological methods in the management of Spa complex, the compliance with the consistent worldwide standards, such as standards for environmental protection – The International environmental management standards, standards on quality and/or environmental management systems auditing – the ISO 19000; the occupational health and safety assessment standards – the OHSAS-18000);

- **monitoring competences** (the abilities to develop systems for monitoring the effectiveness of the logistics system of the organization; the abilities to create expert systems in the service logistics; the skills of assessing the effectiveness of logistics systems at the enterprise; the abilities to monitor the quality of the services provided by Spa complex, to determine the
service quality satisfaction index of customers, employees, social partners) (Nikitina & Gribtsova, 2012; Shuljak, 2008):

- **socio-economic competences** (interpreted as skills to develop business plans for the evolvement of Spa complex in collaboration with professional economists; to establish productive business contacts with investors);

- **predictive competences** (include the abilities to implement the procedure of the company’s logistics strategy development; the skills of predictive modeling in logistics; decision-making skills for strategic planning of logistics development at the enterprise).

**The Stages and Principles of the Process of Forming Professional-Logistics Competences of Future Managers of the Spa Complexes at the University**

The process of forming professional-logistics competences of future managers of Spa resorts at the higher educational institution has a multipurpose character: the Specialists are stimulated to apply logistics technologies at the workplace; activated for self-education in the field of applied logistics; the ability to exercise forbearance, persistence, to mobilize their efforts to overcome the difficulties that inevitably arise in the professional activity of managers is actualized; it helps predict the probability events, the vector of development of innovative professional trends in the hospitality industry, health and spa sector.

The process of forming professional-logistics competences in future managers of the Spa complexes at the University is built in stages:

- **diagnostic and indicative stage** involves students’ mastering the major logistic tools required for professional activities in the field of management, the identification of integrative relations between Logistics, Mathematics, Economics, Computer Science and relevant disciplines;

- **professional-propaedeutic stage** is the mastery of operational logistic actions, the use of logistic systems and technologies to solve the simplest professional tasks of management, the simulation of professional management situations requiring the application of logistics tools in business role-play;

- **training-formative stage** involves the solution of professional tasks of the Spa manager with application of modern logistics technologies in the periods of practical training and volunteer activities in health centers;

- **productive-integrative stage** is the application of accumulated experience in the implementation of logistics technologies for solving professional tasks of management during the period of externship, the self-educational drive in the field of logistics services.

The main principles of implementation of the process of forming professional-logistics competences in future managers of the Spa complexes at the higher educational institution are:

- **the principle of congruence** (matching theoretical and technological basis of the logistics higher education to the modern nature of work of the Spa manager);

- **the principle of context-situational learning** (the selection of the manager’s professional activity situations that requires to manifest logistics
competences, and the organization of educational process on the basis of their analysis):

- **the principle of regionalization**, which involves accounting the regional conditions;
- **the principle of creativity**, which is implemented by organizing individual and collective creativity of students to develop and implement logistics projects;
- **the principle of predictability** of logistical training in the context of the evolution of information and logistics technology used in management;
- **the principle of integrity**, i.e. the manager’s logistical training in the context of the University based on the structural-logical interdisciplinary connections of the academic disciplines, promoting integration of professionally important knowledge, abilities and skills.

In the process of University training particular attention was paid to the development of optimization-technological competences of Spa managers, as managers should have skills of solving logistic tasks of supplier selection (for example, food products for canteen, sports equipment, excursion programs, etc.): they should be able to calculate the supplier’s rating, to implement the procedure of supply control, and to solve other optimization problems of servicing logistics efficiently.

At the formative stage of the pedagogical experiment the students learned the algorithm of logistic analysis of the particular Spa complex competitiveness, the logistics auditing technology, the formation of system of the sanatorium customers’ logistical servicing; special attention was paid to the development of students’ mathematical apparatus for calculation of an indicator of the logistics services level of Spa complex.

Students also performed professionally-applied projects on the logistical analysis of the performance of specific health resorts of Anapa, Sochi, Pyatigorsk, Kislovodsk and on the development of a logistic strategy to increase the Spa complex competitiveness based on the obtained data; also they carried out the projects for calculating the indicator of the level of logistics services of Anapa health resorts.

The formation of professional logistics competences of the future managers was carried out in the process of implementation of the author’s elective courses (‘Logistic models in Management’, ‘Methods of evaluating of the performance of production logistics system, ‘Logistics Servicing Technology’, ‘Management of material flows in the logistic chains at the regional level’). Content and methodology of these courses included solving a significant number of cases, reflecting the specifics of the application of logistics practices in the professional activity of the spa region manager.

**Design Technology in the Formation of Future Managers’ Professional Logistics Competences**

In recent years, the volume of significant information to be learned for Spa manager’s employment increases rapidly. Unfortunately there is a growing shortage of academic time in high school to learn this information. In these conditions we are talking about the improvement of ergonomic characteristics of the educational process of the University, about the effective management of
educational process. It is necessary for students and professors to achieve the maximum educational and professional cognitive result at minimum time and labor costs during the learning process. The optimal organization of educational process, focused on the cognitive independence and activity of the student is required, as well as optimally conducted systematic diagnostics of the students’ proficiency level, and at the same time fundamental education, aimed at training flexible and multifaceted scientific thinking of the future specialist, promoting professional adaptation in the rapidly changing socio-economic conditions, should be directed to the solution of creative professional problems.

In the professionally-oriented logistics training for future managers project technologies, which are based on the students’ ability to navigate in the information space and ‘design’ their professionally-applied and practice-oriented knowledge independently, are particularly important. In carrying out the project the students’ activities can be individual, they can also work in pair or in group. Work is performed within a certain period of time and aimed at solving specific training problems.

The main objective of in carrying out logistically-oriented projects is to provide the detailed answers to the questions: What is already existing in the segment of the offered spa services of a particular balneological region? What does the market of Spa industry offer? What is the competition? Is there the dynamics of the market price? Who are potential consumers of new services (age, sex, social status, lifestyle, level of material status, level of culture, etc.)? What needs are you going to meet by introducing your service (improvement of consumer, esthetic qualities: decrease in costs and prices: market expansion: streamlining the object environment: reduction of production, trade and transport costs, etc.)? By means of what do you want to succeed? What ideas and suggestions do you have? What resources and opportunities do you have? What ideas and proposals may be the most appropriate in these conditions? What additional resources will be required? What level of cooperation do you consider the best in the implementation of your project? What qualifications must the employers have when implementing your project? What are the major expenses associated with the project? How are you going to present your "product" at the market (advertising, its types)? How do you plan to organize marketing and sales? Would you like consumers to know the project author? What did you like the most while working on the project? What would you like to improve, if you started working out this project again?

University professor, who applies project technology in the teaching practice, should be able to create students’ motivation to perform the project qualitatively: to create an educational environment as close as possible to the future professional activity: to define clearly what students should learn at the end of the project: to be able to organize project work in groups or individually: to advise: to have criteria for objective evaluation of the project result.

The ability to organize project activities of students is an indicator of high qualification of the university professor, his/her ability to use educational technologies in professional-focused training.

At the Contest of Students' Projects (where potential employers were the members of the jury) the following projects won: ‘The competitiveness assessment and justification of the choice of logistics strategy for the “Wave” Spa recreation camp (the resort city of Anapa)’, ‘The competitiveness assessment and
justification of the choice of the logistic strategy for the “Flame” health and recreation resort center (the resort city of Temryuk).

A special role in the formation of the future manager's professional logistics competences was played by the section of the student scientific society 'Logistics in Spa services'.

Discussion

The Levels of Formedness (Manifestation) of Graduate's (Manager's) Professional Logistics Competences and a Set of Criteria to Identify these Levels

On the basis of data of theoretical and empirical analysis of the problem and set of the diagnostic techniques used in the study the characteristics of the levels of formedness of professional-logistics competences were developed:

- **adaptive-situational level** (includes basic knowledge in the disciplines of logistics, mathematical, economic, legal, special professional, and computer skills; the ability to 'translate' a standard optimization problem in 'logistics language', to build and to implement the algorithm for application of the logistic apparatus and computer technology to the solution of standard tasks of employment);

- **the functional-activity level** (includes the formedness/maturity of basic logistics competences for planning and implementation of work processes; automation of the application of logistic technologies for the solution of standard problems of professional activity under the manager's specific functionality; sustainable motivation for self-development in logistics culture; the existence of basic skills of scientific organization of labor);

- **professional-system level** (includes the possession of systemic logistics knowledge, applied algorithmic and heuristic logistic technologies and standardized vocational and specialized computer programs; the ability to analyze professional problems requiring non-standard approach for their solution in a complex; to solve professional problem by creating a logistic (mathematical) model of process or system independently; the formed flexibility, criticality, systematic professional thinking);

- **creative-research level** (includes the desire for the manifestation of heuristicity in professional activity; the systematic use of variable logistic methods and computer technologies in various types of professional activity; independent and divergent professional thinking; the desire to develop the author’s logistic methods to solve non-standard professional tasks).

Identification of the levels of formedness of manager's professional logistic competences is based on the following criteria:

- **motivational-axiological criterion** (a positive attitude to professional activity of a manager in the hospitality industry; awareness of the need of logistics competences to solve tasks of professional activity; the constant self-education drive in the field of applied logistics technologies);

- **professional-cognitive criterion** (possession of professional logistics knowledge, algorithmic and heuristic applied logistics technologies; the formedness of analytical and predictive way of thinking);
• *procedural-technological criterion* (formed practical preparedness and the ability to apply independently variable logistics management technologies; the ability to find creative solutions to managerial problems; the ability to solve effectively professional tasks, making optimal solutions in hard-coded rules and situational conditions; knowledge and execution of legal norms regulating the professional-logistics relationships in the sanatorium and resort area).

**Comparison of Retrospective Data of the Levels of Formedness (Manifestation) of Graduate’s (Manager’s) Professional Logistics Competences**

According to the results of pre-diploma practice, the expert assessments of the development of professional-logistic competences of graduate students majoring in ‘Management of organizations’ were compared (Table 1).

**Table 1.** The results of the expert assessment* of the formed professional-logistics competences of the University graduates majoring in ‘Management of organizations (hotel, Spa and tourist business)’

<table>
<thead>
<tr>
<th>COMPETENCES</th>
<th>2010 Graduate</th>
<th>2015 Graduate</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{x}_1 )</td>
<td>( \bar{x}_2 )</td>
<td>( \sigma_1 )</td>
</tr>
<tr>
<td>information-analytical</td>
<td>56.48</td>
<td>74.68</td>
<td>7.53</td>
</tr>
<tr>
<td>marketing</td>
<td>58.35</td>
<td>73.24</td>
<td>7.56</td>
</tr>
<tr>
<td>optimization-technological</td>
<td>60.59</td>
<td>78.16</td>
<td>7.41</td>
</tr>
<tr>
<td>organizational-managerial</td>
<td>57.12</td>
<td>86.38</td>
<td>8.93</td>
</tr>
<tr>
<td>monitoring</td>
<td>63.27</td>
<td>81.37</td>
<td>7.81</td>
</tr>
<tr>
<td>prognostic</td>
<td>56.48</td>
<td>74.68</td>
<td>7.53</td>
</tr>
</tbody>
</table>

* The experts were training facility specialists, University professors, employers. The table shows the mean score.

The table shows the formedness dynamics of the above competences in the 2010 and 2015 graduates, with averaged expert score (according to the **100-point scale**), the quantitative representation of the indicator increment (difference in the mean scores) and the probability of statistical significance of changes using the Student criterion.

To determine the consistency of evaluations the coefficient of concordance \( W \) was defined for each competence. It showed the consistency of experts’ opinions from the average (0.58) to strong (0.85). It allows considering that a comprehensive evaluation of the graduates’ competence system formedness has been made properly in a sufficient extent.

To verify success of the experiment a non-parametric median criterion was also used. Following the results of the final comprehensive examination on the educational discipline ‘Logistics’ and elective courses of the logistic profile the distribution of random variables \( X \) and \( Y \) were obtained corresponding to the graduate years (2010 and 2015). \( X \) and \( Y \) are the grades and points obtained by students as a result of tasks executed.

The null statistical hypothesis \( H_0 \) was suggested: the same property (the ability to solve logistic tasks) in each of the samples (control group – the 2010 graduates, experimental group – the 2015 graduates) has the same distribution. The medians of students’ distribution according the points they earned for the performance of work, are the same in the aggregate of two groups. The samples have the same median.
The alternative hypothesis $H_1$ implies that in the population of students in the control group and experimental groups the medians of students' distribution according to number of points they earned for performing various control tasks are different.

The hypothesis $H_0 : m_1 = m_2$ is verified – the medians of students' distribution according to number of points they earned for control test are the same in two groups.

Alternative hypothesis is $H_1 : m_1 \neq m_2$.

The median is the score, earned by more than 50% of the students. For level of significance $\alpha = 0.05$ in accordance with the rule of decision-making the null hypothesis is rejected. So we conclude that the results in the experimental group students are higher than the results in the control group students, and therefore the level of skills in the experimental group is higher.

The 2015 graduates showed steady growth of basic professional-logistics competency of the Spa manager. Students' deep understanding of the need for further self-development of professional and logistics competences as one of the important conditions for their success in self-employment after graduation should be noted.

Positive dynamics in the level of the competence system formedness is shown in Figure 2.

![Figure 2. The levels of professional-logistics competence formedness in the Spa managers](image)

**Conclusion**

In today's labor market the increased requirements are imposed upon the logistic training of the Spa managers.

Professional-logistics competences of the Spa manager are manifested as the synthesis of: *a) cognitive and activity components* (the systemic interdisciplinary professionally-applied logistics knowledge, abilities and skills),
b) **personal and professional characteristics** (professional motivation, practical preparedness and ability to perform professional activities using logistic tools);  

c) **primary professional experience** (the basic qualitative performance of professional operations in accordance with regulatory requirements and functional responsibilities of the manager).

A set of conditions providing efficiency of the process of forming professional logistics competences in Spa managers at the higher school includes the following components:

- the consideration of the requirements of the modern labor market of the Spa region for the level of the manager’s professional logistics training during organization of the University educational process;
- the development of the system of training, production and research partnership of the University with the various institutions of Spa infrastructure in the region;
- the implementation of structural and logical interdisciplinary connections of the logistics and legal, economic, mathematical, informational-computer, special professional training of the future manager;
- the regionalization and variability of content and technological basis of the elective courses on logistics service;
- the priority of integrative-modular, project, heuristic vocational and educational technologies;
- phased development of professional logistics portfolio, case-sets of the future manager in the period of different practices (internship);
- the students' motivation and proactive attitude in mastering the logistics competences;
- the professional-logistics competency of the University professors;
- the implementation of the students’ logistics projects in the regional Spa enterprises during the periods of volunteer work and internship;
- the self-educational and research activity of students in the field of logistic management of Spa sphere;
- the systematic monitoring of personal advancement of students in the process of the gradual formation of their vocational and logistics competences.

The prospects of further development of the research problem may be the identification of qualitative differences of content and technological basis of the formation of the professional-logistics competences depending on the specialization of the organization manager; the development of the students’ self-educational culture in the process of mastering vocational competences; the integration of theoretical logistics training and professional applied logistics activities of students during periods of internship and volunteer work; the University teachers’ training to work on formation of the system of professional logistics competences of future organization managers.

**Acknowledgement**

The article was prepared within the framework of the state task of the Ministry of Education and Science of the Russian Federation No. 2014/601 (the Project Code 3106).
Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Natalya I. Nikitina, D.Sc. in Education, professor, Department of Social Pedagogy, Faculty of Social Work, Russian State Social University, Moscow, Russia.

Elena Yu. Romanova, Ph.D. in Education, associate Professor, Department of Mathematics and Computer Science, Faculty of Information Technology, Russian State Social University, Moscow, Russia.

Irina N. Nikishina, graduate student, senior lecturer of the Department of Information Technology, Faculty of Information Technology, Russian State Social University, Moscow, Russia.

Veronica M. Grebennikova, D.Sc. in Education, professor, Department of Psychology and Pedagogy, Dean of the Faculty of Pedagogy and Psychology, Kuban State University, Krasnodar, Russia.

Natalya V. Avtionova, Ph.D. in Education, Vice-rector for educational work, Moscow Regional Institute for the Humanities, Podolsk, Russia.

Maria Danilova, Ph.D. in Philological Sciences, associate Professor of foreign languages Department, Moscow Regional Institute for the Humanities, Podolsk, Russia.

References


