



DEVELOPMENT OF STUDENTS' PROFESSIONAL-ETHICAL AND COMMUNICATION CULTURE IN THE CONDITIONS OF DIGITAL EDUCATION AND ARTIFICIAL INTELLIGENCE

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Abstract

The article examines the development of students' professional-ethical and communication culture amid the extensive use of digital learning and artificial intelligence tools. The digital educational environment is described as a multifactorial pedagogical space that influences students' professional identity, moral position, and communicative behavior. The study explains such dimensions of digital culture as critical evaluation of information, ethical virtual communication, personal data protection, copyright compliance, academic integrity, and personal responsibility for AI-assisted outcomes. It proposes a structure based on the functional integration of professional-ethical, communicative, digital, and reflective components. Professional digital situations, verification tasks, online discussions, reflective portfolios, and diagnostic feedback are systematized as methodological tools for developing responsible digital behavior. The findings substantiate that digital competence should not be limited to technical skills but should be developed in unity with professional ethics and communication culture.

Keywords: Digital educational environment, artificial intelligence, professional ethics, communication culture, digital culture, academic integrity, information security, reflection, virtual communication, responsible behavior.



**RAQAMLI TA'LIM VA SUN'IY INTELLEKT SHAROITIDA
TALABALARNING KASBIY-ETIK HAMDA MULOQOT
MADANIYATINI RIVOJLANTIRISH**

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Annotatsiya:

Maqolada raqamli ta'lim va sun'iy intellekt vositalari keng qo'llanilayotgan sharoitda talabalarning kasbiy-etik hamda muloqot madaniyatini rivojlantirish muammosi tahlil qilingan. Raqamli ta'lim muhiti talabaning kasbiy qiyofasi, axloqiy pozitsiyasi va kommunikativ xulqiga ta'sir ko'rsatuvchi ko'p omilli pedagogik makon sifatida tavsiflangan. Raqamli madaniyatning axborotni tanqidiy baholash, virtual muloqot odobi, shaxsiy ma'lumotlarni himoyalash, mualliflik huquqi, akademik halollik va sun'iy intellekt natijalari uchun shaxsiy javobgarlik kabi tarkibiy jihatlari ochib berilgan. Kasbiy-etik, kommunikativ, raqamli va refleksiv komponentlarning funksional integratsiyasiga asoslangan tuzilma taklif etilgan. Talabalarning mas'uliyatli raqamli xulq-atvorini rivojlantirishga yo'naltirilgan kasbiy-raqamli vaziyatlar, verifikatsion topshiriqlar, onlayn munozara, refleksiv portfolio va diagnostik qayta aloqa kabi metodik vositalar tizimlashtirilgan. Tadqiqot natijasida raqamli kompetentlikni texnik ko'nikmalar bilan cheklamasdan, uni kasbiy etika va muloqot madaniyati bilan uyg'un rivojlantirish zarurligi asoslangan.

Tayanch so'zlar: raqamli ta'lim muhiti, sun'iy intellekt, kasbiy etika, muloqot madaniyati, raqamli madaniyat, akademik halollik, axborot xavfsizligi, refleksiya, virtual kommunikatsiya, mas'uliyatli xulq-atvor.

Аннотация:

В статье анализируется проблема развития профессионально-этической и коммуникативной культуры студентов в условиях широкого применения цифрового обучения и инструментов искусственного интеллекта. Цифровая образовательная среда охарактеризована как многофакторное



педагогическое пространство, влияющее на профессиональный облик, нравственную позицию и коммуникативное поведение студента. Раскрыты такие компоненты цифровой культуры, как критическая оценка информации, этика виртуального общения, защита персональных данных, соблюдение авторского права и академической честности, а также личная ответственность за результаты, полученные с помощью искусственного интеллекта. Предложена структура, основанная на функциональной интеграции профессионально-этического, коммуникативного, цифрового и рефлексивного компонентов. Систематизированы профессионально-цифровые ситуации, верификационные задания, онлайн-дискуссии, рефлексивное портфолио и диагностическая обратная связь, направленные на развитие ответственного цифрового поведения студентов. Обоснована необходимость развития цифровой компетентности в единстве с профессиональной этикой и культурой общения, а не только как совокупности технических навыков.

Ключевые слова: цифровая образовательная среда, искусственный интеллект, профессиональная этика, культура общения, цифровая культура, академическая честность, информационная безопасность, рефлексия, виртуальная коммуникация, ответственное поведение.

The rapid development of digital technologies, distance and blended learning, virtual communication and artificial intelligence tools is renewing the content and forms of the higher education process. Today's student receives information not only from traditional sources; he regularly works with electronic libraries, educational platforms, social networks, messengers and artificial intelligence systems. As a result, educational activities take place in parallel in real and virtual space, and the student's digital behavior becomes an important part of his professional image.

Along with the expansion of technological capabilities, problems such as unreliable information, plagiarism, violation of academic integrity, disclosure of personal data, weakening of ethical constraints in virtual communication and uncritical reliance on the results of artificial intelligence are also emerging.



Therefore, it is not enough to understand digital competence in higher education only as a skill in using programs and platforms. It must be developed in harmony with professional ethics, communicative responsibility, critical thinking and reflection.

The purpose of the article is to clarify the content of students' professional ethics and communication culture in the context of digital education and artificial intelligence, to substantiate its integrative components and to systematize methodological tools for developing responsible digital behavior.

The study used methods of theoretical analysis, comparison, systematization and generalization of scientific and pedagogical sources on digital education, artificial intelligence ethics, academic honesty, communicative culture and reflexive assessment. The methodological basis of the study was systemic, integrative, competency-based, activity-based and axiological approaches. These approaches made it possible to interpret digital skills, moral values, communicative activity and personal responsibility in a single professional development system.

The modern educational environment is a holistic pedagogical system that reflects the interrelationship of the learner, teacher, information sources, pedagogical technologies, digital tools, social relations and mechanisms for preparing for professional activity. It includes classroom training, independent learning, research, internships, electronic platforms, distance learning, project work, and student collaboration.

The digital environment provides students with the opportunity to quickly access knowledge resources, collaborate with different participants, learn at their own pace, and receive immediate feedback on their work. However, technology alone does not guarantee educational and educational results. The result depends on the specific purpose of the digital tool, its suitability for the pedagogical scenario, and the observance of professional and ethical standards in its use.

Digital literacy is a broader concept than searching for and technically processing information. It includes:

- checking the reliability, authorship, evidence, and up-to-dateness of an information source;
- distinguishing between fact, opinion, interpretation, and manipulative content;



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- maintaining respect, accuracy, and professional etiquette in virtual communication;
 - protecting personal and other people's information;
 - adhering to copyright, citation, and academic honesty requirements;
 - assessing the potential socio-ethical consequences of digital decisions and actions;
 - maintaining personal responsibility for the results of using technology.

A student's correspondence in virtual space, participation in discussions, dissemination of information, use of resources, and creation of digital products demonstrate his professional literacy. Therefore, the principles of honesty, fairness, humanity, and responsibility that apply to real communication also remain valid in the virtual environment.

Artificial intelligence tools provide significant opportunities for text creation, information generalization, translation, idea generation, and personalization of educational materials. At the same time, the result produced by artificial intelligence may be erroneous, outdated, biased, or of uncertain origin. The student should not accept such a result as ready-made knowledge, but should check it with reliable sources and critically process it.

Responsible use of artificial intelligence is based on the following principles:

1. Human control. The final decision is made by a person and does not place responsibility for the result on technology.
2. Transparency. If there is a requirement of an educational institution, the part and purpose of using artificial intelligence are clearly indicated.
3. Verification. The information obtained is checked through scientific and official sources.
4. Academic integrity. The text created by artificial intelligence is not appropriated as a personal scientific result; authorship, citation, and assignment requirements are maintained.
5. Confidentiality. Personal, service-related or protected data is not included in the digital system without proper authorization.
6. Justice and human dignity. The discriminatory or biased consequences of the result towards certain individuals or groups are assessed.



These principles develop the student's ethical thinking and professional responsibility, along with technological literacy. Artificial intelligence should act as an auxiliary tool, not replacing the student's independent thinking, authorship and responsibility.

In the context of digital education, the professional-ethical and communicative culture of students can be described through four interrelated components:

1. The professional-ethical component covers knowledge and values about professional duty, honesty, justice, humanity, responsibility and ethical choice.
2. The communicative component provides for clear expression of opinion, active listening, compliance with digital etiquette, cooperation and constructive feedback in real and virtual environments.
3. The digital component represents the search, verification, safe processing of information, compliance with copyright and the appropriate use of technologies.
4. The reflexive component serves to analyze digital activities, communication styles and decisions made, identify errors and plan further development.

The components are not separate, but functionally integrated in a single professional situation. For example, when a student searches for information from a digital source, he checks its reliability; takes into account copyright; discusses the result with group members within the framework of etiquette; assesses the consequences of the decision made and analyzes his own activities. In this sequence, digital skills are combined with professional ethics, communication and reflection.

Developing students' responsible digital behavior requires tasks that are close to real-life activities. The following methodological tools should be used:

- "Professional digital situation" — the student analyzes a conflict situation related to privacy, authorship, justice, or virtual communication, identifies stakeholders, and justifies an ethical solution;
- "Verification task" — information provided by the Internet or artificial intelligence is compared with several reliable sources, and evidence and conclusions are checked;
- online discussion — the student expresses his opinion based on evidence, responds respectfully to the position of another, and applies the requirements of digital etiquette in practice;



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- digital collaborative project — group members predetermine tasks, authorship, communication rules, and shared responsibility;
 - reflexive portfolio — the student summarizes the results of digital products, decisions made, feedback, and self-assessment;
 - diagnostic-reflexive feedback - the teacher does not just point out the error, but analyzes its cause, consequences and ways to improve it together with the student.
- The effectiveness of these methods depends on a number of pedagogical conditions. First, the educational institution must have clear and understandable requirements for academic integrity, the use of artificial intelligence, digital communication and data security. Second, the teacher himself must set an example by correctly citing sources, transparently using digital tools and maintaining professional etiquette in online communication. Third, the assessment should focus not only on the finished product, but also on the process of selecting, verifying, collaborating and justifying information.

The following criteria can be used for a comprehensive assessment of development results:

- cognitive criterion: knowledge of professional ethics, academic integrity, information security and digital rights;
- value-motivational criterion: a stable attitude to honesty, responsibility, justice and human dignity;
- communicative-active criterion: reasoning, listening, cooperation and constructive conflict resolution in real and virtual communication;
- digital-practical criterion: checking the source, protecting information, complying with copyright requirements and responsible use of artificial intelligence;
- reflexive-evaluation criterion: analyzing the results of one's own decisions, behavior and digital activities and determining the path to improvement.

The assessment process should include a comprehensive use of testing, professional situation solutions, observation, digital portfolio, self-assessment, peer assessment and expert opinion. This approach allows you to determine not only what the student knows, but also how he makes decisions and acts in real situations.



In the context of digital education and artificial intelligence, the professional culture of a student is determined not only by the level of his use of technical capabilities. Critical evaluation of information, adherence to academic integrity, protection of personal data, observance of virtual communication etiquette and feeling of personal responsibility for the result created with the help of artificial intelligence are important professional qualities of a modern specialist.

The integration of professional-ethical, communicative, digital and reflexive components ensures the transformation of knowledge into responsible digital behavior. Therefore, the development of these qualities should be organized not as a separate topic or a one-time event, but as a methodological system that is consistently embedded in the content of education, independent work, projects, research activities, pedagogical practice and the assessment process.

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