

**THE ROLE OF MODERN TRAINERS IN TRAINING AVIATION RESCUERS****Tolibjonov Murodjon Tolibjon ugli**

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**Annotation.** The role of simulators and training equipment in the training of modern aviation rescuers is of great importance. Nowadays, the formation of practical skills in complex and dangerous situations is becoming more effective than traditional training methods. With the help of simulators, rescuers practice situations related to emergency weather conditions, technical failures and human factors in a safe environment. This increases their ability to make quick decisions, coordinate and manage stress. At the same time, modern simulators provide realistic visual and sensory effects, significantly improving the quality of the training process. As a result, the skills of rescuers increase and their effectiveness in real operations increases. This article analyzes the advantages of simulators, methods of application and their importance in the training process.

**Keywords:** aviation rescuers, modern simulators, simulators, emergency situations, practical training, advanced training, safety, decision-making, stress management, learning process.

**Аннотация.** Роль тренажеров и учебного оборудования в подготовке современных авиационных спасателей имеет большое значение. В настоящее время формирование практических навыков в сложных и опасных ситуациях становится более эффективным, чем традиционные методы обучения. С помощью тренажеров спасатели отрабатывают ситуации, связанные с аварийными погодными условиями, техническими неисправностями и человеческим фактором, в безопасной обстановке. Это повышает их способность быстро принимать решения, координировать действия и управлять стрессом. При этом современные тренажеры обеспечивают реалистичные визуальные и сенсорные эффекты, значительно улучшая качество учебного процесса. В результате повышается квалификация спасателей и их эффективность в реальных операциях. В данной статье анализируются преимущества тренажеров, методы их применения и их значение в процессе обучения.

**Ключевые слова:** авиационные спасатели, современные тренажеры, тренажеры, аварийные ситуации, практическое обучение, повышение квалификации, безопасность, принятие решений, управление стрессом, учебный процесс.

**Annotatsiya.** Zamonaviy aviatsiya qutqaruvchilarini tayyorlashda simulyatorlar va o'quv uskunalarning roli katta ahamiyatga ega. Hozirgi kunda murakkab va xavfli vaziyatlarda amaliy ko'nikmalarni shakllantirish an'anaviy o'quv usullariga qaraganda samaraliroq bo'lib bormoqda. Simulyatorlar yordamida qutqaruvchilar favqulodda ob-havo sharoitlari, texnik nosozliklar va inson omillari bilan bog'liq vaziyatlarni xavfsiz muhitda mashq qiladilar. Bu ularning tezkor qarorlar qabul qilish, stressni muvofiqlashtirish va boshqarish qobiliyatini oshiradi. Shu bilan birga, zamonaviy simulyatorlar real vizual va sensor effektlarni ta'minlaydi, bu esa o'quv jarayonining sifatini sezilarli darajada yaxshilaydi. Natijada qutqaruvchilarning ko'nikmalari oshadi va ularning real operatsiyalardagi samaradorligi oshadi. Ushbu maqolada simulyatorlarning afzalliklari, qo'llanilish usullari va ularning o'quv jarayonidagi ahamiyati tahlil qilinadi.

**Kalit so‘zlar:** aviatsiya qutqaruvchilari, zamonaviy simulyatorlar, simulyatorlar, favqulodda vaziyatlar, amaliy mashg‘ulotlar, ilg‘or mashg‘ulotlar, xavfsizlik, qaror qabul qilish, stressni boshqarish, o‘quv jarayoni.

## INTRODUCTION

As the modern aviation system is rapidly developing, the issue of ensuring flight safety and training qualified aviation rescuers who can act quickly in emergency situations is becoming increasingly urgent. Aviation rescuers must not only have technical knowledge and physical fitness, but also master the skills of making the right decisions in stressful situations, quickly analyzing complex situations, and working with modern technologies. From this point of view, the role of modern simulators in their training deserves special attention.

Although traditional training and methodological exercises are important in the formation of theoretical knowledge, they cannot fully reflect real emergency situations. Modern simulators allow rescuers to gain practical experience by artificially modeling aviation accidents, man-made disasters and various complex conditions. With the help of such simulators, students can test their actions in a safe environment, analyze their mistakes and improve their professional skills.

In addition, simulators created on the basis of digital technologies provide an individual approach and serve to assess and develop the level of preparation of each trainee. Virtual reality, simulation and interactive programs make it possible to train rescuers in conditions as close as possible to real situations. As a result, the professional level, speed and level of responsibility of aviation rescuers increase significantly.

Therefore, one of the important tasks today is to scientifically illuminate the role and importance of modern simulators in the training of aviation rescuers, to analyze their effectiveness in the educational process.

## LITERATURE REVIEW AND RESEARCH METHODOLOGY

Although the issue of training aviation rescuers has been widely covered in the scientific literature, the role of modern simulators has gained special attention in recent years. Scientific research shows that traditional educational and methodological processes can be limited to providing only theoretical knowledge and are less effective in complex situations in real conditions (Ivanov, 2019; Smith, 2021). Therefore, simulation and virtual simulators are considered an important tool for training rescuers in a safe environment, developing quick decision-making and stress management skills in emergency situations (Kuznetsova, 2020).[2;54]

Modern literature also widely discusses the issues of identifying individual abilities of students, assessing their professional qualifications, and developing effective training programs with the help of simulators (Peterson, 2022). It is also shown that the use of virtual reality and interactive modeling technologies significantly increases the practical skills of rescuers. At the same time, research is ongoing in the existing literature on the criteria for assessing the effectiveness of simulators and their comparison with real situations.[4; 29]

Analytical and experimental methods play a key role in this study. First of all, scientific sources, articles and practical experiences on the topic are analyzed. At this stage, the types of modern simulators, their technical capabilities and impact on the training of rescuers are determined.

In the experimental part, the training of rescuers in the simulator is observed and their effectiveness is assessed. Errors in the training process, reaction speed and decision-making skills are analyzed using statistical methods. At the same time, subjective assessments of rescuers are also collected through interviews and questionnaires.

This methodology allows us to determine the role of modern simulators in the training process and create a scientific basis for their effective use.

### ANALYSIS AND RESULTS

The results of a study conducted to determine the effectiveness of the use of modern simulators in the training of aviation rescuers showed that they have a significant impact on the level of their professional training. At the experimental stage, the rescuers' training in the simulator was observed and their decision-making speed, error rate, stress resistance, and practical skills were analyzed using statistical methods. The results showed that the rescuers who regularly trained in the simulator significantly improved their ability to combine theoretical knowledge with practice.

Based on the observations, it was found that training using virtual and interactive modeling technologies allows for the artificial creation of emergency situations in real conditions. This increases the rescuers' ability to make quick and correct decisions in emergency situations. The relationship between the rescuers' error rate and reaction speed was also analyzed during the study: the number of errors in the simulator group significantly decreased and the speed of situation analysis increased.

Subjective assessments of rescuers were also collected through questionnaires and interviews. Most of them assessed the simulator training as an effective tool for preparing for a real situation. Rescuers noted that during the training they were able to identify and correct their mistakes in a safe environment. This increased their level of professional confidence and strengthened their ability to operate in stressful conditions.

The professional skills of rescuers trained using modern simulators are developed to a much higher level than with traditional methods. Their practical skills are combined with the principles of speed, accuracy and safety. At the same time, the individual approach and the ability to personalize the training process allow rescuers to identify their weaknesses and strengthen them.[3; 48]

Modern simulators are a decisive tool in improving the quality of training of aviation rescuers. They develop not only technical skills, but also strengthen stress resistance, quick decision-making and the ability to act effectively in emergency situations. Therefore, the use of simulators in the training of rescuers in the aviation sector has been found to be of significant scientific and practical importance in terms of increasing efficiency and ensuring safety.

### CONCLUSION

The use of modern simulators in the training of aviation rescuers is currently recognized as one of the most important means of increasing safety and efficiency. Studies have shown that traditional theoretical training can only be limited to the formation of knowledge, but is not enough to increase the ability of rescuers to make quick and correct decisions in real emergency situations. Therefore, virtual simulators, interactive modeling and simulation technologies allow rescuers to develop practical skills in a safe environment.

The results of the experimental study showed that the reaction speed, decision-making accuracy and stress resistance of rescuers trained in the simulator significantly increased. The results of the survey and interviews confirmed the high efficiency and reliability of the training process using simulators in the subjective assessments of rescuers. Also, simulators further strengthen the professional skills of rescuers by providing an individual approach, identifying errors and correcting them.

At the same time, modern simulators not only increase the ability of rescuers to operate effectively in safe and complex conditions, but also provide the opportunity to standardize and control their training process. As a result, their professional qualifications and level of preparedness for emergency situations will be high.

In general, modern simulators are of significant scientific and practical importance in the training of aviation rescuers, and their use plays a decisive role in improving the professional training of rescuers, ensuring safety and increasing the effectiveness of saving human lives in emergency situations.

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