Economic Security in the Context of Systemic Transformations

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FROM THE EXPERIENCE OF USING WEBQUESTS IN TEACHING INFORMATION SECURITY

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Abstract: *The article describes modern educational technology webquest, its features, stages of implementation. The methodology for implementing a web quest in the discipline "Information Security" for students of economic specialties is described in detail. Areas of research, such as information security at home, office or state, are identified. The roles of a lawyer, psychologist, analyst, practitioner, administrator, errorist are indicated. Specific results that should be obtained by each role are formulated. Instructions for teachers and students on organizing a webquest are presented. Thus, the technology of organizing project activities when studying the basics of information security by future economists is shown in detail. The capabilities of the website builder GoogleSites are described.*

Keywords: *webquest, information security, Information Security for Economists, teaching methodology, independent work, educational activities, website builder.*

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INTRODUCTION

Studying the basics of information security is necessary at all levels of education in all specialties, since information threats are increasingly appearing at the level of the state, organization and in a person's personal life.

Training economists in information security is associated with certain difficulties: an insufficient number of hours to study this area, different levels of ICT competencies among school graduates.

As part of the study of the discipline "Information Security", future economists need to consider various aspects of information security: legal, organizational, software, moral and ethical, software, technical and physical.

Along with traditional didactic methods and techniques, it is important to use new methods. One of these didactic methods is a web quest technology, proposed by Bernie Dodge, professor of educational technology at San Diego State University (USA), in 1997. Within its framework, the teacher can shape the search and cognitive activity of students on the Internet, taking into account relevance, adequacy and safety [1].

METHODOLOGY FOR CONDUCTING THE WEB QUEST "INFORMATION SECURITY FOR ECONOMISTS"

Webquest is an information and communication pedagogical technology that refers to game-based teaching methods. Students choose pre-suggested roles and work in an

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individual direction. As a result, each student receives the entire amount of information, but along his own individual "path of knowledge." At each stage, the teacher sets specific tasks and determines deadlines for completion. Students move on to the next stage, having successfully completed the tasks of the previous one. Work within the webquest consists of obtaining information on the World Wide Web under the guidance of a teacher.

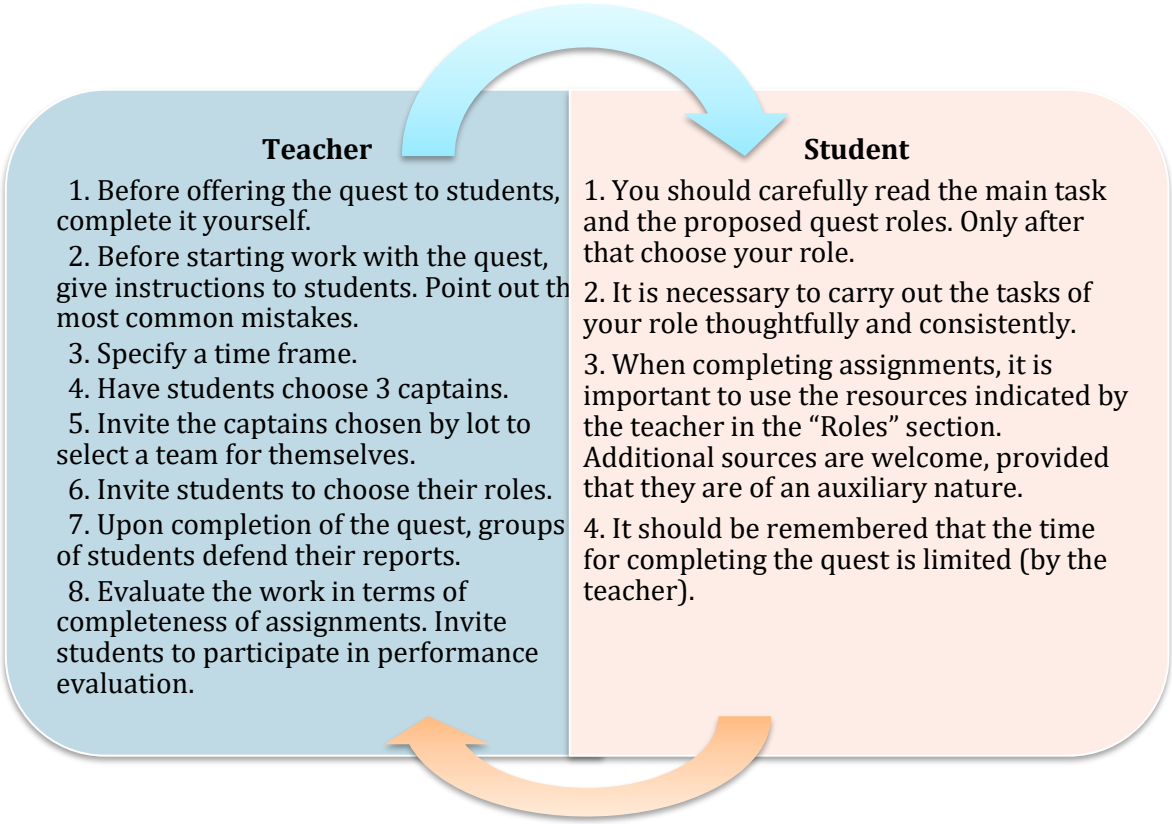

Figure 1. Instructions for organizing a webquest
Source: designed by the authors

The thematic web quest on the topic "Information Security for Economists" is intended for students studying in the bachelor's degree program in the discipline "Information Security." It is also advisable to use this quest in students' independent work when studying information cycle disciplines. In the state standard for training bachelors in the field of Economics, the graduate must have, among others, such general professional competence as "the ability to solve standard problems of professional activity on the basis of information and bibliographic culture with the use of information and communication technologies and taking into account the basic requirements of information security".

The use of webquest technology in teaching requires some information competencies on the part of the teacher. GoogleSites – free website builder and hosting. No knowledge of web programming is required to work with it. It can be used for collaborative editing. The developer is provided with many tools such as YouTube videos, calendars, maps, forms, links, images, documents, HTML, CSS, or JavaScript code.

The thematic quest on information security contains sections (tabs): main, roles, deadlines, test, is located at sites.google.com/view/bogdanova-zki/home.

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On the *Home* tab there is a video about one of the current threats to humanity - information security. There is also a link to guidelines developed by the author using the digital platform Joomag. These tasks help to develop practical information security skills.

To participate in the webquest, students need to be divided into three groups, each of which studies and prepares materials from the point of view of information security: information security at home, information security at office, information security at the levels of states.

The *Roles* tab contains a set of fixed tasks for the roles selected by students. To perform tasks efficiently, you need to follow the link of the corresponding role, where the teacher selected information resources taking into account relevance, adequacy and safety [2].

The quest provides such roles for students as lawyer, psychologist, practitioner, administrator, analyst and errorist. A lawyer studies in more depth the legislative aspects of working with information, determines what and how to protect from the point of view of legal norms. The psychologist examines in detail the moral and ethical standards for using information. The practitioner delves into software information security tools, the administrator into technical ones. The analyst studies organizational means of information security, in particular international and Russian standards in the field of information security. An error investigator searches for typical vulnerabilities in an information security system.

Each quest participant generates a report (in the form of a computer presentation, diagram, table, memo, etc.), on the basis of which the final report of the group is prepared (Table 1).

Table 1. Final results of the group

The ***lawyer*** prepares: - list of legislative and regulatory acts in the field of information security; - basic summary of the topic "Legislative means of information protection"; - a structural diagram of the system of concepts of information types of access.	The ***psychologist*** prepares: - a memo on ethical standards for the use of information technologies; - a reminder of protection from the influence of a social engineer. - comparative analysis of ethical standards of different countries.
The ***practitioner*** prepares: - a map of freely distributed software in the field of information security; - a selection of freely distributed antiviruses.	The ***Errorist*** prepares: - a bank of typical errors in the field of information security; - memo "This is not how you work with information"
The ***analyst*** prepares: - chronology of the creation of standards in the field of information security; - a list of the international standards in the field of information security, indicating the scope of their application.	The ***administrator*** prepares: - presentation "10 ways of technical interception of information"; - memo "10 golden rules of technical information security."

Source: designed by the authors

A list of materials that the participants prepare, depending on the role and taking into account the specialization of the team (information security at home, office or state).

As a result of completing the webquest, students should learn:

– regulatory and legal aspects of information security;

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– moral and ethical standards, aspects of information security;
– organizational means of information security;
– technical, software and physical means of information protection.

The *Deadlines* tab contains deadlines for completing the task. Upon completion of the quest, the groups defend their reports and the students, together with the teacher, mutually evaluate the work done.

The *Test tab* is intended for participants to take the test individually after completing the webquest. The password must be obtained from the teacher. This was done so that it was possible to analyze who solved the test and how many questions they answered correctly, which questions were answered by all participants, and which ones caused the greatest difficulties.

CONCLUSIONS

Information security is a fairly new discipline with a distinct interdisciplinary aspect. From the point of view of studying the theoretical aspects of cybersecurity, you can turn to legislation, international standards, and many bibliographic sources. Forming practical skills for future economists has certain difficulties: most workshops are focused on studying software and hardware security tools. It is important for future economists to develop skills in organizational, legal and ethical methods of protecting information. The webquest "Information Security for Economists", developed and presented in this article, is aimed at developing these skills.

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