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Professional Culture of the Specialist of the Future

INNOVATIONS IN INSURANCE HIGHER EDUCATION

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Abstract

This article describes innovative methods of training specialists in the field of insurance. Among them, authors consistently consider methods of active learning (case studies, business games) and technologies of distant learning. Authors come to a conclusion that business games based on imitating activity of the insurance market subject suit best for the training specialists in the field of insurance. An example of a business game is given; the cornerstone of its scenario is the description of business processes and design of an information system of an insurance company. Participants of the game in this example were students of two areas studying at the Faculty of Economics: (a) Finance and credit, specialization insurance; b) Information systems in the economy. As a result, students of the direction (a) fix previously obtained theoretical knowledge in the field of insurance while accomplishing a practical task and obtain new skills in the field of information technology from their fellow students of another direction. In turn, students of the direction (b) are given an opportunity to carry out a close to reality task of building an information system for an insurance company, based upon new attainments in the insurance industry. Knowledge exchange within such classes at the student's level allows us to talk about taking into account the interdisciplinary approach of the game. Besides, according to the authors, the idea behind game can be used in an educational process to obtain professional competencies in various business areas.

Keywords: Active methods of training, business games, game technologies, high education.

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1. Introduction

In modern Russian society the education system is developing in the context of market transformations. The sphere of education is becoming an increasingly important branch of economy, producing the most significant product - human capital. In this industry, as in any other, certain technologies are used, some of them have a centuries-old history, and some have only emerged recently. Nowadays, searching for new methods of teaching that involve interrelationship between business and the sphere of education and use the application of an interdisciplinary approach becomes especially relevant. Karpov (2017) believes that the most important feature of a modern university is expansion of students' competencies in social and economic spheres and their inclusion in actual economic activity. While developing their curricula universities strive to strengthen the practice-oriented component of the educational process in order to ensure a high professional level of graduates. This is confirmed by Flavin (2016), noting the importance of using practice-oriented technologies. At the same time, it is impossible to obtain professional competencies in the educational process without the participation of students in classes based on active learning methods. Salvatori (2017) concludes that modern systems and models of education should be based mainly on active learning methods, emphasising student in order to maximize his participation in the educational process.

It is essential to include traditional classes based on non-imitative active learning tools (teaching and research, research and production practices, practical exercises, scientific and practical conferences, etc.) in the curriculum of students, as well as classes based on innovative imitation methods of active learning. Authors consider the last group of active learning methods to be game technologies (business games) and technologies of professionally-oriented learning (case-study). An important advantage of active learning is that along with the acquisition of professional economic knowledge it allows to develop the necessary professional abilities and qualities: initiative, independence, readiness for action, responsibility, determination, ability to achieve the goals set. Moreover, a significant part of active teaching methods involves working in a group, which encourages improving communication skills, overcoming indecisiveness, developing creative abilities, listening to others, defending and justifying their decisions, etc. Working in a group gives an effect of interaction, based on the exchange of knowledge and experience, cooperation of participants, joint development of managerial decisions. All of the benefits listed above also apply to business games, which we identify as a class of innovative learning technologies that form the professional qualities of a specialist by immersion in a specific situation. In addition to that, it is essential to emphasize the importance and relevance of distance learning technologies (online courses) in application to the learning process.

Kwon (2014a) in his research towards insurance education identifies a number of key factors that are going to contribute to improving the competitiveness of educational programs. Regular updating of the contents of the academic disciplines, taking into account the latest achievements in theory and practice, as well as the introduction of innovative technologies in teaching, including the development and use of online courses and active teaching methods, holds a special place among them. In general, the introduction of modern innovative teaching technologies can be considered as a means of increasing the competitiveness of the university. Organizing an educational taking into account effective use of innovative teaching technologies will enable achieving highly professional level of economists training, which in turn will

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guarantee their competitiveness in the labor market. The education system must produce students capable of being professionals in the workplace immediately after graduation from the university.

2. Problem Statement

At present time, higher education is characterized to be practically orientated, which is ensured, among other things, by the use of innovative teaching methods. Authors see active forms of training and distance courses as the basis of such methods. However, when preparing insurance specialists, there is no clear understanding of what innovative methods suit best for acquisition of professional knowledge and skills by students. And this is especially important for the above-mentioned specialists, since the activity of insurers is diverse and involves a lot of business processes. It requires deep theoretical knowledge and practical experience from potential employees. Such knowledge and professional skills can be obtained by students only provided they participate in innovative non-traditional activities. Our research involves studying the most popular innovative learning technologies and finding out the most acceptable of them at the present stage for training specialists in the field of insurance in terms of acquiring professional skills. A class scenario should be developed based upon the innovative method of training. In addition, we collect initial data characterizing the acquisition of professional competencies and skills within this class.

3. Research Questions

Working out students professional skills during studying at a university is a central task in preparing them for a work in modern society. It is shown by experience that organizing an educational process with the effective use of innovative teaching methods makes it possible to achieve a high level of professional training of specialists in the economic profile and ensure their competitiveness in the labor market. Case studies, business games and distance learning technologies are the most popular among modern innovative methods. These methods should be considered in more detail and contribution of each in the acquisition of professional competencies and practical skills by students studying insurance business should be assessed.

4. Purpose of the Study

The purpose of this study is to demonstrate the capabilities of gaming technologies as an innovative and interdisciplinary method of training specialists in the field of insurance by the example of the training game "Forming an insurance company information system that allows calculating insurance reserves".

5. Research Methods

Although the use of active teaching methods today has become more important in the training system, it is still a relatively new model in education. The interest of this research was to find out the key points of the popular active learning technologies and determine the most optimal for training personnel for the insurance industry among them. More specifically, the questions are:

- What methods of active learning help students gain professional skills in the process of studying at a university best?

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- How does a business game involving students from different directions affect their education and professional skills?
- Can the given example of a business game be universal in nature and be used for training other specialists?
- Will the constructed information system of a virtual insurance company become a kind of trainer for specialists of different directions (insurers, actuaries, tax specialists, financiers, lawyers, etc.) and be used in other classes to some extent?

Thus, the study is aimed at finding out opportunities and features of using a business game in an educational process when training specialists in the field of insurance.

At the first stage of the study sources for innovative studies in the field of economics and finance were analyzed. We determined that active training methods are the most common innovative technologies that can be used to train specialists in the insurance industry, so sources on training games and cases were studied. Then a research of online courses posted on various educational resources (for example, on the Coursera platform, Openedu, etc.) was conducted. Based upon the gaming technology method, a scenario was developed and lessons were taught in the form of the game "Forming the insurance company information system". At the end of the game a survey among students and teachers was conducted, primary data were obtained.

6. Findings

6.1. Distance learning technologies (online courses)

Many leading world universities not only create and promote distance learning technologies, and online courses in particular, but also actively apply them in their own traditional educational programs. For example, SPbSU offers three scenarios for using online courses in the educational process: as an additional material, as part of the discipline, instead of discipline with further learning results set-off.

Such an approach has its advantages and disadvantages. The following advantages of indroducing online courses into an education process by university are outlined by Bystrova, Larionova, Osborne, & Platonov (2015):

- reducing the costs of an educational institution;
- allocating freed time of faculty members for scientific activity and improvement of an educational process;
- increasing flexibility of an educational process, including inviting authoritative lecturers;
- increasing competitiveness due to the possibility to access to the world market of educational services, broadening a circle listeners, the possibility of an in-demand e-course development in collaboration with the business.

However, application of distance learning technologies has a number of disadvantages. In particular, Belleflamme & Jacqmin (2016) note that online courses cannot be a full-fledged alternative to traditional education at the moment, primarily because of the difficulties with reproducing interaction between students and a teacher in a virtual environment. Therefore, it seems more effective to use online courses as a supplement to the programs and technologies of the traditional approach.

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Another problem related to the use of online courses in training insurance professionals is the following. To date, the majority (about 20%) of existing online courses are devoted to IT-technologies, computer sciences and data analysis (Semenova, Vilkova, & Shcheglova, 2018). Despite the fact that there are about 18% courses discussing the rules of doing business and economic issues, there is very little number of those that cover the topic of insurance. At the same time, the majority of these online courses mainly focus on discussing the legal and juristic aspects of these topics in a particular country. Thus, at the present moment, difficulties arise with the use of existing online courses in training specialists for the insurance sector within the disciplines of specialization; however, such an approach has been implemented in St. Petersburg State University for the general economic and financial disciplines. This is confirmed by Khalin, Chernova (2016), noting a special approach to training specialists in the insurance industry.

6.2. Technologies of professionally-oriented learning (case-study)

A case in an educational process is a description of a real problematic situation. The description should be designed in such a way that it is possible to develop various possible solutions to this situation in accordance with defined criteria. While considering such situations, students master the team work, learn to analyze and make operational management decisions.

Evans (2012) point out five advantages of using case study in an educational process:

- The case assumes students to make decision under circumstances of uncertainty, without a known ahead end of history;
- Case studies help students form their own independent point of view on the proposed problem;
- The solution to the case is based on the decision of a concrete person with his knowledge, skills and experience;
- Case is subjective. There is a separate task to separate facts from an interpretation of the case protagonist, and also to collect different opinions and points of view in order to form a solution on their basis;
- Case studies encourage development of analytical thinking.

However, Kalayda, Solopenko, & Faizova (2018) note that design of a case belongs to a category of complex knowledge-intensive technologies, requires a comprehensive study of the problem and working out its various solutions by the teacher himself during preparation of the case-task.

In addition to that, it should be noted that the decision of the case does not have a unique answer, a "right" or "wrong" decision. The main goal of organizing classes on the case method is not the receipt of a certain result, but rather the process of discussion and decision-making. In this regard, application of the case method is difficult for many areas in which a single correct answer is required.

6.3. Game technologies (business games)

The method of a business game is characterized by development of a specific scenario and distribution of roles among participants. It is widely used for economic and research purposes. The main goal of conducting practical exercises using business games is to teach students (participants of the game) group analysis of the problem and independent decision-making by an example that simulates a real economic situation. The use of group teaching methods and decision making that facilitate effective analysis of emerging situations in the shortest possible time, teaches students to work in a team, defend

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their point of view and take into account opinions and criticisms of others. Thus activity of trainees and spirit of competitiveness is developed, and also some of the students (participants) may reveal their leadership capabilities. Buckley, Doyle (2016), in their study, devoted to the use of games in an educational process to motivate students, empirically proved that the use of games has a positive effect on learning outcomes.

This method allows solving the following tasks:

- to make decisions in conditions of uncertainty;
- develop an algorithm for making decisions;
- master the skills of researching the situation;
- develop an action plan focused on the intended result;
- apply the obtained theoretical knowledge, including in the study of other disciplines (management, law, statistics, economics, insurance, etc.), to solve practical problems (creating a database);
- To take into account the views of other specialists on the considered problem when making a final decision.

Winoto & Tang (2015) note the following two important aspects a game developer should pay attention to:

- The main goal of the business game is training rather than the victory of any team;
- Facilitating joint activities of students can improve learning outcomes.

The advantages listed above allow us to use game technologies for the training specialists, which we have successfully applied.

6.4. Example of Business Game

We have developed a training business game called "Development of an information system of an insurance company for calculating insurance reserves." The game involves participation of students of two specialities - (a) "Finance and credit, specialization: Insurance" and (b) "Information systems in the economy".

The goal of the game is to involve students in the process of solving a practical problem in order to realize knowledge and skills obtained in an artificial situation, close to the real one as much as possible, while working out key professional competencies.

The situational problem, proposed to students, is as follows. Based on the study of business processes and financial flows of the insurance company, it is required to design an information base of an insurance company, which carefully takes into account all insurance contracts and with the help of which it would be possible to calculate insurance reserves. This task is close to the real situation as much as possible: for proper implementation of insurance payments and reliable display of obligations in the financial statements, the insurer is required to calculate insurance reserves using certain methods and based upon data in insurance contracts. For such calculation, the insurance company should have an information system that will allow the company to increase its efficiency and competitiveness in the market.

Scenario:

- Teachers introduce students to the situational task and provide relevant theoretical material.

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- Students distribute their roles in the game. Students of direction (a) serve as employees of a simulated insurance company, their task is to improve efficiency of their business through the use of modern information technology. Students of direction (b) play the role of an IT department in the structure of the insurance company, their task is to apply their knowledge of computer technology to solve a practical problem - to create an information system of the insurance company that, among other things, would calculate insurance reserves. Also, to activate, "warm up" and awakening interest, all students discuss the name of the insurance company, the mission and the main directions of its activities.
- The game consists of 3 stages: 1. Forming the structure of the insurance company and a description of the main business processes; 2. Stages of financial passage of insurance contracts and their relationship with the formation of insurance reserves. Creating a database on the basis of financial passage of insurance contracts; 3. Calculating insurance reserves and analysis of the activities of the insurance company. At each stage, students perform specific tasks set by the teachers (see Table 1). The game is played continuously for several sessions. Teachers during the classes explain rules of the game in more detail, the goals of each group and the final result, also observe the discussion, supervise accomplishing particular tasks and assess the work and participation of each student.

Table 01. Characteristic of game stages

Stages	**Particular tasks**	**Formation of professional skills**
Describing structure of the insurance company and main business processes.	1. Formulate the name, mission of the insurance company; 2. Construct a scheme of the organizational structure of the insurance company; 3. Describe business processes of the insurance company; 4. Construct a block diagram of information flows of the insurance company when accounting insurance contracts; 5. Draw up a scheme of insurance reserves specifying the data necessary for their calculation; 6. Formulate the terms of reference for the IT department on the design and development of the insurance company's information system.	Ability to perform individual and team work, conduct collective discussion and interact with specialists from various industries, take responsibility, make decisions in an unconventional setting, use theoretical knowledge to solve a practical problem, be able to set goals and manage the unit.
Stages of financial passage of insurance contracts and their relationship with the formation of insurance reserves. Creating a database on the basis of financial passage of insurance contracts.	1. Describe the business process of the financial passage of the insurance contract; 2. Present graphically the options for passing the insurance contract at each stage as part of the business process; 3. Outline an insurance agreement items necessary for calculating insurance reserves and create database tables; 4. Present graphically the status of insurance reserves at each stage of the insurance contract. 5. Construct a block diagram of the calculation of insurance reserves.	Ability to use theoretical knowledge to graphically represent the business processes of the insurance company (practical intelligence), work in cooperation (communication skills), offer non-standard solutions (divergent thinking).

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Calculating insurance reserves and analysis of activities of the insurance company.	1. To present graphically the influence of the multivariate passage of insurance contracts on the financial result of the insurance company; 2. Create a summary table for storing aggregated data; 3. Present the possibilities of applying database technologies for the calculation of insurance reserves; 4. Present the possibilities of using database technologies to analyze the activities of an insurance company.	The ability to make decisions based on the calculations made and to take responsibility for them, to conduct a discussion, based on the results obtained, to draw conclusions.

The main activities of the two subgroups of students can be described as follows.

At the first stage of the game a group of undergraduate students (a) formulates the basis for the activity of the insurance company, and the other prepares information support for development of a flowchart for information flows in the insurance company for the purpose of calculating insurance reserves and further analysis of insurance activities. In particular, students of direction (a):

- determine the positions;
- prepare proposals for the creation of a database of the insurance company (from the point of view of their position in the insurance company) for students of the direction (b).

Students of direction (b):

- with the help of students of direction (a) study the theoretical foundations of the game;
- consider proposals to create a database of the insurance company.

During the second stage, all students examine the activities of the insurance organization on formation of insurance reserves based on the collection and processing of data on passage of an insurance contract, and also on the basis of a dialogue with students (participants) of the insurance group. Students of the direction (a) study various options for the passage of an insurance contract for the main stages, examine the impact of the passage of the insurance contract on the state of insurance reserves and determine the timing of decision-making. And the IT department examines the procedure for passing an insurance contract, at each stage considers the data necessary to create the database tables of the insurance company.

During the third stage, students jointly consider the application of database technology in solving the problems of insurance (tasks of forming and executing insurance reserves). They must learn to analyze the collected information, investigate the business process of the insurance company and calculate reserves and financial result on the basis of standard formulas and algorithms.

As a result of teaching students of two directions in the game form, each of the subgroups receives both general and specific advantages. Thus, the main benefit for undergraduate students (b) is getting acquainted with business processes of an insurance sector company and accomplishing a specific practical task for it. And the advantage for the students of direction (a) is a deeper study of business processes and financial flows of the insurance company (due to the need to explain it to the non-core direction students).

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- At the last lessons students demonstrate the prototyped information system of the insurance company, calculate insurance reserves using simulated insurance contracts.
- The final result assessment is made by the teachers after presentation of the final work by the students (participants) and discussion. The system of evaluation includes the presentation of incentive points, both group and individual. The jury represented by the teacher must take into account the effectiveness of the results of the game participants (for example, the presentation of the result by the specified date, the use of mandatory methodologies in making decisions); cross-group interaction of participants and interaction of participants within the group, as well as the personal qualities of participants (e.g., diligence, erudition, sociability). It is acceptable to invite a practicing specialist from the insurance industry to a recent session for a peer review.

6.5. Results of the exercise in a game form

The game attracted serious interest among students of both directions. The results of the survey conducted among the participants in the game showed that the students consider interaction with specialists of a different profile and the possibility of solving a real practical problem to be the most important skills obtained within the game (Table 2).

Table 02. The degree of importance of skills that can be obtained by the results of the game

Skills	Degree of importance		
	Not important	Important	Very important
The use of theoretical knowledge in solving a practical problem		3	22
The best assimilation of theoretical material		6	19
Team work		5	20
Communication inside a group		4	21
Communication between groups (with specialists of a different profile)		1	24
Conducting collective discussions		7	18
Working out non-standard solutions	4	4	17
Ability to analyze	2	10	13
Describing company business processes		2	23

A significant number of respondents also noted that their participation in the simulation game gave them confidence in their professional knowledge and skills and increased their chances in the labour market. Most of the interviewed students would like to participate in future games that model their future professional activity.

Additionally, a survey of teachers participating in the project was conducted. It showed that introduction of games into an educational process is accompanied by difficulties: lack of time (58% of teachers using business games note), lack of methodological literature and "packages" of games developed and tested in practice (27%) and other reasons - 20% (inconvenience of audiences, etc.).

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To sum up, the results of the research confirmed that the methodically reasoned use of business games for the formation of professional qualities of future specialists in the insurance industry is effective in class, as:

- Students develop interest in the subject through interest in the business game;
- During the business game, the professionally significant qualities of students are formed and their cognitive activity increases;
- The quality and depth of knowledge increases, the theoretical material is better assimilated;
- Communication skills of students improve in the course of the business game;
- The construction of a business game scenario and its conduction in the classroom enhances the pedagogical skills of the teacher.

It should also be noted the following. Analysis of the details of the scenario (participants in the game, the main activities of subgroups, particular tasks in stages, etc.) makes it clear that the basis of the game is the description of main business processes of the company (in this example - insurance) and creating an information system. Under conditions of digitalization and often full automation the description of business processes of any business and the construction of an information system of such a simulated company will enable students to acquire professional skills in any sphere of the economy. Participation in the game of students of two directions demonstrates its interdisciplinary character. In addition, such a character can be taken into account in the future - the information system created in the framework of this example can be used as a "trainer" in other disciplines of students of other directions (for example, for training economists in the course of "Accounting" for demonstrating accounting insurance contracts, for training mathematicians in the course "Actuarial Mathematics" for demonstrating the procedure of calculating insurance reserves, for training lawyers in the course "Insurance Law" for demonstrating main business processes of the insurer, etc.).

7. Conclusion

The economic situation, conditioned by market transformations, dictates certain conditions for training personnel. One of such conditions is the high level of professional training of specialists who must be ready to join the labor process and manage professional activities immediately after graduating without additional learning. In this connection, universities seek for strengthening a practical component of the educational process and creating practical-oriented educational programs. This is largely due to the use of innovative technologies in education.

To improve the quality of education Khomeriki (2015) notes the need for information support for innovative projects, and Kwon (2014b) recommends among other things to organize closer cooperation between insurance companies and higher education institutions. This cooperation should be expressed in the joint development of training programs, participation of practitioners in teaching of disciplines, organizing internships, mentoring programs, participation in industry conferences and seminars. Equally important, higher education institutions must constantly update their programs so that their graduates are competitive in the labour market. Dicheva, Dichev, Agre, & Angelova (2015) note the need to improve software tools to improve the effectiveness of gaming technology in education.

SPbSU fully implements innovative technologies in the educational process by means of online courses, case studies and business games. Online training for training professional skills by future specialists in the insurance sector is limited due to the fact that existing online courses are mostly concerned about legal issues and do not include studying the economic and financial basis of insurance activities. Use of the case method plays a significant role in improving professional skills. But, in our opinion, the method of gaming technology gives the strongest effect for the acquisition of professional skills by future specialists of the insurance market. The training game "Formation of an information system of an insurance company that allows calculating insurance reserves" allows students of different directions to obtain professional skills in solving a practical problem that is close to the real situation as much as possible. Results of the conducted empirical research demonstrate gaining many professional skills by the students: working in a team, using theoretical knowledge in practice, conducting collective discussions, describing the business processes of an insurance company. Students were interested in interacting with specialists from other areas of training to a greater extent, and the need for such skills in professional activities is present in all areas. The game is designed on the basis of an interdisciplinary approach. The results of the game can be used to conduct classes in other disciplines. Based on the prepared game scenario, a general-purpose game can be prepared. By changing industry specificity of the studied company the game can be used to train specialists not only in an insurance sector. This indicates the possibility of developing its general-purpose version on the basis of the proposed game.

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