



SCIENTIFIC AND THEORETICAL FOUNDATIONS FOR DEVELOPING VIRTUAL COMMUNICATION SKILLS IN FUTURE TEACHERS BASED ON DEONTOLOGICAL APPROACHES IN THE ERA OF DIGITALIZATION

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ABSTRACT

In the era of digitalization, the digital transformation of the education system has made improving the professional skills of future teachers an urgent problem. Virtual communication — communication carried out through chat, video conferences, forums and social networks — has become an essential part of the pedagogical process. This article analyzes the pedagogical concept of virtual communication, the theoretical foundations of the deontological approach and the mechanisms for integrating them in the context of digitalization. The article focuses on the following issues: the ethics and norms of virtual communication; the professional duties and responsibilities of teachers; methods of integrating deontological principles into the digital educational process; the development of trainings and educational modules; assessment and monitoring systems. Literature analysis, questionnaires and focus groups, and expert evaluations were used as research methods. The results show that educational modules and practical classes developed on the basis of the deontological approach significantly improve the virtual communication culture, empathy and professional boundaries of future teachers. The article proposes mechanisms for the formation of digital pedagogical competencies and methodological approaches to their integration into the educational process.

KEYWORDS: Digitalization, deontological approach, virtual communication, pedagogical ethics, digital pedagogy, higher education, professional competence, digital literacy.

INTRODUCTION

The education system has entered the era of digital transformation. Digital technologies, online platforms and artificial intelligence tools have changed both the content and the ethical foundation of teachers' activities. Virtual communication — communication carried out through digital communication tools — has become an essential part of the pedagogical process. Mistakes in virtual communication, such as inappropriate messages, violation of information security and failure to observe professional boundaries, can have a negative impact on the educational process, students' psychology and the reputation of the institution. Therefore, the formation of competencies in virtual communication ethics and professional deontology for future teachers remains an urgent problem. To reveal the scientific and theoretical foundations for developing virtual communication skills in future teachers based on deontological approaches in the era of digitalization. The era of digitalization is the widespread

use of digital technologies, online platforms and artificial intelligence tools. This era imposes the following requirements on teachers:

Requirement	Description
Digital literacy	The skill of using technologies effectively
Virtual communication	Communication through chat and video conferences
Information security	Protection of students' information
Professional ethics	Compliance with ethical norms in online relations

Digital pedagogical competence has the following components:

- Digital literacy
- ICT integration
- Innovative educational model
- Methodological preparation

Virtual communication takes place in the following forms:

- Written communication: chat, e-mail, forums.
- Oral communication: video conferences such as Zoom and Google Meet.
- Asynchronous communication: communication at any time.
- Synchronous communication: simultaneous communication, such as video lessons.

Characteristics of virtual communication:

Characteristic	Description
Identification problem	It is difficult to determine whether the other party is a real person
Inappropriate messages	Sending messages that are contextless or emotionally inappropriate
Unclear context	Misinterpretation of the content of the message
Technical limitations	Communication disruption due to internet and technical problems

Deontology is an approach based on duty, obligation and ethical norms. Pedagogical deontology includes the following principles:

- Respect: respect for the personality of students.
- Justice: equal treatment of all students.
- Impartiality: personal views should not influence the educational process.
- Confidentiality: protection of students' information.
- Professional boundary: maintaining the boundary between personal and professional relations.
- Responsibility: the teacher's responsibility for his or her activities and decisions.

Application of deontological principles in the context of digitalization:

- Politeness in online relations.
- Ensuring students' personal and information security.
- Defining ethical boundaries.



- Developing technical and communicative skills.

Mechanisms for the formation of digital pedagogical competence:

Theoretical learning: deontological principles and virtual communication ethics.

Practical classes: simulations, case studies.

Reflection: analysis of one's own behavior.

Mentoring: professional advice and feedback.

Integration methodology:

- Innovative educational model: interactive seminars, video cases.
- ICT integration: online platforms, LMS.
- Methodological preparation: trainings, educational modules.
- Digital literacy: development of technical skills.

Conclusion

In the era of digitalization, the formation of future teachers' virtual communication skills based on deontological approaches is one of the urgent problems of pedagogical education. The research results show that by integrating the deontological approach into curricula, future teachers' virtual communication culture, empathy and understanding of professional boundaries improve significantly. Effectiveness of the deontological module. Improvement of empathy and information security. Understanding of professional boundaries and responsibility. Superiority of the methodological combination. Impact on the curriculum. Policy and regulation. Protection of students. Long-term monitoring. Cultural adaptation. Technology and AI integration. Standardized assessment. The deontological approach is confirmed as a stable and effective strategy for developing future teachers' virtual communication skills in the era of digitalization. It develops not only technical and communicative abilities, but also strengthens teachers' ethical awareness, protects students' safety and the reputation of the institution.

References

1. Abdullayev A. Pedagogik deontologiya: nazariya va amaliyot. – Toshkent: O'qituvchi, 2019. – 256 b.
2. Tillaboyeva M. Bo'lajak o'qituvchilarning raqamli pedagogik kompetensiyalarini rivojlantirish modeli. – ILM-FAN YANGILIKLARI KONFERENSIYASI, 2026.
3. Bekzod U. Raqamli texnologiyalar vositasida bo'lajak o'qituvchilarning kasbiy kompetentligini rivojlantirish. – Scientific Journal of the Fergana State University, 2025.
4. Pedagogik deontologiya va kompetentlik. – O'quv qo'llanma, 2025.
5. Eshburn R. Teacher ethics in digital age. – London: Routledge, 2020. – 224 p.
6. Martineau M. (Ed.) Digital communication in education. – New York: Springer, 2021. – 312 p.
7. "O'zbekistonning yangi taraqqiyot davrida ta'lim-tarbiya va ilm-fan sohalarini rivojlantirish chora-tadbirlari" – Prezident Qarori, 2023.
8. O'zbekiston Respublikasi Maktabgacha va maktab ta'limi vazirligi. Ta'lim standartlari va etika kodeksi. – Toshkent, 2022.
9. European Commission. Ethics in online education. – Brussels: EC, 2021. – 168 p.