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FORMATION OF UNIVERSITY STUDENTS SAFETY CULTURE IN MODERN SOCIO-CULTURAL AND TECHNOGENIC CONDITIONS

Elena N. Prokofieva[1], Vera V. Smirnova[2], Sergey B. Ignatov[3], Firuza V. Khazratova[4],Vladimir N. Igonin[5] and Vera V. Murugova[6]

The urgency of the paper is determined by the sharp growth of personal, social, physical threats to the security of the individual in the modern world under the influence of social tension and technological factors. The purpose of the paper is the development and approbation of the psychological and pedagogical model for the formation of university students' safety culture.In the framework of the study of the educational environment, the authors identify the problem of high risks to personal security and the need to form and develop students' safe culture.The authors suggest a new interpretation of the individual's security culture, its essence and components, corresponding to contemporary socio-cultural and technological conditions.The authors have defined the methods and mechanisms, the diagnostic tools for assessing the formation of university students' safety culture, and the results of the experiment.The paper is intended for educators, researchers and specialists in the field of vocational education and safety.

Keywords: higher education, security culture, university students, personal security, diagnostic tools.

INTRODUCTION

The ongoing socio-economic reforms that are taking place all over the world, the modernization of educational systems, predetermines the revision of the components of future specialist's professional training.It is assumed that a university graduate should not only fully possess professional knowledge, abilities and skills, but also be a person, have a common culture, be a carrier of high morality and social activity. Among other things in the formation of a specialist of the 21st century, when the main dominant of the development of education is recognized the priority of human interests a culture of security becomes particularly important.

Strengthening the importance of universal values, their priority in solving global problems of civilization actualizes the problems of life activity and its security

[1] Institute of Pedagogy, Psychology and Social Problems,Kazan, Russia.*E-mail: elena-kzn@list.ru.*

[2] Department "Financial Law and Taxation", Moscow State University of Railway Transport of the Emperor Nicholas II (MIIT), Moscow, Russia.

[3] Department of Humanitarian Sciences, Tyumen Industrial University, Tyumen, Russia.

[4] Department of Theory and Methods of Preschool and Primary Education, Kazan (Volga region) Federal University, Kazan, Russia.

[5] Department "Agrotechnologies, Machinery and Life Safety", Ulyanovsk State Agricultural Academy named after P. A. Stolypin, Ulyanovsk, Russia.

[6] Department of Humanitarian Disciplines and Foreign Languages, Kazan Cooperative Institute (Branch) of the Russian University of Cooperation, Kazan, Russia.

ensuring.In this context, the problem of creating a safe life-activity culture, its educational orientation is relevant for the entire pedagogical community.Practical organization of the protection of the individual, society and the state from natural and man-made emergency situations, from social upheavals become one of the most important tasks of our time. This is due not only to the harmonization of human relations with nature and technique (Andreeva,2006), but also of man with man, man and society, since humanistic thinking is primarily guided by the theory of respect, recognition of personal freedom and security, relies on self-development and self-control of every person in all kinds of his professional activities.

In the context of the future professional activity of university students (Muraveva, Voronina, 2008; Masalimova&Ivanov, 2016; Gabdrakhmanova, Kalimullina&Ignatovich, 2016), the problems of ensuring security in modern conditions can be conditionally divided into: 1) problems which are characteristic of any object of economic activity, including social one; 2) problems related to the specifics of production processes related to the future sphere of professional activity, the organization of production and the dislocation of enterprises.

In this regard, one of the priority tasks of vocational education is the training of a specialist with a developed safety culture as the basis for the formation of competent (Barishev, 2014; Devisilov, 2008; Gorina, 2002; Shaidullina *et al.,* 2015c), creative individuals with high performing discipline, a sense of responsibility for people and the preservation of the environment, punctuality in the implementation of all standards and laws on labor and nature, the ability to make decisions in extreme situations and to predict the consequences of their professional activities.These tasks, which contribute to improving the quality of professional training of a specialist, are formulated in the Law of the Russian Federation "On Education in the Russian Federation", "The Concept of Modernizing Russian Education for the Period till 2020".

In the studies of researchers: Y. L. Vorobyev (2009), L. N. Gorina (2001), N.A. Lys', (2006), the safety culture of life activity is considered as a process of preparation for safe activity through its formation; V.N. Moshkin - through upbringing (Moshkin, 2004). In connection with the fact that the pedagogical process is inevitably connected with the socialization of students, and the culture of life activity safety includes, in addition to knowledge, a system of values, world-view ideals, professionalism, safety technique in one's own professional sphere, promoting respect for the environment and a healthy lifestyle, motives of personal and professional activity (Gafner, 1993), we use the concept of "formation" as most appropriate to the phenomenon under study.

RESEARCH METHODOLOGY

The essence, structure and levels of safety culture of university students

L.N.Makarova (2003) and I.N. Nemkova (2004) define the culture of life activity safety as an integrative, dynamic structural-level formation that promotes safe and

creative self-realization in the process of personal activity, and the formation of a culture of life activity safety - both structural and level development and integration into the life of personal qualities and abilities of students, constructive qualitative transformation of the inner world, leading to the possibility of safe, creative self-realization in the process of any activity; Yu.L.Vorobyev (2006), V.N. Moshkin (2004) consider the culture of life activity safety as a method of neutralizing the dangers of modern society through the education of the necessary qualities of a person, underlying his activities.

Under the *culture of security* in our study is understood a personal, structural-level education that fosters a constructive relationship between university graduates and the environment and manifests itself through intellectual, informational, socio-political, energy and other interactions with the natural, man-made and anthropogenic spheres in the process of professional activity and life activity in general.

The formation of university students' safety culture requires purposeful pedagogical activity, and, in our opinion, should include the following three areas: theoretical, practical and personal, the content of which is realized in the process of students' studying the academic disciplines of all cycles (Belov & Devyasilov, 2005; Dolinina & Kushnaryov, 2015; Shaidullina *et al.*, 2015a).

The theoretical direction of the university's work on forming a safety culture among students is to give students the necessary professional and specialized knowledge on various aspects of the safe implementation of productive and social activities, including the safe interaction of man with the environment and so on (Kuznetsov, 2010; Prokofieva, 2016; Slastenin, 2008; Shaidullina *et al.,* 2015b).

The practical direction provides for the students' arming with a whole set of professionally important skills and abilities, including forecasting, avoiding and overcoming negative situations and impacts, and assessing the risks of occurrence of dangerous situations in the personal, social and physical aspects.

Personal direction involves students' awareness of the need to master the culture of providing safe life-activity in any kind of situations, as well as the personality qualities necessary to minimize negative impacts in various types of professional activity.

These directions are interrelated, characterizing the integrity of the process of formation of a safety culture among university students: practical training is conditioned by the signs of a theoretical basis, namely, the formation of knowledge and skills of life activity safety (Prokofieva, 2016; Sorokin, 2006; Isaev, 2008). At the same time, in the process of practical training on the formation of abilities and skills of safe activity, the thinking activity of students is activated, which contributes to the more successful assimilation of theoretical material.The productivity, the durability of mastering the rules and norms of safe vital activity, that is, theoretical and practical training depends on the manifestation of personal qualities, the degree of interest and creative attitude to activity (Lerner,1980).

We distinguish the following components of the safety culture, which determine in the future the professional activities and behavior of graduates of universities:

- *an axiological component* that represents the moral valuable attitude of university students: an understanding of security as the highest achievement of society, respect for people, nature, land, awareness of the possible consequences of technical and technological activities, etc .;
- *a cognitive component* that contributes to the accumulation and application of knowledge, general patterns, structural and logical schemes, and the characteristics of professional interaction with the outside world (man-man, man-technique, human-nature) in the educational and professional activities;
- *the activity component* assumes observance of all principles, norms and conditions of safety within the framework of realization of educational and professional activity;
- *information and communication component* that determines the implementation of safe professional activities and life- activity in general within the communications "man-man", "man-technique", "man-nature" and the dissemination of security values through one's own model of behavior (Lys',2006).

Methods and base of research

In the process of research the following research methods were used: theoretical (analysis of philosophical, cultural, psychological and pedagogical literature on the research problem, systematization, generalization of pedagogical experience, forecasting, modeling); diagnostic (testing, conversations); prognostic (assessment, modeling and generalization of personal experience and experience of teachers in the formation of students' safety culture, observational (self-observation, observation of students' activity in the teaching and educational process).

Experimental work was carried out in the period from 2012-2016 in the Federal State Budget National University "Don State Technical University". The sample consisted of 305 students (152- control group, 153 - experimental group).

RESULTS

Levels of formation of university students' safety culture

The structural components of a safety culture (axiological, cognitive, activity, information and communication) are the basis for reproducing the principles of organizing and implementing of pedagogical processes (Mukhametzyanova et al., 2016; Shibankova, 2016; Slastenin, 2008).

We determine the presence of the axiological component of the university students' safety culture through the formation of a system of social and moral

guidelines and empathy, as emotional manifestations, participation and understanding the roles of each person in personal and public security.

The analysis of the cognitive component's formation is based on the knowledge of dangers, risks and threats to the safe existence of the individual and society as a whole and intellectual activity, which assumes the continuation of cogitative activity beyond the emergent situation, due to the unity of cognitive and motivational factors.

The activity component, conditioned by the "collision" of the entity, on the one hand, and the objective laws of the environment or social factors on the other, presupposes the availability of practical skills in the use of methods of protection from emergencies of a different nature and personal confrontation with destructive ideologies and deeds; ability to forecast vision and protection in case of dangerous situations.

The information and communication component is commensurate with the needs of human morality and the desire for communication in all types of communication through verbal abilities and adaptive behavior, contributes to the formation of a safe model of professional activity and life-activity in general, the spread of security values.

The structural components of the safety culture (axiological, cognitive, activity, information and communication) established by us and their criteria (social and moral guidelines, empathy, knowledge, intellectual activity, practical skills, forecasting ability, verbal abilities, adaptability) assume the following levels of formation of university students' safety culture:

- *low level*. In assessing the behavior of students in educational and professional activities the following things are observed: the state of hesitation, doubt in their actions in truth; difficulties in making decisions in the field of personal and public security ensuring, the lack of a sustainable need for knowledge in security field; low level of activity; low socio-cultural organization.
- *average level.* In assessing the behavior of students in educational and professional activities, one can observe the following: the existence of a priority of personal security, an understanding of the motivating reasons for ensuring safety and risks of professional activity, the existence of links between safe existence and future professional activity, a clearly expressed system of values in the security sphere, rather high intellectual activity, howeverthe spread from the personal security to the public one causes difficulties, is not always possible to adapt the behavior to the danger that arose and predict the risks of professional activity;
- *high level.*There is an idea of the inseparable unity of effective professional activity with the requirements to safety and security of a person, there is an ability to act successfully on the basis of practical experience, skill and knowledge in solving problems of personal and public security; there is

capability to take into account the consequences of decisions and predict possible changes in the problem situation; the behavior is determined not by external circumstances, but by a world view; a demonstration of readiness for self-improvement takes place.

An important task of forming a safety culture for university students is to review the changes that occur when moving from one level to another. The dynamics of the transition from a low level to a higher one is characterized by changes in the nature of the links between the components that occur as learning progresses, changes in individual professional qualities, intellectual activity, and so on.

The final goal of mastering the first level (low) should be the teaching of university students to consider and analyze issues of personal security as a priority. There is a process of developing intellectual and creative potential, restoring mechanisms for self-reflection and regulation of one's "self", skills in self-organization, self-analysis of the causes of behavior in dissimilar production relations, evaluation and analysis to an accurate and safe existence.At the same time, it is necessary: to provide a broader and deeper knowledge about the surrounding people, the world of dangers, to provide theoretical insights about their origin and the possibility of developing dangerous situations; to form a clear concept that for any human activity there is a colossal circle of dangers and a sufficiently high risk of their indication; freely to use practical exercises for the formation of knowledge, abilities and skills of defensive activities.At the same time, one should not consider knowledge from the point of view of special disciplines focused only on studying issues related to future professional activity, it is necessary to emphasize that the main means of human survival in any conditions and in any activity is the mental activity that governs our actions on the intellectual level and determines the role of erroneous actions.

At the second stage, there is a certain process of turning to cooperation and co-creation in the process of forming a culture of security.This stage is characterized as a stage of becoming a student in the field of security.The student analyzes the amount of knowledge gained in the field of safety culture, combines them with the results of his own reasoning, inferences, reforming and transforming them into the guidance of his own actions; a feedback is formed between knowledge and belief, trust, faith, as well as confidence in achieving the goal or the opportunity to solve pressing problems with a practical focus on professional activities.

At the third level (high), university students independently form and formulate their system of views in the field of safety culture, the trajectory of behavior, priorities, the image and style of activities and relationships from the perspective of the applicability of competences; plan and implement personal plans,scientific ideas, concepts; pedagogical technologies are used by students not in a "pure" form, but are changed and interpreted through the prism of certain experience and individual interests.

Technologies and diagnostics to form safety culture of university students

As part of the formation of a safety culture for university students, we selected students of control (152 people) and experimental groups (153 people) equally distributed in the areas of training: "Mechanical Engineering", "Electrical Power Engineering and Electrical Engineering", "Radio Engineering".All the students studied the discipline "Life-activity Safety" in the first year.During the pedagogical experiment for the students of experimental groups, the content of professional training in the field of security was expanded in all professionally-oriented disciplines.

The use of a set of active pedagogical forms, technologies, methods and means was carried out in order effectively to form a culture of safety for university students: non-imitative methods and imitation methods (game methods, case-method, and project method) applied within the framework of professionally-oriented disciplines(Smirnov, 2007; Surova, 2010).During the introduction of pedagogical technologies (technologies of developing, problematic, project training, game technologies, and information and communication technologies) in the educational process, the psychological and pedagogical characteristics of students and their level of training were taken into account.

Forquantitative estimation of the process of teaching students in experimental groups, a profile of the student's safety culture which corresponds to the structural components of the safety culture was developed (Fig. 1).

The axes of the profile of the safety culture reflect the criteria for assessing the structural components of the safety culture of university students and provide monitoring and pedagogical management of the training process.

The proposed profile of the safety culture, visualizing the dynamics in the formation of a safety culture of each entity's life activity, allows not only

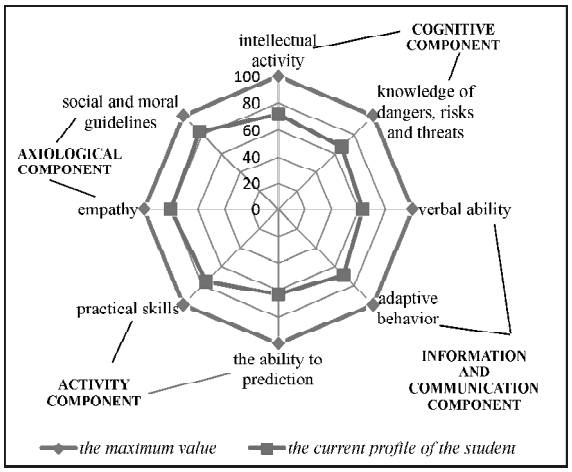

Figure 1: Profile of student safety culture

quantitatively but also qualitatively solve the problem of diagnosing (including self-diagnostics) the level of the safety culture, and also enables to determine a single condition for the entity's transition from level to level of safety culture's formation that is possible only when the totality of all indicators is reached.In addressing this issue, we proceeded from the argument that the level of the student's safety culture will be higher if the values of the indicators (component criteria) are approximately equal, in this case, the effectiveness of interaction with various factors of the surrounding world (man-man, man-technician, man –nature) and, in contrary, the level of the safety culture will be lower when the values of the parameters are different, and the greater the difference in their values, the more difficult it is for a person to exist in the environment.

At the final stage of the experimental work, we assessed the level of formation of students' safety culture in control and experimental groups.Based on the results of training games, production practice, final testing and solving quasi-professional problems, we summarized the results for the selected components of the safety culture (Fig. 2).

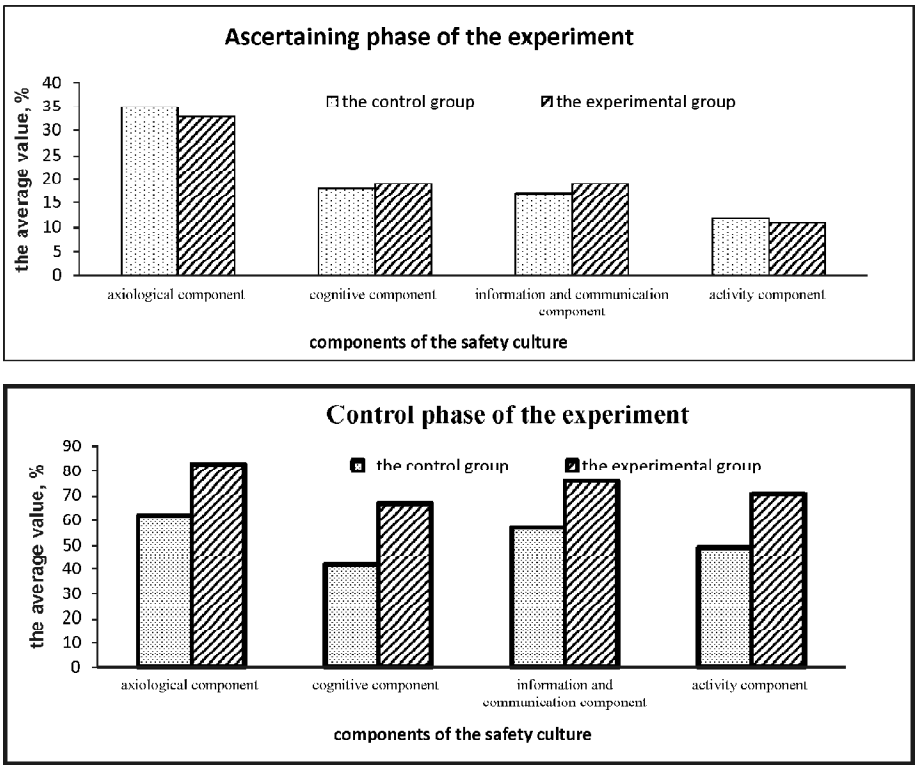

Figure 2: Effectiveness of the formation of safety culture among students of the experimental and control groups

The analysis of the results confirmed the effectiveness of our proposed technology and methods of forming for university students'safety culture - the students of the experimental groups have significantly higher indicators (more than by 25%). The accuracy of the measurements was verified by Student's statistical criterion and showed significant differences between the experimental and control group data at the final stage of the experiment.

DISCUSSIONS

Considering the theoretical aspects of the process of formation of a safety culture, we analyzed: the conditions, the principles of the mutually acceptable (safe) human existence in the environment (Belov, 2011; Durnev, 2008); structural components of culture, professional and pedagogical activity (Anisimov, 2002; Isaev, 2008; Masalimova *et al.,* 2016); components of the culture of personal security (Moshkin, 2004); criteria that are revealed through a set of qualitative indicators (Devisilov, 2008; Isaev, 2008; Sharshov, 2003); levels of the formation of a culture of life activity safety (Belov & Devyasilov, 2005; Durnev, 2008).

We confirmed the hypothesis put forward by us at the beginning of the work that the formation of a student safety culture will be carried out effectively with a comprehensive approach and if the educational process is built taking into account the forming potential of the totality of structural components within the framework of educational and professional activities.Moreover, their interrelation, coordination in the process of formation of a safety culture of life activity are based on an axiological component that ensures the qualitative growth of other criteria, contributes to the establishment of closer ties between them and, as a result, leads to a culture of life safety at a higher level.

CONCLUSION

The effectiveness of the formation of a safety culture is represented by the comprehensiveness of actions and the ability to localize tasks in order to study each criterion.For this purpose, the profile of a safety culture was developed and tested experimentally as the main means of developing a culture of safety for the life activity of university students in accordance with selected structural components, criteria and indicators, providing analysis and management of the pedagogical process, developing a forecast vision of development, prospects in the field of both theoretical research, and the scientific justification of practice.

In the future, it is planned to introduce a variativ course in order to form a safety culture for students of all specialties, ensuring the expansion of competencies in the field of security, taking into account modern socio-cultural and technical and technological factors.

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