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POSSIBILITIES FOR DEVELOPING THE DEONTOLOGICAL COMPETENCE OF FUTURE ATHLETE-COACHES IN A DIGITAL EDUCATIONAL ENVIRONMENT.

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Abstract. The digital transformation of higher education creates new opportunities for improving the professional preparation of future athlete-coaches, particularly in the development of their deontological competence. The professional activity of a coach requires not only sports-related knowledge and practical skills but also ethical awareness, responsibility, fairness, respect for athletes' dignity, confidentiality, and the ability to make morally justified decisions. This article examines the pedagogical possibilities of using digital educational environments to develop deontological competence among future athlete-coaches. The study employs theoretical analysis, synthesis of scholarly literature, comparative analysis, and pedagogical modelling. The structure of deontological competence is examined through cognitive, value-motivational, practical-activity, and reflective-evaluative components. Particular attention is given to digital case studies, interactive simulations, learning management systems, online discussions, electronic portfolios, and reflective assessment. A pedagogical model is proposed in which digital technologies are integrated with ethical problem-solving, collaborative learning, and professional reflection.

Keywords: deontological competence, future athlete-coaches, digital educational environment, digital pedagogy, professional ethics, sports education, ethical decision-making, educational technology, reflective learning.

Introduction. The contemporary development of physical education and sports is accompanied by increasing demands on the professional competence of athlete-coaches. A modern coach is expected to organize training effectively, develop athletes' physical and psychological abilities, maintain constructive relationships, promote fair competition, and ensure that professional decisions respect athletes' rights and well-being. These responsibilities demonstrate that the preparation of future coaches should extend beyond technical, tactical, and methodological training to include systematic ethical and professional development.

Deontological competence is an essential dimension of a coach's professional readiness. It can be understood as an integrated personal and professional quality that enables an individual to recognize professional obligations, understand the ethical implications of coaching decisions, respect established standards, and act responsibly in different sporting situations. It includes knowledge of professional duties, commitment to ethical values, the practical ability to make appropriate decisions, and the capacity for critical self-reflection.

The importance of this competence is particularly evident in situations involving athlete safety, fairness in team selection, confidentiality, respectful communication, discipline, psychological pressure, and the management of conflicts. A coach's decision can influence an athlete's health, motivation, confidence, social relationships, and sporting development. Consequently, ethical preparation should be integrated into the entire process of professional education.

At the same time, the digital transformation of higher education has created new possibilities for organizing professional learning. Learning management systems, online educational platforms, digital libraries, interactive simulations, video-based instruction, electronic portfolios, and

collaborative applications allow students to access learning resources, discuss professional problems, and receive feedback in flexible formats. These technologies can make ethical issues more visible by enabling students to analyses realistic situations, compare alternative decisions, and reflect on the consequences of professional behavior.

Research methodology. The article is theoretical and methodological in nature. It draws on the conceptual analysis of literature concerning professional ethics, digital education, sports pedagogy, and technology-supported learning. No original experiment or survey was conducted for the purposes of this article; therefore, the proposed model is not presented as an empirically validated intervention.

The following methods were used:

- Theoretical analysis: examination of scholarly and policy literature on digital learning, professional ethics, and coach education.
- Conceptual analysis: clarification of the relationship between deontological competence and digital professional learning.
- Comparative analysis: consideration of traditional classroom-based approaches alongside technology-supported learning activities.
- Pedagogical modelling: development of a framework linking learning objectives, digital tools, ethical learning activities, and assessment methods.
- Synthesis and generalization: formulation of recommendations for integrating deontological education into digital learning environments.

For this study, deontological competence is conceptualised as a multidimensional professional quality consisting of four interconnected components.

Cognitive component. This includes knowledge of professional duties, ethical principles, athletes' rights, safeguarding, fair play, confidentiality, and responsible digital communication.

Value-motivational component. This reflects the prospective coach's commitment to honesty, fairness, empathy, accountability, respect for human dignity, and the protection of athletes' welfare.

Practical-activity component. This involves the ability to apply ethical principles in training, competition, communication, conflict resolution, online interaction, and the handling of digital information.

Reflective-evaluative component. This concerns the ability to evaluate personal decisions, identify ethical mistakes, consider alternative actions, and improve professional conduct through self-assessment and feedback.

These components provide a basis for designing digital educational activities that address not only knowledge acquisition but also values, practical behavior, and professional reflection. A digital educational environment is understood as an integrated system of digital resources, educational platforms, communication tools, learning activities, and assessment mechanisms used to support teaching and learning. For future athlete-coaches, such an environment may include a learning management system, digital repositories of professional standards, video-based case studies, interactive ethical scenarios, online group discussions, electronic portfolios, and virtual or blended learning activities.

The pedagogical value of this environment depends on how it is used. Digital tools should serve clearly defined educational objectives rather than simply transfer traditional lectures and assignments to an online format. In the context of deontological competence, they should create opportunities for students to recognize ethical problems, discuss competing responsibilities, practice decision-making, and reflect on professional conduct.

Pedagogical possibilities of a digital educational environment. The theoretical analysis indicates several ways in which digital educational environments can support the development of deontological competence among future athlete-coaches. Digital libraries and learning platforms enable students to access professional codes, sports regulations, safeguarding guidance, scholarly articles, and educational materials related to coaching ethics.

Students can use these resources to investigate questions concerning fair competition, athlete safety, professional boundaries, confidentiality, and responsible communication. Guided online assignments can help them distinguish between personal opinions, institutional requirements, and professionally recognized ethical principles.

For example, students may be asked to compare two professional responses to an athlete who reports inappropriate treatment. They must identify the relevant ethical principles, locate applicable institutional procedures, and explain why one response may be more appropriate than another.

This activity primarily supports the cognitive component of deontological competence while providing a foundation for responsible professional decisions.

Digital case studies provide opportunities to examine professional dilemmas in a structured learning environment. A case may be presented through written scenarios, recorded interviews, short videos, or branching decision activities.

Students select or propose a response, explain their reasoning, and examine the possible consequences of their decisions. The teacher can provide feedback on the quality of their reasoning and identify principles that have been overlooked.

Examples of digital cases include:

- An athlete reports pain before an important competition, while the coach faces pressure to achieve a result.
- A coach shares an athlete's performance video publicly without obtaining appropriate permission.
- A student-athlete experiences humiliating comments in a team messaging group.
- A coach selects athletes using inconsistent criteria that appear to favour particular individuals.
- An athlete's personal information is circulated among team members without a legitimate educational or professional reason.

Such cases enable students to connect ethical principles with realistic coaching responsibilities. Branching scenarios can also demonstrate how different choices may lead to different professional and interpersonal consequences.

Discussion forums, video conferences, and collaborative digital workspaces allow students to examine ethical problems from multiple perspectives. A student may initially interpret a situation as a question of discipline, while another may identify concerns about fairness, safety, privacy, or professional boundaries.

Structured discussion encourages students to justify their conclusions with evidence and professional standards rather than relying exclusively on personal beliefs. To support productive interaction, the teacher should establish rules for respectful disagreement, confidentiality, responsible use of shared materials, and constructive feedback. Students should be assessed on the quality of their reasoning and their respect for different perspectives, not merely on whether they agree with the teacher. This approach may contribute to the development of value-motivational and practical-activity components of deontological competence.

Video analysis and simulated coaching situations. Video-based learning allows students to observe communication, leadership, conflict resolution, and ethical decision-making in coaching

contexts. Carefully selected recordings or instructor-created scenarios can be used to analyses a coach's verbal and non-verbal behavior.

Students may identify examples of constructive feedback, unfair treatment, inappropriate pressure, or respectful communication. They can then propose alternative responses and practice them through recorded role-plays or simulated conversations.

For instance, students can record a simulated conversation with an athlete who disagrees with a team-selection decision. They subsequently review the recording using a rubric focused on clarity, impartiality, respect, listening, and explanation of selection criteria. Video analysis can support practical competence and self-reflection. However, recordings involving real athletes must be managed according to appropriate consent, privacy, and institutional requirements.

Electronic portfolios and reflective learning. An electronic portfolio provides a structured record of a student's professional learning. It may contain ethical case analyses, reflective journals, feedback from instructors, simulated coaching tasks, and personal development plans.

After each activity, students can reflect on three questions:

1. Which ethical principle was most relevant to the situation?
2. What influenced my decision, and what alternative responses were possible?
3. What would I change in my professional behavior in a similar situation?

Over time, these reflections can help students identify recurring assumptions, recognize weaknesses in their reasoning, and formulate specific goals for professional development.

Electronic portfolios are particularly relevant to the reflective-evaluative component because they make learning progress visible and encourage students to take responsibility for their own professional growth.

A proposed pedagogical model. Based on the identified possibilities, a four-stage pedagogical model is proposed for developing deontological competence in a digital educational environment.

The teacher introduces the concept of deontological competence and explains its importance in professional coaching. Digital presentations, short videos, online questionnaires, and introductory case studies are used to identify students' existing understanding of professional ethics. Students discuss why ethical responsibility matters in training and competition and identify the consequences of unethical coaching behavior.

Students use digital libraries, course materials, professional codes, and institutional resources to investigate ethical principles. They complete online tasks involving athlete welfare, fair play, confidentiality, digital communication, and professional boundaries.

The four stages are interconnected. Students may return to the inquiry stage when a case reveals missing knowledge or revisit their initial decision after receiving feedback.

Digital educational tool	**Principal learning activity**	**Main competence component**
Digital libraries and professional codes	Finding and interpreting ethical standards	Cognitive
Interactive case studies	Identifying dilemmas and evaluating alternatives	Cognitive and value-motivational
Online forums and group projects	Discussing professional responsibilities	Value-motivational and practical-activity
Video analysis and	Practising ethical communication and	Practical-activity

simulations	decision-making	
Electronic portfolios and reflective journals	Evaluating decisions and planning improvement	Reflective-evaluative

The tools should not be used in isolation. Their effectiveness depends on integration into a coherent educational design that links ethical principles to authentic coaching problems. Each digital activity should address a specific learning outcome. Technology should support ethical inquiry, decision-making, communication, or reflection rather than serve as an end in itself.

Assessment should consider both students' understanding of ethical principles and their ability to apply them to professional situations. The following criteria are proposed.

Assessment criterion	**Observable indicators**	**Possible assessment method**
Ethical knowledge	Identifies professional duties and relevant principles	Online knowledge tests and short written responses
Ethical reasoning	Analyses dilemmas and justifies decisions	Digital case studies
Value orientation	Demonstrates respect, fairness, and consideration of athlete welfare	Structured observation and scenario-based discussion
Practical application	Communicates appropriately and proposes responsible actions	Video-recorded role-plays and simulations
Reflection	Recognises limitations and identifies improvements	Electronic portfolios and reflective journals
Digital responsibility	Protects privacy and evaluates digital information critically	Digital ethics assignments

Assessment should focus on observable learning outcomes rather than claims about a student's internal moral character. Students may hold different views about complex situations; what matters educationally is whether they can reason carefully, use evidence, recognize professional obligations, and explain their decisions responsibly. The proposed criteria are intended as a starting point for instructional design. Their reliability and validity should be evaluated before they are used as a formal research instrument.

Research discussion. The proposed framework suggests that a digital educational environment can provide diverse opportunities for developing deontological competence in future athlete-coaches. Its main advantage is the ability to combine access to professional knowledge with interactive analysis, simulated practice, collaboration, and reflection.

Traditional lectures remain important for introducing ethical concepts and explaining professional responsibilities. However, digital learning can extend these activities by giving students opportunities to revisit cases, compare decisions, participate in discussions, and receive feedback at different stages of learning.

The approach is consistent with the broader educational emphasis on purposeful technology integration. UNESCO's Global Education Monitoring Report 2023 highlights the importance of examining educational technology in relation to access, equity, and learning outcomes rather than assuming that technology alone improves education. This principle is particularly relevant to ethical education, where the quality of discussion and reflection matters as much as the availability of digital resources.

A distinctive contribution of the proposed model is its inclusion of digital ethics as part of coaching ethics. Contemporary coaches may use digital tools to record training sessions, analyses performance, communicate with athletes, manage team information, and share sporting achievements. These activities introduce responsibilities related to privacy, consent, data security, online conduct, and the appropriate use of technology.

For example, a coach may possess detailed information about an athlete's performance, physical condition, or personal circumstances. The availability of digital storage and communication tools does not mean that all such information should be shared freely. Future coaches need to understand the purpose for which information is collected, who is authorized to access it, how it should be protected, and which institutional rules apply.

Similarly, online communication can strengthen professional relationships but may also create opportunities for harassment, exclusion, inappropriate contact, or the circulation of humiliating content. Ethical preparation should therefore address respectful digital communication and the reporting of safeguarding concerns.

Artificial intelligence introduces additional considerations. Although AI-supported tools can help students explore alternatives and organize arguments, ethical judgment requires contextual understanding, accountability, and attention to the rights and welfare of the people affected. Students should learn to question algorithmic recommendations, identify potential bias, verify information, and avoid entering confidential athlete information into unauthorized systems.

The framework also has limitations. Access to digital devices and reliable internet may differ across students and institutions. Some students may have limited digital literacy, while instructors may require additional professional development to design meaningful interactive activities. Moreover, successful performance in an online case study does not necessarily demonstrate that a student will act ethically under the pressure of an actual competition.

Conclusion. A digital educational environment offers a range of pedagogical possibilities for developing the deontological competence of future athlete-coaches. Digital libraries, interactive case studies, online discussions, video-based simulations, electronic portfolios, and carefully supervised AI-supported tasks can create opportunities for students to study professional obligations, analyse ethical dilemmas, practice responsible communication, and reflect on their decisions.

The proposed model integrates four stages: motivational orientation, knowledge and inquiry, applied decision-making, and reflection and evaluation. It is designed to support the cognitive, value-motivational, practical-activity, and reflective-evaluative components of deontological competence.

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