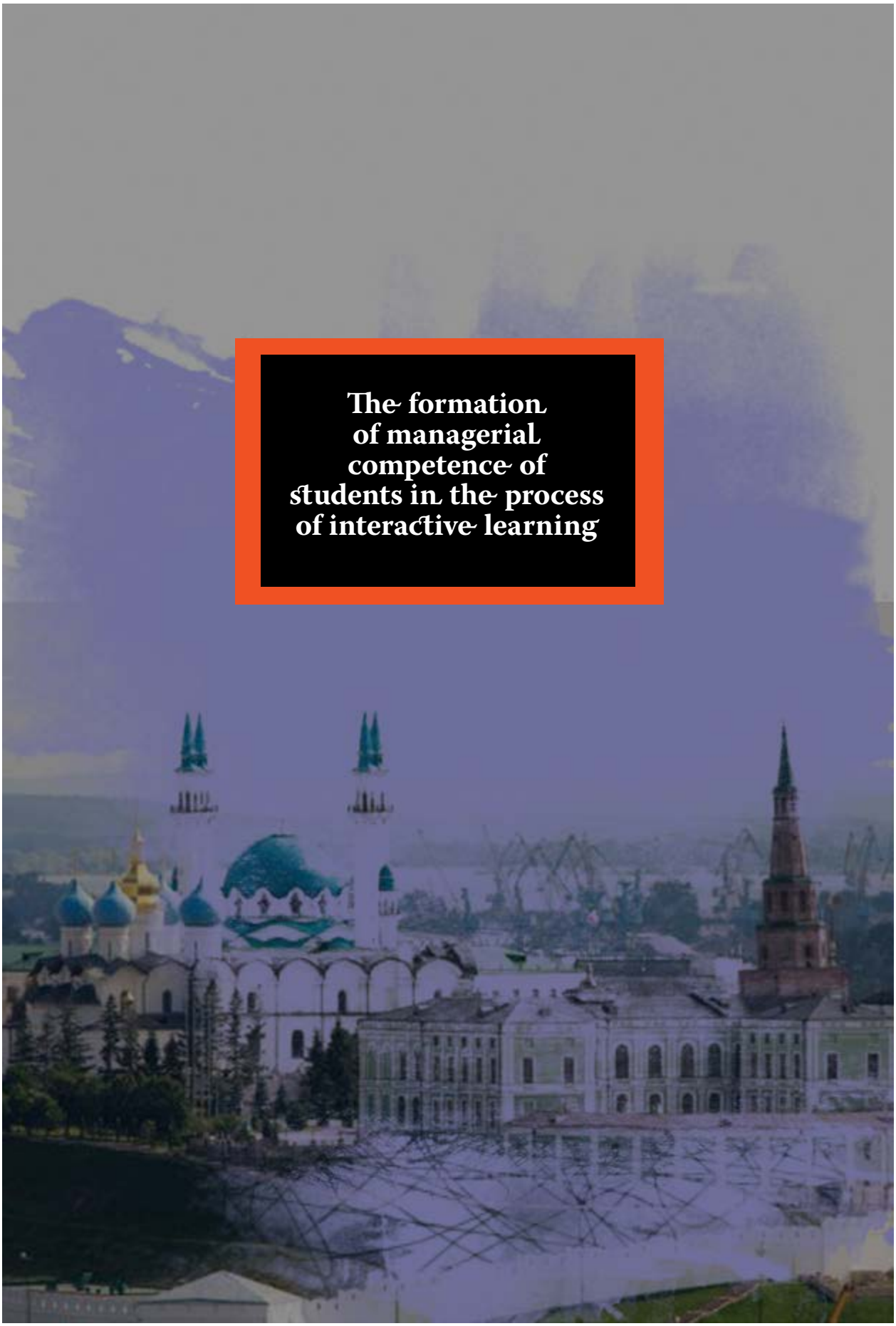

The formation of managerial competence of students in the process of interactive learning

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La formación de la competencia gerencial de los estudiantes en el proceso de aprendizaje interactivo

ABSTRACT

Innovative technologies now form an integral feature of education within the higher education context. The use of interactive teaching techniques as an example of such technologies has become fairly widespread. Interactive teaching techniques such as game-based teaching methods, case-based teaching, are essential in developing students' critical thinking, logical reasoning and communication skills.

Analysis of the existing requirements set for students' learning outcomes indicated that according to the new National Education Standards teachers' scope of work massively expanded. In addition, there was a substantial increase in the number of students which led to new demands put forward with regard to professional tasks and the development of new competences.

Today the society favors mobile, educated and talented teachers who can make conscientious decisions and foresee results and learning outcomes. Teachers also need to be good managers, collaborators and facilitators. Thus, given the above mentioned requirements imposed on teachers, the problem of content renovation, quality improvement and development of professional competences and its constituent parts becomes acute. This research focuses on one of such constituent parts, managerial competence.

KEY WORDS: interactive teaching and learning, interactive methods and technologies, game-based teaching methods, case-based teaching, development of the managerial competence.

RESUMEN

Las tecnologías innovadoras ahora forman una característica integral de la educación en el contexto de la educación superior. El uso de técnicas de enseñanza interactivas como ejemplo de tales tecnologías se ha generalizado bastante. Las técnicas de enseñanza interactivas, como los métodos de enseñanza basados en juegos, la enseñanza basada en casos, son esenciales para desarrollar el pensamiento crítico, el razonamiento lógico y las habilidades de comunicación de los estudiantes.

El análisis de los requisitos existentes establecidos para los resultados de aprendizaje de los estudiantes indicó que, de acuerdo con el nuevo alcance de trabajo de los docentes de las Normas Nacionales de Educación, se amplió enormemente. Además, hubo un aumento sustancial en el número de estudiantes que dio lugar a nuevas demandas presentadas con respecto a las tareas profesionales y el desarrollo de nuevas competencias.

Hoy la sociedad favorece a los profesores móviles, educados y talentosos que pueden tomar decisiones conscientes y prever resultados y resultados de aprendizaje. Los docentes también deben ser buenos gerentes, colaboradores y facilitadores. Por lo tanto, dados los requisitos antes mencionados impuestos a los profesores, el problema de la renovación del contenido, la mejora de la calidad y el desarrollo de las competencias profesionales y sus partes constituyentes se agudiza. Esta investigación se centra en una de esas partes constituyentes, la competencia administrativa.

PALABRAS CLAVE: enseñanza y aprendizaje interactivos, métodos y tecnologías interactivas, métodos de enseñanza basados en juegos, enseñanza basada en casos, desarrollo de la competencia gerencial.

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1. INTRODUCTION

Increasing demands for quality teacher education led to a growing number of requirements towards teachers' professional skills. Such demands also act as one of the indicators of teachers' competitive abilities and show that their professional skills and experience are valued in Russia and abroad.

Enhancing the quality of teacher education at universities is one of the main priorities of the higher education public policy of the country. Indicated policy direction is essential with regard to the effectiveness of various branches of science and due to the ongoing process of modernization of the whole education system.

In this respect the challenges faced while improving the system of teacher education at universities, maximizing its effectiveness, upgrading its content, forms and methods in accordance with new requirements become rather significant.

There is a contradiction between a logical necessity to employ interactive technologies in the process of teaching and learning and difficulties that are encountered by teachers when managing the interactive technologies.

The question that is addressed in this research paper concerns the didactic conditions of using the interactive technologies as an effective method of developing students' managerial competences.

The aim of this study is to identify the didactic conditions for the full development of students' managerial competences while using interactive teaching technologies.

The hypothesis put forward in this study suggests that interactive technologies can act as didactic conditions for developing students' managerial competences if:

- the content and the structure of the managerial competence act as an aim of teaching and learning;

- interactive technologies are used in accordance with the standards of development of students' managerial competence;

- the technologies' managerial functions are fulfilled by the scope of didactic means and tools.

The main focus should be shifted towards ensuring solid, multifaceted, comprehensive students' managerial competences in the given subject area (Ivanov, 2011, p.245).

2. METHODS

The following theoretical and empirical research methods were used in the study. Theoretical research methods are analysis and synthesis of scientific literature on teacher education, psychology, teaching methodology; review of dissertation theses on the topic; analysis of interactive technologies; identification of foreground technologies aiming at the development of managerial competences. Empirical research methods are testing, experiment, statistical analysis of data, identification of managerial competences using an adapted version of Clark Wilson's Survey of Management Practices. Managerial competences are identified in order to indicate the main developmental zones according to managerial competences' criteria.

3. RESULTS

The results of this research contribute to the enhancement of teacher education and boost of its effectiveness. Managerial competences were singled out after a careful consideration of the requirements to the students' professional competences development at universities set by National Education Standards (NES) and a range of subject-specific teacher education programs. The level of acceleration and development of students' managerial competences was measured with the use of the questionnaire. The results showed that some aspects of these competences were better developed in students than others. The research was conducted in Kazan National Research Technological University. The first stage took place during 2015-2016 and the second stage – during 2016-2017. The sample comprised 230 students. During the

first stage of the experiment the undeveloped aspects of students' managerial competences were singled out. With that in mind the ways of their development were set to be devised. The preliminary work included the review of theoretical and methodological literature, selection of the research approach and research instruments, identification of suitable methods to develop managerial competences. We set the aim of the research, put forward the hypothesis, defined the objectives of the study, devised the didactic means to accomplish research objectives which will ensure the development of students' managerial competences. After detailed and thorough consideration of innovative technologies we elected the most efficient methods of interactive teaching and learning. These are game-based and case-based teaching methods. At the second stage of the experiment these methods were employed by teachers during the lessons. The participants of the experiment were observed during the whole process in order to determine how they developed managerial competences. Test-retest technique was applied when measuring indices of managerial competences developed by students. Thus, the hypothesis was confirmed and the research objectives were attained.

The hypothesis formulated at the beginning of the study was accepted and the following implications were made:

1. With regard to the research aim and the research problem the hypothesis was put forward: interactive teaching technologies can act as didactic means of developing students' managerial competences if:

a. the content and the structure of the managerial competence act as an aim of teaching and learning;

b. interactive technologies are used in accordance with the standards of development of students' managerial competence;

c. the technologies' managerial functions are fulfilled by the scope of didactic means and tools.

The objectives of the study which are based on a theoretical problem and a hypothesis proposed are manifold:

1. To define the meaning of basic notions mentioned in the study, namely, 'managerial competencies', 'competency-based approach' and 'interactive learning'.

2. To theoretically examine didactic conditions contributing to successful development of managerial competence among the students in an interactive learning environment.

3. To monitor the effectiveness of interactive learning in the process of managerial competencies development.

The implementation process of the aforementioned didactic conditions for managerial competencies development helped achieve the goal of the study, address its challenges and confirm its hypothesis.

4. DISCUSSION

The effectiveness of the training while implementing interactive technologies in teaching process at institutions of higher education will be discussed in this section.

Modern educational standards are based on a competency-based approach, so that the use of interactive technologies in the classroom is one effective means for the development of competencies among students while implementing these standards. Interactive learning is regarded as a priority strategy and tactics of university education which is based on on-line and off-line interactions of those engaged in the teaching and education process including pedagogical support, and contributing to the development of competencies and students' self-development. Interactive learning includes:

- collaboration of all learners, including a teacher;

- participatory and cooperative learning;

- a teacher and a student involved in education;

- special emphasis is placed on student activities rather than on the teacher's efforts;

- the teacher acts as a facilitator of learning process, a group leader and a person

who is able to create the necessary conditions to make students engage in learning process;

- new knowledge and competencies develop through students' understanding of their own experience and their ability to learn from other people's experience.

The use of interactive technologies in education increases students' engagement in learning process, develops their thinking, cognitive abilities and learning skills. Students learn to cooperate, perform tasks together, i.e. they develop cooperative and communication skills as well as leadership and organizational competencies. Interactive sessions are action-oriented, so that students develop competencies in the course of the practical training. Team building strategies include tasks for problem-solving. Teamwork, which is aimed at seeking a solution to the problem, is seen as an activity that involves intellectual and emotional tension. Such activity is also characterized by the allocation of responsibilities between students which leads to their personal development and makes them familiar with what they will be doing in the future. Training sessions for students include game-based and case-based learning (Zeleeva, 2016, p.120). Such teaching methods, in our view, have been the most effective in building and developing managerial competencies among students. For instance, the use of business games in educational process helps enhance personal traits of students. A business game is a part of an educational activity which imitates situations which will be faced by students in their future professional career (Golovanova, 2014, p.288). Case-based teaching and learning allows for the possibility of making students actively engage in learning process, including critical analysis of different viewpoints, and providing autonomy in decision-making.

Management is a process towards achieving organizational objectives and including staff efforts. The management process presupposes that responsibilities related to achieving the objectives are shared between all participants: the manager sets objectives, while other people take concrete actions to achieve these objectives. The development of managerial competencies is based on the interlinkages between the following components:

1) the content of managerial competencies;

2) didactic conditions for the development of managerial competencies among students;

3) the results of the development.

The analysis of approaches to understanding managerial competencies enables us summarize their content as follows:

- purpose-oriented managerial competencies: all actions become purposeful if there is an objective; the ability to set objectives always leads to outcomes; planning;

- organizational (managerial) competencies: teamwork; the delegation of authority;

- motivational managerial competencies: fostering staff motivation and self-motivation. As a result, employees take initiatives rather than simply perform tasks;

- communicative managerial competencies which deal with the ability to influence people and resolve conflict situations;

- business-oriented managerial competencies: understanding of the basic framework of marketing, market-based economic relations, etc.

Structural components of managerial competencies that formed the basis for this study are as follows: Unit I. Employees are given instructions about goals and objectives and their importance; Unit II. Planning and problem-solving; Unit III. Providing necessary working conditions; Unit IV. Feedback; Unit V. Monitoring; Unit VI. Reward (Chiker, 2004, p.176).

In recent years, extensive experience has been gained about the implementation of requirements of competency-based approach in higher education. Dozens of theses related to 'competence', 'competency', 'professional competencies', etc. have been written. Methods and techniques for building professional competencies among bachelors and specialists of different spheres have been recently addressed (Ibragimov and Ibragimova, 2016, p.43).

When determining didactic conditions for the development of managerial competencies during interactive learning, we have relied on the fact that competency-based approach is at the forefront in the implementation of State educational standards.

Competency-based approach is a methodological framework for a new emerging form of higher vocational education in Russia. Competence reflects how well a person possessed required skills. At the same time, a person applies competencies while performing particular tasks. Thus, the overall level of competence of a person depends directly on how well all competences are developed. From a psycho-educational perspective, competence relates to the level of education of a person, including a person's ability and willingness to deal with any types of problems.

Spencer (1993) defines competence as 'a relatively permanent personal trait' related to effective implementation of activities. A similar approach to competence was used by J. Hay who defined it as 'a personal trait necessary for undertaking activities' and including such components of competence, as knowledge, skills and motives (Fortier, 2009).

Competencies presuppose appropriateness of activities, creativity, self-organization, self-control, the ability to access yourself and rectify own mistakes, self-regulation and self-actualization.

The requirements of a competency-based approach which are applied to teaching technologies, monitoring and evaluation tools in education should be taken into account, as the implementation of these requirements will diversity teaching styles, and students will be engaged in discussions, debates, problem-solving, working on projects, etc.

The underlying philosophy of a competency-based approach defines the nature of its application. Using a competency-based approach in practice in the context of higher education implies a special culture in teacher-student interaction. This kind of interaction aimed at achieving educational goals is used in higher education along with the technologies of interactive learning. Interactive learning is the main strategy of organizing university education, the strategy that is oriented towards well rounded interaction among all educational subjects under coordinating support of teachers and aimed at helping students develop creative thinking.

5. SUMMARY

The technologies of interactive learning are at the cutting edge of educational technologies today. They should be directed at developing students as creative thinkers capable of solving practical problems. They need to be aimed at achieving the goals of effective education and the ultimate goal of interactive learning – 'learning to learn': learning to interact with others, to acquire new knowledge collaboratively, to be proactive. When helping students develop their managerial competencies in the course of interactive lessons it is important to encourage students to set their own goals, to plan their activities, to organize the work of others, to set tasks for others, to delegate, to help others, to control various situations, to reflect and evaluate outcomes, to acknowledge other people's work and reward them. We must teach students how to analyze situations, to search for effective solutions with minimal risks. We have considered all the new (innovative) technologies of interactive learning, technologies that can stimulate the work of students, encourage them to seek new knowledge, to acquire new skills and competences necessary to effectively manage staff. Interactive technologies can be used to form and develop cultural and professional competencies which are specified in the new federal educational standards (FES) for various specializations. Moreover, developing managerial competences will help new specialists be good engineers and effective managers in any context. Today the requirements for new specialists are steadily rising which makes it important to work on increasing the effectiveness of educational processes. The new federal educational standards for professional education also specifically underline the importance of interactive technologies in educational processes.

In the course of our study organizing educational activities, aimed at professional preparation with the use of interactive methodology, has been focused on the application of game-based technologies and case-study method (situation-based method), which in our opinion are most effective when developing students' managerial competencies. The use of business games helps activate stu-

dents (first of all enhance their intellectual and emotional spheres). Business games have the features of both educational activities and professional work. Solving cases is a method of active learning based on real-life situations requiring students to deal with real managerial problems. This method gives an opportunity to actively involve as many students as possible in learning, exchanging opinions and making decisions. Case method prompts students to analyze situations, to solve problems in ways that lead to lowest risks. Interactive technologies at university can be effectively used in the course of seminars for specialization-specific preparation as well as for general knowledge preparation.

There is a tendency for constantly improving education quality today which leads to the increase in interactive activities and new technologies within the area of professional education used to help students develop their managerial competencies.

Designing interactive educational activities aimed at building managerial competencies enabled instructors:

- To clearly define educational goal for each lesson (seminar, lecture, etc.),
- To make the development of competencies more understandable and desirable by helping student see them as essential for a successful professional life,
- To stimulate the development of student motivation to explore various relations that their chosen specialization has with other fields,
- To organize an effective way to transmit and receive feedback in the course of each lesson through the use of interactive methods and assessment practices.

6. CONCLUSIONS

Both theoretical and experimental work carried out under this research project does not highlight all the issues related to the formation and development of managerial competencies of future specialists; rather it outlines the issues that require further theoretical analysis and methodological provision.

The future prospects for this study include the application of its findings to develop students' managerial competencies in the course of interactive learning. This would involve further investigation of the structure of managerial competencies (including those that can be developed at later stages of education); designing new approaches, forms, methods, innovative technologies and new levels for the development of managerial competencies; creating new educational materials and teaching guides focused specifically on managerial issues.

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