



DIDACTIC FEATURES OF DEVELOPING STUDENTS' INFORMATION HANDLING SKILLS BASED ON DIGITAL EDUCATIONAL TECHNOLOGIES

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Abstract. This article examines the didactic features of developing students' information handling skills through digital educational technologies. In the modern digital educational environment, the growing number of information sources requires students to independently search for, select, analyze, compare, evaluate the reliability of, and effectively apply relevant information in practical activities. The study analyzes the didactic potential of digital educational platforms, electronic educational resources, multimedia tools, interactive tasks, and online collaboration technologies in developing students' information-handling activities.

Keywords: digital educational technologies, digital educational environment, information handling skills, student, information literacy, digital competence, critical thinking, electronic educational resources, interactive learning, multimedia tools, information search, information analysis, self-directed learning.

In recent years, one of the priority directions for the development of science in our country has been the improvement of students' information-processing skills through digital technologies, which have become an essential requirement of the modern era. Particular attention is being paid to developing the integration of science, education, and production, improving the teaching processes of exact and natural sciences, and developing and implementing online educational platforms. Appropriate regulatory and methodological foundations are also being established to support these processes. One of the priority objectives is to “create an effective mechanism for in-depth teaching of academic disciplines and the practical implementation of scientific and innovative achievements” [5].

The effective use of the digital environment in developing students' information-processing skills is considered an important condition for revealing the didactic characteristics of digital technologies. Digital tools can contribute to the development of modern teachers' information-processing competencies by enabling



them to work effectively with information resources. In this context, particular attention is paid to the fundamental principles of educational theories, their potential, the development of teachers' scientific capacity, and the effective use of opportunities provided by the modern information environment. Digital technologies are also regarded as important tools for developing pedagogical materials and preparing teachers to use them effectively.

U.Sh. Begimkulov describes the theoretical, practical, and methodological foundations of using innovative information and communication technologies in the professional development of teachers during in-service training. According to the researcher, it is necessary to prevent information from being used to manipulate human consciousness, to make appropriate decisions in different situations, to "read" hidden information presented through visual images, and to critically analyze textual information. It is also important to determine where information comes from, who provides it, for what purpose it is transmitted, and whose interests it represents [1, p. 38].

In the research of Q.Sh. Tursunov, the main purpose of developing students' information-processing skills through digital technologies is to help learners understand the opportunities and limitations of different information sources, critically evaluate the information being distributed, and identify the information that is relevant and useful. In addition, the researcher emphasizes the importance of identifying didactic conditions based on understanding the mechanisms through which information influences individuals [4, p. 86].

Such studies demonstrate that statistical methods play an important role in developing students' information-processing skills through digital technologies and in shaping their scientific worldview. In physics education, these approaches contribute to the use of demonstration experiments, innovative pedagogical methods, and information and communication technologies. They also facilitate the development of students' thinking through interdisciplinary connections, the selection of appropriate educational resources, and the analysis of relevant academic disciplines. Furthermore, they contribute to selecting suitable software for recording subject-specific video lessons, editing and producing educational videos, and improving the methodology of organizing scientific-methodological circles and elective courses based on ICT.



According to A.Ye. Ibraymov, information-literate specialists should possess such key skills as critical thinking, the ability to analyze information and use it to express their own ideas, the ability to engage in independent learning, participation in social and democratic processes, awareness as citizens, and readiness to become competent professionals [2, p. 36].

To assess students' knowledge, written tests focusing on basic concepts and definitions were conducted. Individual and group oral questioning was also used, while continuous attention was paid to establishing connections between newly acquired concepts.

During practical assignments, teachers introduced problem-based elements to connect the tasks with previously studied materials and to promote a deeper understanding of computer-based information processing. At the end of each topic, review, generalization, and seminar sessions were organized to systematize and consolidate students' knowledge.

Both traditional and electronic educational resources were used in the teaching process. Electronic textbooks, multimedia resources, telecommunication technologies, and automated learning systems provided students with additional opportunities for independent study, information search, analysis, and practical application.

A differentiated and individualized approach was implemented during practical and laboratory activities. Individually adapted instructional programs and multi-level task banks were widely used. Such an approach enabled students to perform tasks according to their individual levels of knowledge and technological experience.

Large-scale practical assignments were completed gradually through a series of laboratory, computational, and graphical activities. These assignments were continuously developed, supplemented, expanded, and ultimately integrated into a completed creative project.

The effective use of digital educational technologies is one of the important didactic factors in developing students' information-processing skills. The digital educational environment provides students with broad opportunities to search for, select, analyze, compare, and evaluate large amounts of information, as well as to apply acquired knowledge in practical activities.



The analysis demonstrates that the purposeful use of electronic educational resources, digital platforms, multimedia tools, interactive assignments, and online collaboration technologies has a positive effect on the development of students' information literacy and digital competence. In particular, it is important to develop students not merely as passive recipients of ready-made information, but as active participants in the educational process who independently search for information, critically analyze it, and transform it into new knowledge.

Furthermore, in the digital educational process, students need to develop the ability to determine the reliability of information sources, compare different types of information, distinguish between primary and secondary information, and use information correctly and responsibly. For this purpose, teachers should make effective use of problem-based situations, research assignments, project work, and interactive learning activities.

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