Formation of the Professional Competence of a student within the framework of the problem-oriented approach to training

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Abstract. In the paper the authors consider the personality trait «creativity» as a potential opportunity of every person and as his/her need for being a unique personality. The authors suggest applying the problem-oriented approach to training and interactive training methods in the educational process of the higher education institution as their implementation allows not only encouraging students’ thinking but also forming the creative constituent important for further professional activities and promoting solid career achievements.

Introduction

Social and economic changes affecting all aspects of human life have also significantly affected the system of education in the Russian Federation creating real opportunities for its modernization [13]. Labor market needs are the basic factor of education reform. Modern society needs an educated, entrepreneurial, ambitious worker capable of making important decisions independently in the situation of choice, realizing possible consequences, possessing creativity, communicativeness and mobility. As matters stand, formation of creative abilities of every person who ensures development of society, culture, science and production must become one of the main aims of modern higher professional education [3]. The Program of modernization of higher education of the Russian Federation sets the task of developing creative educational environment where individual characteristics of the students can be manifested to the best advantage.

Materials and methods

The universal general theory of creativity does not exist. Creativity has been analyzed by scientists for hundreds years. The term "creativity" in translation from Latin (creatio) means "creation". “Creativity” is a process of creative activity of a person. This activity is resultants from a new innovative product. Creativity is manifestation of the creator. The creator is the person who induces creative activity. The creator is responsible for the product she/he has created. The most well-known researchers of "creativity" are J. Guilford (1953) and E. Torrance (1988). Other authors claim that there are three aspects of creativity: person, process and product (N.Aderson (1990), T. Amabile (1998), E.Barron (1981), R.Woodman (1993), N.King (1990), etc.).

The interest in the problem of “creativity” appeared in the USA in the middle of the last century. The progressive scientists who made a significant contribution into the conception of creativity are J. Guilford and E.P. Torrance [6].

The authors associate the concept of “creativity” with having and introducing some idea aimed at creating a material product. The authors mark the important role of the analysis of the actor performance when realizing the idea. In his work S.L. Rubinstein emphasizes the necessity of paying attention to the personal aspects of creativity. According to him “creativity” is the process of developing something new and important and at the same time – of something original, which has the “imprint” of creative personality. S.L. Rubinstein stated that every created unique thing depends upon creator’s personality [11]. The conception developed by American psychologist Joy Paul Guilford in the 20th century enabled a tremendous upgrowth of research and development in the field of creativity all over the world [6]. The cubiform model of the structure of the intellect developed by J. Guilford supposed development of separate creative abilities of a person, not development of general personal intellect. So, if a child demonstrates passion for knowledge in the field of physico-mathematical sciences this knowledge should be developed by the teachers without trying to develop abilities in the field of, say, music. According to J. Guilford every person is talented in his/her own way. It is only important to recognize these abilities in due time and develop them.
The model's simplicity allows for the individual measurement and assessment of each component as well as the evaluation of the interaction of the components. In the present study, the 4-Ps model is applied in order to identify a study's focus perspectives on creativity. Though all four components have to be considered when taking in a holistic view on the phenomenon of creativity, research often considers only a subset of the model's elements. In order to determine this classification we characterize the paper's main constructs/concepts in terms of their relation to the process, the product, the person, or the press component of creativity [8].

The term “creativity” originates from the Latin word “creatio” – invention or development [10]. In the narrow sense the concept “creative input” is a processual factor of individual activities in creative and intellectual activities which result in innovative product development which did not exist before in the market of goods and services. Here we understand the “innovative product” not only as goods or services but also as new methods of research, conceptions, decision-making algorithms, etc. [12].

J. Perry and C. Shalley determine “creativity” as follows: “People can be creative in their activities due to generating new ways of doing their work, inventing new procedures or innovative ideas or due to application of known approaches under new conditions …” [1], and such definition supposes achieving practical results and comprises all cognitive and personal qualities.

It is generally recognized that “creativity” is an indispensable and important part of human society development. Due to the productive, creative character of their activities people create new tools, new concepts of managing and system improvement, develop their abilities for unconventional thinking and making efficient decisions in the course of business. Due to the creative character of human activities, people were able to overcome their genotypically determined capabilities and accelerate scientific progress of modern society. "Creativity" is neither an exclusive prerogative of great minds, nor a part of certain areas of human activities and complexity of work. In other words the activity of modern society is manifested and continued in human creation, in investing creativity into productive activities, which become productive not only consumptive due to it.

Therefore, creativity is a personal trait which rests upon potential capabilities of every person in his/her need to be a unique individual.

Creativity can be considered as optimal development of all abilities of a personality, which is realized and manifested, in creative process.

We understand creativity as a combination of the following personal traits:
- creative thinking (an ability to find new solutions of problematic situations which can lead to new ideas and discoveries);
- originality (one’s own view of a problem, imagination, sense of humor);
choosing means and ways of solving the given
both independent decision-making and independent
higher level of situation analysis and develops skills of
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teacher. That is why case study method includes both
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A problematic situation is a complex of certain
conditions and circumstances characterized by some
contradiction. A person finding himself or herself in
the given situation realizes this contradiction as a need
for obtaining new knowledge to deal with the
contradiction.

M.L. Zueva notes in her research paper that the
students who solve the problems found in study guides
or problem books as a rule use the algorithm given by
the teacher to do this. In practice this may lead to
inability of the graduates to solve problems with
modified conditions [5].

To form students abilities for solving problematic
situations we need to apply problem-oriented approach
to education. The main aim of problem-oriented
approach is teaching students to work independently,
form their research skills, develop their cognitive and
creative abilities, creativity.

The ability to solve problems under current
conditions is highly appreciated by the employers. If
students acquire the ability to solve problems during
their training process they will be in great demand.
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To create a problematic situation we suggest
application of case study method which supposes
participation of both student and teacher in discussion
of the problematic situation. As a rule, cases are
prepared in the written form and they are based on real
facts, are read, studied and discussed by students. The
cases form the core of discussion in class guided by the
teacher. That is why case study method includes both
special type of study material and special ways of using
this material in the educational process [10, p. 50].

The given method provides better opportunities for
formation students' creative thinking as it supposes
higher level of situation analysis and develops skills of
both independent decision-making and independent
choosing means and ways of solving the given
problems. Case study is one of interactive methods of
training based on the principles of students’ interaction
and activity, relying upon group experience and
obligatory feedback. The environment formed for
educational intercourse is characterized by openness,
interaction of participants, equality of their arguments,
accumulation of shared knowledge, opportunities of
mutual estimation and control [4].

Case method supposes group and individual work.
The teacher chooses a case, prepares, if necessary, a list
of references required for finding the solution. The
students who get the case discuss the situation, work
out the solution, take the decision and prepare the
written report either independently or together with
their group guided by the teacher.

An important component of creativity development
process when solving the cases is multivariance of
solutions as opposed to one given stereotype of
solution and established algorithm of solution.

When working on the case the student must:
- define the creative task and the problem of the
given case;
- analyze the available information;
- compare the problem data to theoretical
knowledge in the field of mathematics, be able to apply
the given knowledge in a new situation, do
mathematical modelling of the situation described in
the case;
- suggest original ideas for the cases or new
explanations when presenting the solution.

As a result of working at the case the student is
involved into the following activities:
- generating the idea;
- development of solution for a new situation;
- application of divergent thinking (broad search for
problem solution which can result in original creative
solution);
- analysis, synthesis, comparison of various
situations;
- solving problems and tasks which require finding
regularities, properties, relations [2];
- associative thinking;
- imagination development;
- learn methods of creative thinking, which ensures
obtaining, producing and accepting new (or
subjectively new) knowledge [8].

The mentioned above qualities characterize a
creative personality prepared for creative activities,
being in-demand in all spheres of modern life.

Besides the cases, application of business role-
playing games will also encourage creativity
development as the games are characterized by plenty
of educational opportunities.

The game excites everybody – it stirs interest to the
content, inspires with positive emotions, enhances
mood.

During the business role-playing game the students
may play various roles (those of company CEO,
department manager, bookkeeper, accountant, etc.). It
may happen that not all students will participate in the
game. Then, these students may watch the process
which allows them to perform evaluate, control
analytical functions, noting how to apply the obtained

Results and discussion

The aim of creativity development is creating
opportunities for students’ self-realization during the
process of training and further – during their own
professional activities. The essence of the given
process is in awakening natural forces of students –
from curiosity to self-actualization revealing itself in
student’s creative potential development and creative
activity. Creativity is the base, the starting point for
establishing creative potential of the future specialist.

The process of creativity development in higher
educational institution will be successful if problem-
oriented approach is applied to training. The process of
problem solving predetermines appearing of creative
ideas and creative attitude of the students to their
activities and communication which forms the basis of
their creative potential and creativity in their further
professional activities.

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knowledge in practice. In the process of watching the business role-playing game, the students form the positive image of their future profession and, accordingly, value attitude towards future professional activities.

It is possible to organize various games. Some games may involve all students. Other games may be designed for two players, then, all students get into pairs, play the situations and then results of each group are compared and discussed. The time of the game may also vary starting from 30 minutes to several classes.

The task of the teacher in organizing and guiding the game is as follows:

1. To choose the business role-playing game according to the studied subject.
2. To prepare, if necessary, the required materials for the game (cards, stocks, etc.).
3. To distribute the roles between the students and familiarize them with the game.
4. To make adjustments to the business role-playing game in the process of playing (time, additional conditions introduction, supervision of participants and lookers).
5. To sum-up. The teacher marks all positive and negative aspects, estimates every participant [9, p. 404].

We think that this method of teaching encourages efficient development of student’s creative abilities.

The players must not only take part in the game but also demonstrate such qualities as ability to team work, interpersonal communication skills, leader qualities, creativity in case of unforeseen extreme situation.

Besides, business role-playing game being an extremely dynamic process develops the skills of situation and feedback analysis, decision-making and long-term planning of activities. The students study eagerly when they are interested. This opportunity is provided by business role-playing games. During a business role-playing game the students may actualize their personal potential, It is recommended to use special equipment during the business role-playing game such as video recording which allows the participants taking a detached view when the game is over. It allows learning some interesting things about one’s own behavior and about oneself.

Conclusion

Thus, "creativity" is an ability of a person to use knowledge, skills and abilities for creation of a product in a short time. A progressive way of development demands product creativity, as it is essential for further success of extension. F. Byron defined "creativity" as a product made by a creative person in the course of a creative process. He does not focus on creative environment in the definition. R.Woodman (1993) defines "creativity" as a creation of a valuable useful product when people work together in complex systems.

Thus, the meaning of the term "creativity" was extended from an individual level to a group level. Creative groups of people should be not uniform and not big. It is better if a head of creative group would have a democratic style of communication, so he/she could provide creative atmosphere for members of the group. Then productivity of creative group could increase as much as possible. Creativity is a driving force of economic and political development.

Thus, application of the problem-oriented approach and interactive methods in student training allows not only activation of their thinking but also forming the creative constituent, which is important for further professional activities and promoting solid career achievements.

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