

СЕКЦІЯ 3. ПЕДАГОГІКА, ОСВІТА, ФІЛОСОФІЯ ТА ФІЛОЛОГІЯ

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UNIFICATION AND INTEGRATION OF DIGITAL RESOURCES IN EDUCATION

Analysis of the current situation in the field of digital resources and current research Over the past decades, considerable efforts have been made to create various digital resources and relevant methodological developments [1; 2]. However, only a little work has been done to unify these resources (develop common approaches to their creation, functioning, and use) and integrate them into integrated educational systems capable of solving various problems.

Although some attempts to combine such resources have been made within large projects and collections, in most cases, resources organized according to common rules did not interact with each other or with other types of resources [3, p.77]. In other cases, the collections contained separate resources that covered only some aspects of educational activities, such as explaining new material, performing certain laboratory work, or keeping records of grades, etc.

It is important to note that, despite the numerous resources and systems developed, no unified system and methodology has been created to date that can automate all aspects of educational institutions. For example, if there were common approaches, systems, and methodological developments, it would be possible to quickly and unifiedly prepare teachers and students to work with these resources, as well as to link different disciplines and types of education, including face-to-face and distance learning, which is typical for many countries and regions of the world.

A significant difference in the use of specific technologies is not due to their educational significance and real need but to the unsystematic and local inaccessibility of these resources, and their lack of representation within a single system. A way to solve such problems may be to identify and implement approaches to unifying and



integrating disparate digital resources into digital systems that are unified for a secondary or higher education institution and cover all activities typical for educational organizations (including distance learning). These systems can be considered as digital learning environments of such institutions.

For the basis of the research, it is important to define the correct understanding of "informatization of education" and the role of digital technologies in this context. Informatization of education should be understood as a field of activity aimed at organizing and systematizing knowledge, both existing and new, in order to achieve the pedagogical goals of teaching and upbringing using technologies and tools for collecting, processing, storing, and disseminating information [4, p.8]. In a simplified form, informatization of education can be considered as a set of activities of teachers and other employees of educational institutions aimed at providing the educational system with information resources and means for their processing. In this context, informatization of education can be seen as an academic discipline or a set of disciplines aimed at preparing teachers for the effective use of modern information technologies in the educational process.

To organize and combine the technological and methodological resources used in educational institutions, a classification of activities specific to these institutions can be applied. These types of activities include teaching, extracurricular, control, scientific and methodological, and organizational and managerial activities. In addition, other, more specific activities that may be characteristic of particular educational institutions can also be taken into account.

It is important to note that in most countries, technological and methodological developments designed for one of the above activities are usually not applicable to other activities. At the moment, there are no digital systems and tools that can cover all of these activities in educational institutions and meet the needs of all their employees.

As part of this study, we can consider such mechanisms for standardizing and linking various digital resources, regardless of the type of activity they automate:

- use of common databases and establishment of principles for organizing information flows and information exchange between digital resources;
- unification of the content of digital resources, development of formal methods for describing the content and terminology of educational areas;
- uniform use of elements of mathematical graph theory and digital hierarchical structures in structuring information as part of the development of new educational tools;
- introduction of a unified system of specifications and meta-description of digital resources;



- creating a single set of requirements for the quality of digital tools for education;
- implementation of a single unified testing and examination of digital resources;
- adherence to a single terminology in the development, examination, and operation of digital tools for education.

With the implementation of the described changes, the digital educational environment of an educational organization will become a software and telecommunications space based on the use of digital technologies and equipment. This environment will provide access to high-quality information and support the needs of students, teachers, parents, the administration of the educational institution, and the public, regardless of the form of education - full-time, distance, or mixed.

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