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## FORMATION OF INFORMATION AND DIGITAL COMPETENCE OF STUDENTS IN THE CONTEXT OF DIGITALIZATION OF PEDAGOGICAL EDUCATION

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**Abstract.** *The article deals with the processes of implementing new educational state standards on a competency-based basis with a forecast for the learning outcome (mastery of information and digital competence by a graduate of an educational institution). The study describes the formation of information and digital competence of Ukrainian higher education students, which is nowadays key in the education systems of economically developed countries, and the use of learning methods.*

**Key words:** *information and digital competence, pedagogical education, digitalization.*

### Introduction.

Today, the digital world is intensively entering every aspect of our lives, all members of society are becoming digital users and the rate of consumption of digital information from websites is only increasing every day. One of the leading trends in modern education is the digitalization of the educational process, the transformation of education under the influence of digital technologies.

Thus, over time, we will see a complete digitalization of education, which, according to, is currently only up to 25% digital globally. Learning will take place through applications and platforms, and artificial intelligence and virtual reality will open up new opportunities for education. In Ukraine, Prometheus, EdEra, Preply, and the world-famous Grammarly, founded by a group of Ukrainians, are already developing this trend. Such startups make a direct contribution to the future, as quality education gives impetus to all other industries.

### Main part.

The formation of young people's information and digital competence during the educational process is now a key aspect of the education systems of economically developed countries. Vocational education in Ukraine is also undergoing the processes

of development and implementation of new educational state standards on a competency-based basis with a forecast for the learning outcome – mastery of information and digital competence by a graduate of a vocational education institution (Droghovoz N., Matjash V. [1], Ghrynevych L. [3], Sobchenko T., Tkachova N., Tkachov A. [6], Tkachuk Gh., Medvedjeva M. [7]).

The eight categories of key competences for lifelong learning, defined in the European Reference Framework (Key Competences for Lifelong Learning – European Reference Framework), include:

- 1) communication in the native language;
- 2) communication in foreign languages;
- 3) mathematical competence and competence in science and technology;
- 4) digital competence;
- 5) learning skills;
- 6) social and civic competence;
- 7) sense of initiative and entrepreneurship;
- 8) cultural awareness and self-determination.

As can be seen from the above, information and digital competence is included in the list of key competences in major strategic international documents, is cross-cutting, multifunctional, and can be applied in various life areas.

Information competence is the ability to independently search, analyze and select the necessary information, process it, store and transmit it with the help of technical means and information technologies. Components: informational (ability to work effectively with information in all forms of its presentation); computer (skills and abilities to work with modern computers and software); application (ability to use modern ICT to work with information and solve various problems).

Digital competence is the ability to use digital media and ICTs, to understand and critically evaluate various aspects of digital media and media content, and to communicate effectively in a variety of contexts. Information and media literacy (searching, processing, storing information, creating materials using digital resources). Communication (online communication in various forms: e-mail, chats,

blogs, social networks, etc.) Technical (efficient and safe use of computer and software to solve various tasks). Consumer (solving everyday tasks that satisfy various needs).

Vocational education institutions of Ukraine are currently systematically working on the formation of the main components of skills of information and digital competence of students [4] and, in accordance with the tasks set, the Ministry of Education and Science of Ukraine [5; 2] is effectively testing the use of learning methods based on the following criteria (table 1).

**Table 1** – Criteria for using the learning methodology

№	The criteria	Criterion characterization
1.	Information management	a vocational education student should be able to search and view information – based on his/her educational goal, determine his/her need for information, search and view digital information
2.	Evaluation of information	the student collects and processes digital information, selects essential information, and critically analyzes and evaluates it
3.	Preservation and reproduction of information	based on their goals, the vocational education student stores digital information, as well as organizes and processes the collected information to be able to reproduce it
4.	Communication through digital means	describes the information environment, critically analyzes it and acts in it in accordance with his/her goals and the communication ethics accepted in society
5.	Dissemination of information and content	the student of professional education shares the location and content of the information found with others, and adheres to generally accepted practices in the field of intellectual property protection
6.	Civic engagement on the Internet	a vocational education student participates in activities in public life and involves others in them, with the use of ICT tools and capabilities
7.	Collaboration with the support of digital technologies	the student uses digital tools for teamwork, as well as for joint creation of resources, digital materials, etc.
8.	Network etiquette (netiquette, netiquette)	the student applies in practice in digital communication the norms of behavior and generally accepted customs, and also takes into account the cultural features and phenomena of socio-ethnic diversity in communication
9.	Administration of digital identity	a student of professional education forms and administers his/her digital identity, as well as tracks his/her digital “footprints”
10.	Digital content creativity	the student independently creates, modifies and develops digital content created by himself/herself and others in various formats
11.	Creation of new knowledge	the student modifies and integrates existing digital materials to create new knowledge
12.	Copyright and licenses	in the course of digital thematic creativity and when using content created by others, the student adheres to the principles of intellectual property protection
13.	Programming	the student creates simple programs using a programming language
14.	Safety. Equipment protection	the trainee takes safety measures to avoid physical and virtual risks

15.	Safety. Protection of personal data	the student of vocational education takes into account the privacy of others and the general conditions of use in his digital activities, as well as protects his personal data and himself from Internet fraudsters, dangers and harassment on the Internet
16.	Safety. Health protection	the student avoids the risks to health caused by the use of digital technology and digital information
17.	Safety. Protection of the environment	the student is aware of the impact of digital technology on the environment
18.	Solving technical problems	by means of troubleshooting, the vocational education student identifies technical problems and finds possible solutions (from troubleshooting to more complex problems)
19.	Identifying needs and finding technological solutions for them	the vocational student critically selects and evaluates technological capabilities and digital solutions that are combined with his/her needs
20.	Creative use of innovation and technology	a student of professional education creatively applies technology for self-expression and for finding innovative solutions to problems
21.	Identification of gaps in digital competence	the student of vocational education tries to keep abreast of new directions in the development of digital technology, systematically finds out the shortcomings in his/her digital competence, develops himself/herself and supports others in the development of digital competence

*Resources: author's development*

### Summary.

Therefore, the process of forming information and digital competence in of a vocational education student while studying under any educational program should be focused on acquiring modern skills that are extremely important for the further development of the digital economy of the state, namely: using various sources of information, using new information technologies and software, processing information to obtain a certain product, critical.

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