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INNOVATIVE METHODS IN DEVELOPING INFORMATION SECURITY SKILLS IN STUDENTS

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Abstract:
The article analyzes the role and importance of innovative technologies in the formation and development of the necessary competencies in Information Security students. Training qualified specialists who can fight Information threats in today's digital society is one of the urgent tasks facing the educational system. In this regard, the article offers improved approaches based on the use of modern information and communication technologies, multimedia tools and digital interactive techniques. Through this methodology, students not only acquire theoretical knowledge, but also effectively master practical skills.

Keywords: Innovative technologies, information security, competence, educational process, digital literacy, computer engineering, pedagogical methodology, ICT tools, student activities.

INTRODUCTION

The rapid development of modern information technology is accompanied by negative cases such as cyberics, unauthorized access to confidential information, its modification or loss. Therefore, information protection is one of the most important tasks of strategic importance in any country. The need to protect information in the Republic of Uzbekistan is reflected in the formation of the state protection system and developing the legal framework for information security. Laws “On Informatization”, “On protection of state secrets”, as well as a number of government decisions have been adopted and implemented in practice.

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The main purpose of the information is to prevent losses caused by the unequaling (stolen, breach, falsification) of information. Information protection measures should be organized on legal and regulatory documents on existing information security, as well as the needs of information users. In order to ensure a high level of information security, it is necessary to constantly address complex scientific and technical issues and improve protection.

LITERATURE ANALYSIS

Information security is one of the most important areas of the state of information means to protect information from random or intentional threats and attacks and the protection of it. Information security is a sector of multifaceted complex, and success in this area can be achieved through a systematic and careful approach to success.

The Law of the Republic of Uzbekistan "On the principles and guarantees of information freedom of information" 2002 is given a number of key definitions. In accordance with this law, it represents information on individuals, events, facts, and process, regardless of the information - source and form of submission. The protection of information means a set of drafts aimed at preventing security threats and addressing their consequences. The information can be documented, massally, confidential or confidential. Documented information is limited to confidential information - limited to the legislation, but the state secrets are not limited to the state secrets. Confidential information is limited on a legal basis. Information security creatures are information owner, user and protective infrastructure. Risks in this area may cause participants to harm the participants of the information relations.Therefore, the processes of use, storage, transmitting and processing of information are strictly regulated. The information has become an integral part of life's activities, which can serve political, economic, scientific-technical, commercial and military purposes, as well as open.

The information sector is the interests of three levels, the interests of society and the state are allocated. Personal interests are reflected in the exercise of the constitutional right of citizens, engaging in social activities, ensuring physical, spiritual and intellectual development. The interests of the society are characterized by guaranteeing freedom of individual freedom, strengthening

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democracy and settlement of social justice. The interests of the state serve to strengthen the national information infrastructure, strengthen the constitutional system, to ensure political and economic stability and expand cooperation of international information.

ANALYSIS AND RESULTS

In the conditions of a modern informed society, ensuring information security has become not only a technical and legal problem, but also an urgent issue that requires an educational-innovative approach. In particular, the formation of knowledge, skills and competencies related to information security in students, their preparation as specialists with the ability to identify, analyze modern information risks and develop effective measures against them are important priorities of modern education. Information security is a complex and multifaceted field, the successful organization of which is ensured by the harmonious application of legal, administrative, procedural and software-technical measures. In order to deeply convey this approach to students, it is important to use innovative educational methods – project and problem teaching, cyber security laboratories, pilot platforms, case (case study) Analysis and integrated learning modules.

When taught on the basis of basic information security principles – data integrity, confidentiality and guaranteed right to use — practical training and simulation models, students learn to apply these principles in real information systems. As well as reliable systems, security policies and guarantees criteria, in-depth mastery of user rights management, computer security tools and information protection technologies, prepare students to develop modern information security policies and put it into practice. Information protection is a complex of measures aimed at ensuring its confidentiality and integrity in the process of collecting, transmitting, processing and storing information. This approach is directly inextricably linked with the concept of information security, the integration of which increases the effectiveness of the educational process. As a result, students, in addition to the theoretical foundations of information security, are formed as mature professionals who are able to move independently in an innovative

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thinking, digital security environment, carefully occupying the means that provide it in practice.

The concept is a system of officially accepted views on the problem of information security and ways to solve it taking into account modern trends. On the basis of the goals, issues expressed in the concept and the possible solutions to them, certain plans for ensuring information security are formed. The development of the concept is recommended to be carried out in three stages (Figure 1).

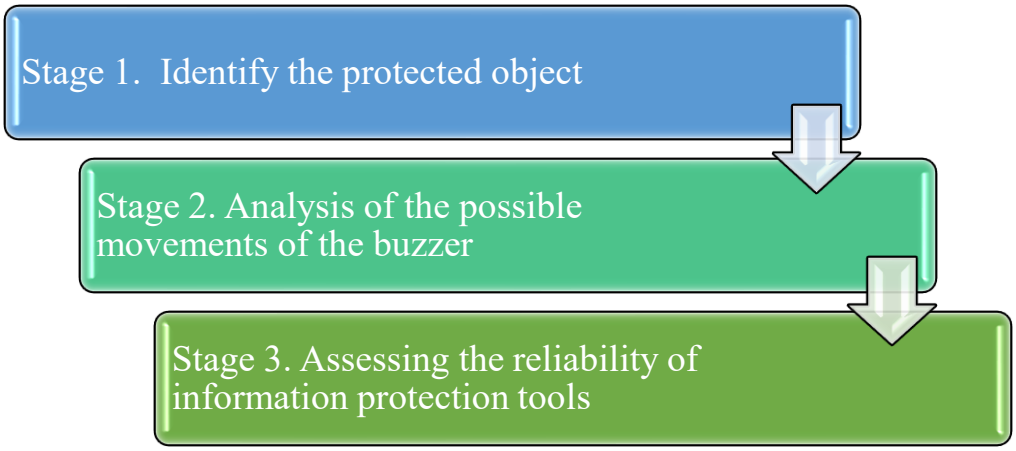

Figure 1. Stages of developing an information protection concept.

Helps to deeply understand the gradual development of the concept of Information Protection in the formation of information security skills in students. When teaching this process, it is advisable to apply the basic stages of concept development to students through practical training, interactive simulations and project training. In the first stage, students are taught to identify objects that need to be protectedelps to deeply understand the gradual development of the concept of Information Protection in the formation of information security skills in students. When teaching this process, it is advisable to apply the basic stages of concept development to students through practical training, interactive simulations and project training. In the first stage, students are taught to identify objects that need to be protected. These objects can be information resources,

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software, databases, or production processes. Objects are differentiated according to their economic, technological or strategic importance. Teaching this stage through interactive maps or risk analysis modules expands the range of student thinking. The second phase analyzes the risks that threaten protected objects-economic espionage, cybercrime, sabotage or damage. Modeling problem situations based on virtual threat scenarios as an innovative method directs students to identify real-world sources of risk, assess their likelihood, and plan preventive measures. And the third stage will focus on assessing the current situation. At this stage, students form the skills of analyzing the existing technical means of protection, the state of infrastructure in the production or organizational environment, local conditions and information flows. Training this stage through digital laboratories, monitoring tools in cyberspace prepares students for the independent development of systematic analysis and security design. As a result of the comprehensive analysis of these stages and their training in harmony with innovative educational technologies, students are formed as a digital security specialist who can take conceptual approaches to information security and apply them in practice.

CONCLUSION

The training of highly qualified information security personnel in modern digital society is an important condition for ensuring national security, economic stability and information sovereignty. In this context, the formation of theoretical knowledge, practical skills and analytical thinking skills regarding information security in students has become a priority of today's educational system. A step-by-step study of the concept of Information Protection prepares students to develop effective protective measures based on the identification of real information objects, risk assessment and feasibility analysis. Also, in this process, a thorough analysis of the legal, technical and organizational foundations of Information Security is carried out, which makes it possible to fully understand the principles of security in the collection, transmission, processing and storage of information. As a result, students are formed not only as educated, but also as specialists, able to independently make decisions in a real cybersecurity

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environment, complex management of Information Security. This serves Uzbekistan's strategic goals towards building an informed society.

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