Usage of simulation method «Educational Corporation» in professional schools

Uso del método de simulación «Educational Corporation» en escuelas profesionales

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ABSTRACT:
An effective specialist’s qualities and requirements for his/her professional level are the factors forming the authors’ Universal Model of a Specialist. Its basics are the person’s character, skills and abilities, which satisfy comprehensive and special provisions of the Federal State Standard while being shaped within three vectors (social achievement, significant professional characteristics and ability to adapt to the labor market). Research methods. The study deals with a new simulation method “Educational Corporation”, which is seen as a complex of simulation methods. It involves all crucial methodological components, which help the teacher to design the educational process, set and achieve pedagogical goals. Research results. The authors describe a basic scheme for their simulation method “Educational Corporation”. Its three stages are the formation of “Educational Corporation” (which includes presenting it and studying the environment); the implementation of “Educational Corporation” (human resources, activity control, relationship with partner organizations); the creation of an automatic work position. A considerable progress demonstrated by experimental groups means that the proposed method betters the students’ personal qualities and
1. Introduction

To satisfy the requirements of the free-market economy in the competitive world, an institution of professional education (IPE) should provide its specialists with good training. The main assessment criterion is knowledge (its profundity, systematic character, order, efficiency, flexibility, concreteness and abstractness). The competitive ability of educational services is influenced (Mukhin, Mishatkina & Sokolova, 2017; Neverkovich et al., 2018; Tatarinceva et al., 2018; Sergeeva, Bedenko et al, 2018) by exterior factors (competitiveness of a country, a sector, a region, etc.) and interior ones (rationality of colleges’ and technical schools’ organizational and management structures; teachers’ skillfulness; available material and technical resources, and so on).

A competitive (effective) specialist’s characteristics and requirements for his/her qualification level underlie the authors’ Universal Model of a Specialist. Its fundamentals are the specialist’s personality traits, along with special knowledge, skills and abilities (Dmitrichenkova & Dolzhich, 2017; Wang et al, 2018; Sukhodimtseva et al., 2018), which correspond with the general and professional components of the Federal State Educational Standard and are formed in the three directions (socialization, adaptiveness to the labour market and professionally important qualities). The development technology for a universal (generalized) model of a middle-level specialist requires to design the constituents of his/her professional activity (its analysis, the detection of principal labour functions and professional abilities) and the constituents of his/her training (the creation of systematized practical tasks helping to master the required abilities, educational programmes’ correction, the development of forms and methods, etc.).

The authors elaborated generalized models for such specialities as “Management”, “Economics and Accountancy (in different fields)” and “Social work”. Teachers and methodologists continue their search for methods that should improve the educational process, but there are no universal ways to do it... This process needs various methods, and their choice is determined by certain pedagogical conditions, which we divided into three groups: organizational (a lesson’s didactic aim; a level of motivation for studying; peculiarities of teaching concrete academic disciplines, etc. (Sergeeva & Nikitina, 2016; Sergeeva, Komarovskaya et al., 2018)); substantive (the content of teaching material, its volume and complexity, a lesson’s type and structure, etc. (Ju et al., 2017; Tatarinceva, Sokolova et al., 2018; Tatarinceva, Sergeeva, Bedenko et al., 2018); psychological (students’ mental and emotional readiness, their age-related and individual peculiarities, gender and social differences; relationship between the teacher and students, and so on (Bourina & Dunaeva, 2017; Milovanov et al., 2017)). Considering the mentioned pedagogical conditions, the teacher makes an independent decision about a teaching method and the development of his/her own educational technology.

The relevance of the study is seen in the necessity to train new-type specialists, who are characterized by “economic” mind, mobility, professional efficiency, decisiveness,
The aim is to reveal the peculiarities of its realization while training a competitive specialist within the system of professional education. This person has to be in demand at labour market and satisfy the requirements of the free-market economy (Sergeeva, Flyagina et al., 2017; Sergeeva, Sokolova et al., 2018). The study showed the effectiveness of the authors’ technology “Educational Corporation” when it is needed to reveal the correlation between an IPE graduate’s level and economic imperatives. The authors’ material may be contributory to IPE teachers, parents and methodologists who use the proposed methods for the graduates’ adaptation and socialization in rapidly changing social-economic conditions.

2. Research methods

D. Finn noted that it is very naïve to regard a technology as only a complex of different equipment and teaching materials. It is much more than that – an organizational method, a way of thinking about materials, people, institutions, models and systems requiring the cooperation of vivo and techno.

Having analyzed more than 100 sources related to the studied definition, P. D. Mitchell concluded that the pedagogical technology is a practical and theoretical education area linked with all the aspects of pedagogical systems’ organization. He also indicated that the mentioned technology is connected with resource distribution – a procedure aiming to achieve specific and potentially reproducible results (Sergeeva, Sinelnikov & Sukhodimtseva, 2017).

Some authors (K. Gray, W. Hug, P. Mitchell, E. Seyfried) regard pedagogical technologies as a research area (i.e. as a vast field of knowledge resting upon the data which are obtained and used in social, managerial and natural sciences) or as a multidimensional notion (i.e. as a many-dimensional process needing a multiple-aspect approach) (Mukhin et al., 2017; Sergeeva, Ippolitova et al., 2018).

UNESCO proposes a wide approach – pedagogical technologies. This is a systematic method helping to plan, use and assess the whole teaching-and-learning process by considering human and technical resources (including their cooperation). The aim is a more effective education form.

The educational services’ market is actively developing, which stimulates the institutions to revise their approach to professional training. It is essential to propose new teaching methods and modes, to create new organizational forms of pedagogical activity.

The comparative analysis of simulation methods’ implementation revealed their advantages and disadvantages. For example, the analysis of specific situations presupposes a joint management decision, which stimulates the development of behavioral traits, including communicative skills. In our study this method was used at the lessons dedicated to the topic “Decision-making in Management”. Future specialists examined interdisciplinary ties between Marketing, Organization of Activity Areas, Records Management and Accountancy.

Situational production tasks became a challenge for students at Personnel Management lessons. So working with the topic “Sources and ways of recruitment” bettered their professional qualities, which are necessary to resolve specific managerial situations, systematized their theoretical knowledge and improved the young people’s communication skills, along with the ability to direct and to submit. Instructed actions-exercises are particularly effective within the academic discipline “Automatized Systems for Processing of Economic Information”, since it aims: 1) to master the skills and abilities needed for work with “Excel” electronic tables and “Access” data bases; 2) to consolidate the results achieved by working with electronic tables (principal methods); 3) to cultivate carefulness, self-reliance, etc. While establishing an automatized accountant’s position, the teacher imitated professional activity via simulators using universal computer programmes on accountancy: “1C: Accountancy” and “Info-Accountant”.

The case method allows the teacher to treat each student as a unique personality with his/her peculiar needs, to improve the young people’s positive qualities by bettering their
self-management and data processing skills. It is fruitful and creative to develop one’s pedagogical mastership through a moderation method. The teacher sets the task-solving rules for the audience and controls the process. In our study this method was used for the topic “Qualities of an effective modern teacher”.

In the training of an effective specialist, a particular attention is given to organizational activity-based games. They help to model a professional activity connected with complex issues concerning the performance and the management of social economic systems (with their real condition taken into account). We developed and implemented into teaching practice two organizational activity-based games: “Recruitment” and “Inventory control”.

Professional education is actively searching for ways to improve its quality. So simulation methods become more and more popular. They are oriented to reveal a person’s creative potential, to form professional and personal qualities of a future specialist, to make him/her adaptable to new economic changes (Mikheeva, 2016; Micheeva, Popova & Ignashina, 2017). This approach allowed us to develop a new simulation method “Educational Corporation”, which is regarded as a system of simulation methods

### 3. Research results

In this study we propose an algorithm underlying our simulation method “Educational Corporation”, which includes the following stages: the creation of “Educational Corporation” (its presentation and environment analysis); the performance of “Educational Corporation” (recruitment, activity control, partner relations establishment); the formation of an automatized workplace (Table 1). Our algorithm was tested in the groups mastering such specialities as “Management” and “Economics and Accountancy (in different fields)”.

<table>
<thead>
<tr>
<th>№ n/n</th>
<th>Stages</th>
<th>Pedagogical goals</th>
<th>Simulation methods of teaching</th>
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<td>11</td>
<td>Presentation of “Educational Corporation”</td>
<td>a) The choice of activity type, the title “Educational Corporation”, the logo, the motto</td>
<td>Role-playing.</td>
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<tr>
<td></td>
<td></td>
<td>b) To design the company’s organizational structure and manning table.</td>
<td>Fulfillment of individual tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) To make and confirm the employees’ duty regulations, to study the registration procedure and the document custody.</td>
<td>Instructed actions-exercises.</td>
</tr>
<tr>
<td>12</td>
<td>Environment analysis</td>
<td>a) To analyze the goods’ demand and supply</td>
<td>Analysis of specific situations. Fulfillment of situational tasks.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) To examine the competitive advantages, to study the environment via SWOT method.</td>
<td>Instructed actions-exercises. Fulfillment of situational tasks.</td>
</tr>
<tr>
<td>21</td>
<td>Recruitment</td>
<td>a) To execute staff orders in conformity with applications from</td>
<td>Instructed actions-exercises.</td>
</tr>
</tbody>
</table>

Table 1
Simulation method “Educational Corporation”: algorithm of development
**Educational Corporation’s employees.**

b) To fill in work records, to sign contracts with Educational Corporation’s employees, to establish a probation period.

Simulation of simulator-based activity.

<table>
<thead>
<tr>
<th>22</th>
<th>Control of professional activity</th>
<th>a) To check whether the employee's activity conform to his/her duty regulations.</th>
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<td></td>
<td></td>
<td>b) To certificate and rotate the personnel.</td>
<td>Case method. Instructed actions-exercises.</td>
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<td>23</td>
<td>Establishment of partner relations</td>
<td>a) To assign to business trips (the order of Educational Corporation's Director, the completion of credentials).</td>
<td>Role-playing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) To calculate and pay the travel allowance.</td>
<td>Instructed actions-exercises.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) To sign delivery treaties.</td>
<td>Simulation of simulator-based activity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) To make expense reports on business trips.</td>
<td>Instructed actions-exercises.</td>
</tr>
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</table>

3. Creation of Automatic Work Position (AWP)

<table>
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<th>AWP: Accountant</th>
<th>To solve an accountancy major task by using computer programmes “1C: Accountancy” and “Info-Accountant”.</th>
<th>Instructed actions-exercises. Simulation of simulator-based activity. Business games.</th>
</tr>
</thead>
</table>

Therefore, our educational and educational-methodological materials, which are oriented to various simulation methods of teaching, allowed us to reveal the peculiarities of simulation methods’ implementation within a middle-level specialist training. These special features make it possible:

- to realize the components of Middle-level Effective Specialist Model: students’ professional characteristics corresponding with the Federal State Educational Standard on the concrete speciality and the young people’s personal qualities – psychological, mental, behavioral;
- to reveal the teacher’s self-development potential in the chosen profession (Sergeyev & Sergeyeva, 2010; Sergeyeva, 2015);
- to apply the system of simulation methods through the new teaching method “Educational Corporation”.

In order to determine how efficient the simulation methods are in the given context, we calculated the Generalized Indicator of Specialists Training Quality. It includes the
generalized coefficient of theoretical professional training and the generalized coefficient of practical professional training, along with changes in the students’ personality traits. To calculate the generalized coefficient of theoretical professional training, the students were proposed a computer test with 400 questions on major academic disciplines: Accountancy, Analysis of Financial and Economic Activity, Management, Auditing, Taxes and Taxation – for the speciality “Economics and Accountancy (in different fields)”; Analysis of Financial and Economic Activity, Management, Marketing, Personnel Management, Strategic Management – for the speciality “Management”. According to the test results, the generalized coefficient of theoretical professional training was 4.00 in the experimental groups and 3.99 in the control groups. It proves that the experiment had started on equal grounds for all students. The experiment’s accuracy was also proved by the psychological tests designed by A. S. Prutchenkov that focused on the assessment of students’ personality traits (“Self-control skills”, “Behavioral peculiarities in conflict situations”, “Communicative and organizational abilities”).

At the forming stage, the teaching process in the experimental groups was based on the method “Educational Corporation”, while the control groups followed the standard schedule. The control stage involved a computer test aimed to determine the generalized coefficient of theoretical professional training, which increased by 2.5 % and 5.0 % respectively in the control and experimental groups.

The generalized coefficient of practical professional training includes a set of tasks fulfilled within a certain period, and such criteria as quality and operativeness. The last two constituents were assessed during an interdisciplinary business game, which corresponds with the chosen speciality. The analysis of the business games’ results in the experimental groups revealed that the number of fulfilled tasks, the quality indicator, the operativeness indicator and the generalized coefficient of practical professional training increased respectively by 7.6 %, 14.5 %, 7.7 % and 9.7 %.

4. Discussion

To satisfy the requirements of the free-market economy in the competitive world, the society has to focus on the Universal Model of an Effective Specialist. Such model considers exterior factors (competitiveness of a country, a sector, a region, etc.) and interior ones (rationality of colleges’ and technical schools’ organizational and management structures; teachers’ skillfulness; available material and technical resources, and so on). It also includes different qualities characterizing a competitive specialist: technical (speciality and professional focus), economic (training expenses), social-organizational (social structure of consumers), personal (psychological, mental, behavioral) and substantive (special knowledge, skills and abilities formed in three directions: specialization, adaptiveness to the labour market and professionally important qualities).

Having analyzed several classifications of teaching methods (on such grounds as a knowledge source, a didactic aim, a type of cognitive activity, etc.), we concluded that in order to train an effective specialist, the teacher should give priority to the active teaching methods oriented to improve the students’ cognitive activity, to reveal and develop their creative potential and other positive qualities. Such methods also provide for simultaneous solution of three educational-organizational tasks, which are the following: to bring the educational process under the teacher’s control; to achieve all students’ active participation in this process; to conduct regular assessments of the future specialists’ results and self-confidence.

The model’s design technology includes the formation of professional activity components (analysis of professional activity, detection of main labour functions and professional skills) and specialist training components (creation of basic tasks and exercises, curriculum correction, development of teaching forms and methods, etc.).

The results of the experiment shows that our simulation method “Educational Corporation” improves professional skills and abilities, along with the students’ personality traits. The increase in operativeness, in its turn, indicates the formation of high reaction rate (as a
5. Conclusion

In our study we developed a data bank of available teaching methods, an expert service system, methods facilitating advisory assistance and pedagogical cooperation. Besides, we proposed an algorithm of the teacher’s activity on the design and usage of simulation educational methods. It aims to assess the students’ psychological readiness for simulation methods, to help them interpret their experience, to form new ideas systematically, by stages.

When highly-qualified and competitive workers are required, the simulation methods are more prospective than other active ones. The practical peculiarities of the simulation methods make it possible: to realize the components of Middle-level Effective Specialist Model (students’ professional characteristics corresponding with the Federal State Educational Standard on the concrete speciality and the young people’s personal qualities – psychological, mental, behavioral); to apply the system of simulation methods through the new teaching method “Educational Corporation”; to reveal the teacher’s self-development potential in the chosen profession.

References


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