THE CONCEPT OF USING ELECTRONIC INFORMATION SPACE IN THE PROCESS OF FORMING DIGITAL COMPETENCIES OF UNIVERSITY STUDENTS

Lyaginova Olga Yuryevna and Smirnova Elena Anatolyevna
Department of Mathematics and Computer Science, Cherepovets State University, Cherepovets, Russia

2019
Digital Literacy Framework

1. Digital Information and Data
2. Communication and collaboration
3. Digital Content Creation
4. Security
5. Problem solving
1. View, search and filter data, information and digital content.
2. Evaluation of data, information and digital content.
3. Manage data, information and digital content.

1. Digital collaboration.
2. Sharing digital technology.
3. Community involvement through digital technology.
4. Digital collaboration.
5. Netiquette.
Digital Content Creation
1. Digital content development, digital content integration and processing.
2. Copyrights and Licenses

Security
1. Device protection.
2. Protection of personal data and privacy.
3. Protecting health and well-being.
4. Environmental Protection.

Problem solving
1. The solution to technical problems.
2. Identification of needs and technological answers.
3. Creative use of digital technology.
4. Identify gaps in digital competency.
Digital competency building

- Preschool education
- Secondary school
- University
Electronic information space

For the formation of digital competencies of university students, we consider it necessary to restructure the educational process using **electronic information space**, expanding the electronic information and educational environment of the university.
The structure of the electronic information and educational environment of the university

Electronic Information Resources

The totality of information, telecommunication technologies, relevant technological means

E-learning resources

Federal Law “On Education in the Russian Federation” (Article 16, Part 3)
We consider it necessary to change the structure of students with digital information resources, to move from the use of ready-made resources laid out by teachers and staff to organize the educational process in the electronic information and educational environment of the university, to the joint formation by teachers, students and representatives of the professional community of the electronic information space of a discipline and group students.
Pedagogical purposes of using electronic information space

1. Identification of the level of formation of digital competencies and the implementation of control in the process of forming digital competencies.

2. Development of a student’s digital competencies in the process of searching, selecting, analyzing, evaluating and managing data, information and digital content.

3. Development of digital competencies in the organization of interaction and cooperation of students with each other, the teacher, representatives of the professional community, the sharing of digital technologies based on digital identification in compliance with the rules of network etiquette.

4. Development of digital competencies in the development of digital content, its integration and processing, taking into account copyright and licenses.


6. Development of digital competencies in determining needs and technological answers, as well as the creative use of digital technologies.
Criteria for choosing software products for the creation, support and development of electronic information space

- Providing the ability to post digital information resources or links to them both to the teacher and student, as well as to representatives of the professional community.
- The ability to share and edit digital information resources.
- Providing information security support for resources located in the electronic information space.
- The ability to coordinate work, namely, time management, online verification, etc.
- In the case of finding participants in the educational process remotely from each other, the possibility of interaction in real time.
- Free licenses.
Software products for creating educational information portals

Software products for user collaboration
Digital Content Software

Cloud services that allow you to collaboratively create, use and edit content, such as Google Docs and Mindmeister.
Infrastructure support tools used to create, support and develop electronic information space

- Information Networks
- Search engines
- Digital Libraries
- Educational platforms
The internal structure of the electronic information space of the discipline

- **Resources hosted by a teacher or professional community:**
  input and final test on the discipline / module, goals and objectives of the discipline / module, the structure of the material studied, the time frame for studying the discipline / module, criteria for evaluating the results of work on the discipline / module, lecture materials, materials for preparation for practical and laboratory work, etc.

- **Student Resources:**
  mental maps, a glossary, the results of practical and laboratory work, the results of solving cases, the results of training projects, links to digital electronic resources in your personal space or files located in the electronic information space of a group, etc.
External structure of digital information resources hosted in electronic information space

It is determined by a system of links to these resources from the outside and a system of links to external digital information resources.

Input testing of the Information Security module. Link to the test form/ [https://goo.gl/forms/k9v8XRiefOt0To73](https://goo.gl/forms/k9v8XRiefOt0To73)
Forms of organization of educational work

Example

In order to develop digital competencies in the organization of interaction and cooperation of students with each other, the teacher, representatives of the professional community, the sharing of digital technologies based on digital identification in compliance with network etiquette, students are invited to:

to form the internal and external structure of electronic information space using software products for organizing user collaboration;
give access to digital information resources located in the created space;
jointly complete the task set by the teacher, in compliance with the rules of network etiquette.
Conclusions

• In order to verify the effectiveness of the proposed approaches, the authors of the article conducted an experiment on the formation of digital competencies of students using electronic information space in the framework of the disciplines “Introduction to Digital Culture”. The experiment was attended by first-year students of the Cherepovets State University in the amount of 500 people.

• The experiment showed an increase in the average number of correctly completed tasks by 35%.

• The pedagogical goals of its application allow the formation of digital competencies of students.
Thanks for attention!