USE OF INFORMATION RESOURCES IN THE PROCESS OF TEACHING NATURAL DISCIPLINES

L.M.Qarakhonova

Head of Department, UzNIIPN, (PhD), Associate Professor

Abstract. Electronic resources serve as the basis for obtaining electronic services and determine their quality and life cycle. In turn, the life cycle of electronic resources is determined by the duration of the existence of the legislative and regulatory framework. A change in the regulatory framework leads to the renewal of electronic resources and allows for their modernization, that is, it prolongs their life cycle. In this case, there is a modernization and adaptation of electronic services. The replacement of the regulatory framework entails the end of the life cycle of electronic resources. In this case, the life cycle of electronic services ends and the creation of new electronic services or a significant modernization of existing ones is required.

Key words: Use of information resources, software, electronic services, curricula, variable courses, training modules in biology; electronic textbooks; presentations for lessons; video materials with recordings of lessons; articles from the work experience of biology teachers, information and pedagogical modules of the work system, pedagogical initiatives of teachers implemented in practical activities.

ИСПОЛЬЗОВАНИЕ ИНФОРМАЦИОННЫХ РЕСУРСОВ В ПРОЦЕССЕ ПРЕПОДАВАНИЯ ЕСТЕСТВЕННЫХ ДИСЦИПЛИН

Аннотация. Электронные ресурсы служат основой для получения электронных услуг и определяют их качество и жизненный цикл. В свою очередь жизненный цикл электронных ресурсов определяется длительностью существования законодательной и нормативной базы. Изменение нормативно-правовой базы приводит к обновлению электронных ресурсов и позволяет проводить их модернизацию, то есть продлевает их жизненный цикл. В этом случае происходит модернизация и адаптация электронных сервисов. Замена нормативной базы влечет за собой окончание жизненного цикла электронных ресурсов. В этом случае жизненный цикл электронных услуг заканчивается и требуется создание новых электронных услуг или существенная модернизация существующих.

Ключевые слова: использование информационных ресурсов, программное обеспечение, электронные сервисы, учебные планы, вариативные курсы, учебные модули по биологии; электронные учебники; презентации к урокам; видеоматериалы с записями уроков; статьи из опыта работы учителей биологии, информационно-педагогические модули системы работы, педагогические инициативы учителей, реализованные в практической деятельности.

Information resources serve as the basis for the creation of information products and the provision of information services. Electronic services are a kind of information services. The term "electronic resources" means the formation of information resources in a form convenient not only for storage, processing, but also primarily for visualization and presentation using information technologies [1]. Electronic form means the ability to visualize a product or service

using automated or computer visualization tools. These facilities include not only a computer, but also other devices, such as terminals, ticket machines, etc.

Electronic resources serve as the basis for obtaining electronic services and determine their quality and life cycle. In turn, the life cycle of electronic resources is determined by the duration of the existence of the legislative and regulatory framework. A change in the regulatory framework leads to the renewal of electronic resources and allows for their modernization, that is, it prolongs their life cycle. In this case, there is a modernization and adaptation of electronic services. The replacement of the regulatory framework entails the end of the life cycle of electronic resources. In this case, the life cycle of electronic services ends and the creation of new electronic services or a significant modernization of existing ones is required.

A feature of the implementation of modern information and electronic services is the use and accounting of information spaces. The concept of integration of information support leads to the need to create a single information space across the country, industry and enterprise.

The process of electronization of information resources requires software that can be divided into two groups: for creating and for using electronic resources. With regard to electronic services, this software is divided into: software for creating electronic services and software for providing electronic services. Such software is created and operated either separately or jointly. Separate software is created when the group of creators of information services is independent from the group of consumers.

If information services operate in a single environment of consumers who form and modify them, then the software integrates both groups. In this case, one part of the software configures or structures the system, and the second part performs the actual processing of information, the implementation of production processes, the receipt of electronic documents and the provision of electronic services.

The creation of electronic resources is based on the concept of static and dynamic electronic documents, in which each type of document containing information about specific facts is presented as a set of information models with its own characteristics and attributes. The modern technology of storing electronic resources requires prompt management and updating of information stored in information warehouses.

An electronic document (ED) is an information object [2], or a certain set that forms any type of structured data that contains a complete information message, can be authorized, stored in digital form and reproduced in a human-readable form. Thus, ED can be considered as an information product. Electronic documents have three main groups of characteristics for which various technological means are responsible: storage, presentation, intelligence.

Every document, like an information model, has a presentation form. The concept of document style is also associated with it - a form that appears when a document is reproduced, that is, when it is processed by a word processor.

The form of an electronic document is specified as a format description, including:
 the geometry of the location of the text of the electronic document on the sheet (layout);
the use of certain fonts for certain purposes;
a way to represent different types of data.

If the document includes various types of data (text, tables, graphics, video, etc.), one speaks of a compound document.

The dynamic information model of an electronic document is a virtual document. A virtual document is a set of information objects built either from a set of temporary files or as a result of user interaction with an information system. A new form of electronic documents that has no analogues among paper documents are interactive documents. They use the properties of modernization, multi-level and multi-form presentation of electronic documents.

The property of electronic documents is the possibility of their continuous modernization. This property significantly increases the life cycle of an electronic document and makes it much more durable than a paper one.

Another property of an electronic document is its presentation not in the form of a linear structure like a paper document, but in the form of a hierarchical tree, with the possibility of showing one or another part of the tree.

Educational Internet resources are resources created specifically for use in the learning process (educational and teaching materials) at a certain level of education and for a certain subject area (in particular biology), as well as intended for information support of the education system, the activities of educational institutions or education authorities.

Educational resources on the Internet can be classified in the following areas: lesson notes in biology; methodological developments and didactic materials for lessons; curricula, variable courses, training modules in biology; electronic textbooks; presentations for lessons; video materials with recordings of lessons; articles from the work experience of biology teachers, information and pedagogical modules of the work system, pedagogical initiatives of teachers implemented in practical activities. In our opinion, complexes of educational Internet resources should be considered the most effective: an educational website, an educational portal, a knowledge base (encyclopedias, atlases, etc.) and a distance learning system.

The use of Internet resources in the process of teaching biology makes it possible to achieve a qualitatively higher level of lesson visibility, shift the focus of students' activities in the lesson to independent work, contributes to the implementation of individualization and differentiation of education, and expands the possibilities for enhancing the research activities of schoolchildren. The presence of continuous feedback leads to the revival of the educational process, which contributes to its dynamism, leads to the formation of a positive attitude towards the material being studied. Also, working with the Internet allows organizing the participation of schoolchildren in competitions, quizzes, olympiads, projects and distance courses in biology.

The theoretical stage of the study showed the importance of studying the methods of using Internet resources in school biology education and applying them in practice.

Internet resources are unlimited and students use this opportunity to prepare abstracts, reports, and create design and research papers. In the future, this information is not only repeatedly used to expand the horizons of other students, but with the help of it it is possible to create contradictions, problem situations and conduct disputes on the problem that has arisen.

At the present stage of development of school education, the problem of using computer technology in the classroom is of great importance. Information technology provides a unique opportunity to develop not only the student, but also the teacher. Of course, a computer cannot replace the living word of a teacher, but new resources make the work of a modern teacher easier, make it more interesting, effective, and increase students' motivation to study biology. Recently, there has been a massive introduction of Internet resources in school education. The number of information resources in all subjects, including biology, is increasing.

The use of information technology has made it possible to approach the issue of teaching biology from a qualitatively new perspective.

The use of new information technologies can significantly increase children's interest in learning, and, consequently, improve the quality of students' knowledge.

The use of interactive works in biology implies the formation of practical skills, the acquisition of skills in using laboratory equipment and conducting independent observations in the process of performing laboratory work and solving experimental problems, as well as the formation of natural science knowledge.

Modern society places ever greater demands on education. The pace of life is changing, the amount of information is increasing. Education focused on the transfer of knowledge often does not cope with this task.

Studying a school course in biology, many basic information and knowledge are not acquired by students, and concepts are forgotten. As a result, we observe a decrease in interest in the subject, and students have little understanding of the material being studied.

The most important task is to attract the interest of children in the learning process. It is necessary to make sure that each lesson is unique and interesting.

The use of Internet technologies is possible at various stages of the lesson (on-line testing, viewing flash applications, performing virtual laboratory work, experiments that require access to the network). The teacher needs to carefully approach the choice of the resource itself and the time when it will be used. So, at the beginning of the lesson, it is advisable to use those resources that will help increase the motivation and interest of students. It is better to turn to on-line testing at the stage of control or consolidation of new material. Viewing flash applications, performing virtual labs, and experiments that require network access can be effectively placed in the middle of a lesson. In any case, you need to remember about sanitary standards and dose the continuous work of schoolchildren with Internet resources, not exceeding 10-15 minutes, depending on the age of the students.

An electronic service, or electronic information service, is a service to meet the information needs of the user, which has a computer or electronic form of presentation. Thus, an electronic service is associated with the provision of an electronic document and, as an option, its translation into a regular paper form. The tasks of electronic services are to increase the reliability and improve the performance of public service systems; providing the necessary information and services to the general population.

It is necessary to distinguish between information services and information electronic services or services in electronic form.

Information services may be non-computer related, such as legal advice or design work. Services in electronic form always use computer technology, computer models, electronic document management and visual electronic form of presentation.

Electronic government services can be defined as a special type of information services related to meeting the information needs of the general population through the issuance of electronic documents or electronic reference information that reflects the content of legislative acts and regulations. The concept of regulation is typical for electronic public services.

Thus, electronic services are formed on the basis of electronic resources. Their life cycle is related to the duration of the existence of the legislative and regulatory framework. Software and technological support can form integrated or separate complexes.

REFERENCES

1. Поляков А.А., Цветков В. Я. Информационные технологии в управлении. - М.: МГУ Факультет государственного управления, 2007 - 138 с.
2. Поляков А.А., Цветков В.Я. Прикладная информатика: В 2-х частях: / Под общ.ред. А.Н. Тихонова. Часть.1 - М.: МАКС Пресс. 2008 -788 с.
3. Цветков В.Я., Семушкина С.Г. ЭЛЕКТРОННЫЕ РЕСУРСЫ И ЭЛЕКТРОННЫЕ УСЛУГИ // Современные проблемы науки и образования. – 2009. – № 6-1. ;