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CONTENT AND TECHNOLOGY MODERNIZATION OF PROFESSIONAL LIFE SAFETY TRAINING FOR FUTURE TEACHERS

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Abstract

This work presents the analysis of efficiency of the measures aimed at the modernization of academic and applied bachelor degrees along with the results of active training and organization of network interaction of students in the course of training with the specializations 44.03.01 "Pedagogical education" and 44.03.05 "Pedagogical education. Extended education". The objective of this research is to substantiate the necessity for the modernization of the contents of educational programs, for planning and implementing educational processes for future teachers in a specific way and with the use of effective methods and technologies in the course of educating in the field of life safety. The article offers the analysis of the efficiency of educational programs, of the outcomes of active training methods and technologies and the organization of network interaction of students based on the principle of social partnership.

The materials of this article have a lot of practical value for high school teachers, higher and vocational education staff and for the specialists in the sphere of educational management.

Keywords: Training students, educational technologies, life safety.

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1. Introduction

The necessity for the reform of the system of higher pedagogical education stems from the introduction of the Federal state educational standards (FSES) and has been noted by many authors (Bashun & Proshina, 2015; Vlasova & Zakirova, 2012; Dudaev, 2016). The issue of the modernization of teacher education became especially urgent in view of the introduction of the Professional Standard for Teachers and the FSES in higher education concerning the specialization 44.03.01 Pedagogical education (bachelor program) (Antonova & Klimenko 2014, Bashun & Proshina, 2015, The Concept, 2014 Nikitina, 2016) which places great demands both on how the process of training is organized, and on the competences of graduates. In order for Life Safety teachers to be able to develop not only sufficient noxologic knowledge, but also the system of pedagogical knowledge, abilities, skills and competences (Abramova, 2015; Mihailov, 2016), appropriate educational contents, methodologies and technologies need to be offered taking into account the present day reality with its demands as well as previous successful experience in the field. Despite the fact that the number of higher education institutions which are training Life Safety teachers is small, it still has to be noted that the number of publications, which share the experience of practical work towards effective modernization in the field of life safety education, is insufficient**.**

2. Problem Statement

The issues of vocational training of future Life Safety teachers are considered in the works of Volkhin (2000, Labutina (2009), Lyashko (2004), Zeer (2005), Mikhailov (2007, The Order of the Ministry of Labor in Russia from 18.10.2013, The Order No. 1426). A large proportion of research in this area is devoted to studying educational models, stages and conditions of effective education. In the articles of Volkhin (2000) and Labutina (2009) the aspects of effective teacher training are considered along with the process of helping future life safety teachers develop appropriate for their work value systems. These authors have demonstrated that the socio-economic, socio-pedagogical, subject and pedagogical, psycho-pedagogical conditions of teacher education determine the formation of the professional values of life and safety teachers. At the same time there is still no unambiguous and reasoned answer to the question of how the process of the modernization of teacher training should be organized.

The search for the ways to improve the education system in the Russian Federation initiated by the enforcement of the new FSES HE and the professional standard for teachers (The Order of the Ministry of Labor in Russia from 18.10.2013, The Order No. 1426) has shown the necessity to revise both the contents, methods and technologies employed in education. This implies the drastic reconsideration of contents, forms and methods of training students in the sphere of life safety. This necessity has also become urgent due to the modern situation in the world as the world is becoming increasingly unsafe and the likelihood of emergency situations in various spheres of human activity is growing. In view of this life safety teachers are often assigned to carry out important tasks not so much in the field of academic education but also in the sphere of promoting certain lifestyles. Therefore there is a need to update the

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contents of teacher training – only the most effective forms, methods and technologies should be used (Tankenov & Yakovlev, 2008).

The importance and complexity of the issue of life safety teacher training is also increasing as a result of the rapid development of new technologies and the increased amount of information circulating around us (Volkhin, 2000). It is often noted that within the educational process of higher education it is necessary to replace the knowledge-based paradigm with the activity-based paradigm in order to create the practical orientation of the educational environment (Abramova, 2015*).* The mechanisms of social partnership increase in professionalism of pedagogical staff in the field of innovations, current material and technical conditions, practical orientation of educational programs, implementation of educational programs by employers, organization of internship platforms create a certain attitude towards the conditions of such environment. At the same time it is noted that the practical orientation of training in higher educational institutions has to correspond to the social order of modern society, and it can prevail over the theoretical orientation without substituting it completely. According to many authors (Gulakova & Kharchenko, 2013; Dudaev, 2016; Melnikov & Karneeva, 2014; Retivykh, 2015) an effectively organized educational process in the modern educational environment has to be based on activity-based and interactive forms of education (both in formal and extended education). Moreover, extended education hold enormous potential for effective training of future experts in the sphere of life safety (Zavalishin, 2016). It is important to teach students to use innovative techniques and methods of training at school. Only this way will the student learn to independently assess their efficiency and estimate their advantages. For example, active and game-based forms of education allow to reduce the gap between the abstract nature of educational process and the reality of future professional teacher life; they help develop skills of social interaction, professional communication, and create meaningful feedback between the teacher and the student **(**Gazizulin & Maksinaiaeva, 2014**).**

3. Research Questions

The process of effective training of future life and safety teachers is impossible without: the development of a theoretical system of life and safety teachers education; the improvements of the current professional educational programs and their methodological basis; the identifications and justifications of criteria for evaluation of professional preparedness; the implementation of systematic interaction with government institutions with are responsible for ensuring the safety of the population**.**

These aspects also determined the vector of the transformations of the educational process covering all components of educational programs at the “Vyatka State University” within the following specializations: “Pedagogical Education”, “Life Safety” (academic bachelor degree) и “Life Safety. Extended Education” (applied bachelor degree**)**.

4. Purpose of the Study

The objective of this research is to justify the necessity to modernize the contents and technologies of life safety teacher training in order to ensure the successful development of their professional competences

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5. Research Methods

In this research the following methods were applied: theoretical and methodological, system and structural analysis of scientific, normative, educational and methodical documents; the analysis, generalization and interpretation of innovative pedagogical experiment on the organization of life safety teachers training; the analysis of regulative and legal documents, the analysis of the experience of innovative pedagogical methods introduction in institutions of the general and professional education; pedagogical experiment; surveys of students and teachers; the analysis of results of educational and independent activity of students, as well as the methods of mathematical statistics. This issue has been studied at the faculty of Physical Culture and Sports at Vyatka State University. Over the course of all stages of our research 49 graduates and students have taken part in our project (their specialization – 44.03.01 "Pedagogical Education in Life Safety". Additionally 50 students with the specializations 44.03.01 "Pedagogical Education" and 44.03.05 "Pedagogical Education. Extended Education" participated in the study.

6. Findings

The education of life and safety teachers at Vyatka State University (VyatSU) has begun at the department of Physical Culture and Sports in 2011. The surveys of graduates, which were carried out in 2015-2016, have shown the need for strengthening the methodical aspect of the training with the use of active and interactive methods of training, including activities that involve interaction with various participants of the educational process, and also the need for increasing the competence of students in respect of their skills and military training. All of these premises have also been determined by the requirements of the professional standard for teachers which prescribes "to develop and realize problem-based education; … to use various forms, methods and tutorials; to come into contacts with students of different age groups and with their parents (or legal guardians), with other pedagogical and social workers; to explore modern pedagogical technologies necessary for the competence-based approach taking into account the age and individual characteristics of students"**.**

The **Block "Disciplines**" includes disciplines (modules) that are mandatory and optional in the educational program involving in total 207 test units (t.u.) for the academic bachelor degree and 258 t.u. for an applied bachelor degree. In this part of the program was carried out introduction of a methodical component to disciplines of vocational training, which bases it is studied in school course Fundamentals of Life Safety. In the educational program of the academic bachelor degree conversion concerned 17 disciplines (109 t.u.) of a variable part, and in the program of an applied bachelor degree – 20 disciplines (136 t.u.) with mandatory and optional parts. Thus, a methodical part has been strengthened in disciplines of Life Safety teacher training making 52,7% t.u. from the total amount of the educational program.

The improvement of the methodical aspect of disciplines has been reflected in the change of educational topics (for example, "The theoretical bases of dangerous situations of a technogenic nature and protection against them. A training technique"). Earlier it was experimentally confirmed (Kayumova & Morozova, 2016) that there is an opportunity for the distribution within a discipline: 60% of time devoted to studying theoretical concepts and 40% of time devoted to studying the methodical aspects of teaching the Fundamentals of Life Safety. The same model has been offered to the educators working of

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the formation of programs of modernized disciplines. As a result of such transformations along with theoretical knowledge students learn practical ways of teaching this subject at school. At the same time they study the experience of school teachers published in scientific and methodical literature. Such approach aimed at working with the literature not only expands the theoretical knowledge, but also introduces students to the pedagogical community, forms the culture of Internet communication, raises and develops their ICT-competence. In this case it is necessary to agree with Levina that a major factor of educational activity is not so much the knowledge acquisition component, but the component of acquisition of various skills necessary for resolving set educational tasks (Levina, 2010).

One of the results of introducing the methodical aspect to teacher education is the formation of students' "pedagogical repository". It is meant to be the repository for methodical materials for various forms of activity, for assessment materials, for the organization of design activity of students, lists of useful links, etc. The pedagogical repository is grows as students master new disciplines. Thus, each graduate by the time of the end of training has a useful resource of methodical materials based on the use of modern pedagogical technologies.

It should be noted that the introduction of the methodical aspect in the process of teaching professional disciplines has inevitably led to the reduction of school hours for studying theoretical concepts. In order to prevent such tendency from leading to the decrease in the level of graduates' qualifications, all of the participants' activities in the educational process have been intensified. It became the basis for introducing the educational practices based on the use of active and interactive methods of training. Today new teachers successfully use such forms of teaching as problem-based lectures, excursions, critical thinking exercises, brainstorming, business games, practice with exercising machines, situational methods (case-studies), simulation-based exercises, group and individual trainings. Besides workbooks within some disciplines various mandatory and optional parts are developed and introduced into the educational process. For example, it was reasonably argued that it is effective to design workbooks as elements of the disciplines "Anatomy" and "the theoretical bases of dangers of social nature and protection against them. Training technique". The work with such training materials allows students to organize the large volumes of training materials and to effectively organize their academic work and the work performed in the course of extra-curricular activities, to carry out self-assessment of one's learning progress. It should be noted that by the final year of studies some students during their internships developed and introduced in their educational process their own teaching materials and methods. We believe that such experience will promote the emergence of new methodical grants for school students and educators especially as it is important to recognize the need for modern methodical support of the school subject 'the Foundations of Life Safety'.

In general, the introduction of active training methods into the educational process makes it on the one hand more effective and interesting but the other hand more expensive. There is the need for complex equipment for classrooms and for CPD. However, as a positive change it should be noted that the introduction of active and interactive training technologies into higher education institutions has led to the increased motivation of students, they became very interested in these methods. As a testimony to this students began to use the materials and approaches acquired by them in their learning at university and transferring them into their own teaching practices at schools in the course of internships. Another testimony to the efficiency of their work in the course of life safety lessons and extracurricular activities

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is that this subject became very popular among high school children as they select it to be one of their optional exams (final qualification works) (FQW) (54,16% from the number of all subjects' FQW in 2016-2017 in comparison to 28,0 % on 2015-2016).

One more aspect of the improvement of life safety teachers training is the introduction of design activity elements into the organization of educational and independent work of students. As an experiment at 2016-2017 academic year design activity as an element of educational and independent work on the "Theory and Practice of Military Patriotic Education" module and discipline "A Technique of Life Safety Training" has been introduced. 30 students (50% of students) are involved in such activity in the current academic year. The feature of the projects developed by students is their orientation towards the increase in efficiency of educational future life safety teachers' activity. Work on the project is carried out in small groups of 3-4 students working under the leadership of their teacher, is followed by the possibility of training at Project School of VyatSU and comes to an end with its representation at a public competition or an event (a forum, a conference). So for example, the best projects of 2016-2017 are submitted for a competition on a forum of the Volga Federal District in quality of pedagogical education "The Teacher 2.0" and the Youth forum Volga federal district "Oriole", and also in the form of reports at student's conferences. It should be noted that involvement of students in project activity promotes increase in their social activity, increasing knowledge in the field of the general and extended education, develops their communicative abilities.

For the purpose of increase in students' competence on the organization of interaction with the departmental organizations and participants of educational process during training is organized the collaboration with institutions of general and extended education based to the principles of social partnership. The first- and second-year students studying with the specializations 44.01.05 "Pedagogical Education" profile "Life Safety. Extended Education" participate in clubs, study groups and extended education institutions in Kirov, including participation in competitions and events first as participants, and then as volunteers to organize events. Through the same organization third- and fourth-year students go through their internships gaining the rank of an assistant, and then finally the rank of an extended education teacher.

Besides during training students get acquainted with all institutions and the organizations of the city and region which visit can be to some extent used for increase in cognitive interest studying within studying of Fundamentals of Life Safety at school. Students and teachers cooperate with the departmental organizations (Ministry of Emergency Situations, Motor Licensing and Inspection Department, Ministry of Internal Affairs, National Guard, Military Commissariat), public organizations ("Union "Chernobyl", "A fighting brotherhood", "Road of the good") and institutions of the Russian Ministry of Health (AIDS Center; Territorial Center of Medicine of Accidents). Such interaction also is partnership: the staff of the organizations participates in holding training and educational events both in higher education institution, and at their territory (excursions, preventive lectures, meetings, round tables, trainings), and students act as participants and volunteers when holding actions and public events by these institutions. Also collaboration with cultural institutions (the museums and exhibition platforms, libraries) – it is recognized as mutually useful as it not only promotes the formation of students general cultural competences, but also expands their opportunities as future teachers to organize activities at schools for the organization of

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military patriotic work, for prophylaxis of offenses and rising of safety culture for all participants of educational process.

In general, the results of the surveys of students and graduates show that the modernization of the educational program for the block “Disciplines” is considered effective and necessary by 82,35% of respondents.

“Practice” block of educational programs for the specializations 44.03.01 “Pedagogical education” and 44.03.05. “Pedagogical education. Extended education” includes 24 and 33 test units respectively. According to FSES HE the block includes educational, production pedagogical and pre-degree practices. For the purpose of increase in students' competence in the sphere of the training organization in military service in 2016 as an experiment has been made the decision to organize carrying out a part of a pre-degree practice in the form of passing of military muster on the base of “The Regional Center of the Russian Federation Citizens Training for Military Service and Military Patriotic Education at the Kirov Region”. Within two weeks students of a final year improved their skills on the soldiering, self-defense, and also a technique of organisation musterings training among schoolboys. Such experience of carrying out practice has been positively apprehended by students, recognized as effective and will be continued in the following years requiring the correction and update of the educational program in future.

“State Final Examination” block of educational programs for the specializations 44.03.01 “Pedagogical educations” and 44.03.05. “Pedagogical education. Extended education” of 9 test units includes taking a state exam as well as the preparation and presentation of Final Qualification Work. Due to the fact that competence-based and activity-based aspects of training were prioritized in 2016 by the management team of VyatSU the decision was made to create the experimental platform for holding a state exam for the students of the specializations 44.03.01 “Pedagogical educations for Life Safety” according to the WorldSkills Russia format. Now the sets of test tasks which will allow to assess the skills of students to carry out various forms of tasks and after-hour work according to various sections of the school program are being developed. We believe that such form of certification will allow not only to obtain exhaustive information on readiness level of graduates and their compliance to requirements of FSES and professional standards, but also will promote successful realization of knowledge acquired by them and experience after employment.

7. Conclusion

The research conducted by us shows that timely transformation and continuous improvement of educational programs aimed at strengthening students' pedagogical competence in the field of "Life Safety" is a necessary condition for successful and effective teacher training. The application of methods of active and interactive training in the educational process (project-based assignments, active interaction based on the principle of social partnership, flexible approach to the organization of practice and assessments organized in according with the state standards) promotes successful professional preparation of future life safety teachers

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