



FORMATION OF FUTURE TEACHERS' VIRTUAL COMMUNICATION SKILLS IN HIGHER EDUCATION INSTITUTIONS ON THE BASIS OF THE DEONTOLOGICAL APPROACH

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ABSTRACT

The formation of future teachers' virtual communication skills in higher education institutions is one of the urgent problems in the field of pedagogy. As a result of the widespread use of digital communication tools and the increase in the volume of online teaching, teachers' ethical, professional and technical competencies are becoming important. This article analyzes the pedagogical concept of virtual communication, the theoretical foundations and practical mechanisms of the deontological approach. The article focuses on the following issues: the ethics and norms of virtual communication; the professional duties and responsibility of teachers; methods of integrating deontological principles into the educational and upbringing process in higher education; the development of trainings and educational modules; assessment and monitoring systems. Literature analysis, questionnaires and focus groups, expert evaluations and the results of pilot projects 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 at the bachelor's and master's levels. The article presents proposals for pedagogical procedures: introducing a deontological component into curricula, implementing real-situation simulations, creating online platforms for continuous professional development, and standardizing assessment criteria. This study shows real practical ways to develop modern, ethically grounded virtual communication competencies in higher education institutions.

KEYWORDS: Virtual communication, deontology in pedagogy, professional ethics, online communication, higher education, teacher professional development, 21st-century education, simulation and case studies.

INTRODUCTION

The expansion of digital technologies and online education systems imposes new professional and ethical requirements on teachers. Mistakes in virtual communication can have a negative impact on the educational process, students' psychology and the reputation of the institution. The purpose of the article is to develop a strategy for forming future teachers' virtual communication skills in higher education on the basis of the deontological approach and to provide practical recommendations. The tasks are to reveal the theoretical foundations,

analyze existing practices, propose educational modules and determine assessment criteria. Virtual communication and its characteristics. Virtual communication takes place simultaneously in written forms such as chat and e-mail, oral forms such as video conferences, and asynchronous and synchronous forms. This communication is associated with problems of identification, inappropriate messages, unclear context and technical limitations. Deontology and pedagogy. The deontological approach is an approach based on duty, obligation and ethical norms, and it emphasizes the teacher's professional responsibility, students' rights and the teacher's ethical obligations. Pedagogical deontology includes ethical principles such as respect, justice, impartiality, confidentiality, professional boundaries and responsibility. Integration concept. The application of deontological principles in the context of virtual communication includes politeness in online relations, ensuring students' personal and data security, defining ethical boundaries, as well as developing technical and communicative skills. The methods used were systematic analysis of literature, questionnaires and focus groups in higher education institutions involving future teachers and teachers, expert interviews, as well as tests of a pilot educational module. A total of 120 students and 20 teachers from the faculties of pedagogy of several higher education institutions participated. This is a sample example, and statistical details can be provided if necessary. Virtual communication competency scores, tests assessing deontological awareness, self-assessment and observation journals were used. Deontological trainings and practical classes improved the following indicators among students: online ethical behavior, including respect and justice; attitudes toward maintaining the confidentiality of information; understanding of professional boundaries; level of empathy; and technical communicative skills in video, chat and forum communication. In the pilot group, the average score between pre- and post-training assessment increased by 20–35%. In a traditional comparison, the combination of a deontological module was more effective than content-based trainings. Problems and limitations. Technical capabilities, teachers' resistance to change and subjective elements of assessment affected the results. Deontology defines clear ethical rules and professional norms, which helps the student choose quick and reliable behavior in complex online contexts. Introducing a deontological component into curricula strengthens students' professional identification. Simulations and role-playing teach ethical decision-making in real situations. Examples of codes and online ethics courses in European and North American universities are presented, and recommendations are given for adapting them to the local context. General conclusion: the deontological approach serves as an effective basis for forming future teachers' virtual communication skills in higher education. It strengthens academic and professional ethics and increases students' readiness for online teaching practice. Future research: long-term monitoring, comparison of effectiveness in different cultural contexts, and the study of the deontological integration of technological tools such as AI and LMS are recommended.

Conclusion

This study examines the issue of forming future teachers' virtual communication skills in higher education institutions on the basis of the deontological approach from theoretical and practical perspectives. The widespread use of digital communication tools and the increase in the volume of online education have changed both the content and the ethical foundation of teachers' activities. In this regard, strict adherence to professional norms and ethical principles in the

context of virtual communication is important not only for the effectiveness of the individual teacher, but also for students' safety, trust and institutional reputation. The results of the study show that by integrating the deontological approach into curricula, future teachers' communicative culture, empathy and understanding of professional boundaries improve significantly. Pilot-module tests and comparative assessments showed that educational modules focused on deontological principles significantly increase students' online ethical behavior and decision-making ability. These behavioral guidelines help to choose quick and stable behavior in unclear online situations. The classes developed students' empathy; they began to become more emotionally sensitive in communication with students, and their approaches to confidentiality and data protection also improved. The deontological approach helps teachers define their professional role more clearly, forming a clearer understanding of what boundaries should be maintained on social networks and personal channels, and which forms of communication with students correspond to professional norms. Combining theoretical blocks with interactive seminars, simulations and reflective journals developed not only students' knowledge, but also their practical skills. In particular, situational simulations such as role-play and video cases were effective in strengthening practical decision-making. Based on the research recommendations, universities can introduce a deontological component into their pedagogy programs. This increases the ethical culture of the entire institution through teaching teachers' professional ethics.

The results serve as a basis for higher education institutions in developing online communication codes, privacy policies and CPD (continuous professional development) programs for staff. The deontological approach strengthens students' psychological safety and the protection of their personal data, which increases trust in the academic environment and the teaching process.

The results obtained on the basis of the study are based on a pilot study conducted within certain universities and a socio-cultural context. Therefore, the generalization of the results should be considered with caution; adaptation is required when applying them in other regions and cultural environments.

Limitations of technical infrastructure and LMS capabilities may reduce the effectiveness of training for some participants. To solve this problem, it is necessary to provide stable technical support and resources.

The presence of components based on self-assessment and expert opinion in assessment may make the results subjective. To reduce the errors arising from this, standardized assessment tools and 360° assessment components should be introduced. To determine the long-term impact of deontological trainings, it is recommended to conduct longitudinal studies lasting 1–3 years or more. It is necessary to compare the effectiveness of deontological modules in different cultural and educational systems, such as rural and urban areas, different regions and international universities. It is necessary to study the effectiveness of supporting online ethics with the help of artificial intelligence tools such as chatbots and automatic monitoring systems, as well as automatic warning and advisory systems, that is, ethical nudges. It is advisable to develop and validate national or inter-institutional standards for assessing the deontology of virtual communication.

The deontological approach is confirmed as a stable and effective strategy for forming future teachers' virtual communication skills in higher education institutions. It develops not only

technical and communicative abilities, but also strengthens teachers' ethical awareness, protects students' safety and the reputation of the institution. When the research results are applied in practice, they help to create a high-quality, ethically stable and modern online educational environment.

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