HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

USING OF PROBLEM-BASED LEARNING TECHNOLOGIES IN DEVELOPING DEONTOLOGICAL COMPETENCE IN PROSPECTIVE COACHES.

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doi:https://doi.org/10.5281/zenodo.23495077

Abstract. The development of deontological competence in prospective sports coaches is an important task of contemporary professional education. A coach's professional activity involves not only the development of athletes' physical and technical abilities but also the observance of ethical principles, professional responsibility, fairness, respect for human dignity, and the protection of athletes' well-being. This article examines the pedagogical potential of problem-based learning (PBL) technologies in developing deontological competence among prospective coaches. The study employs theoretical analysis, synthesis of pedagogical and sports coaching literature, comparative analysis, and pedagogical modelling. A methodological framework is proposed that integrates problem identification, independent inquiry, collaborative analysis, ethical decision-making, practical simulation, and reflective assessment. Particular attention is paid to realistic ethical dilemmas encountered in coaching practice, including unequal treatment of athletes, pressure to achieve competitive results, confidentiality, injury-related decisions, and conflicts between performance and athlete welfare.

Keywords: problem-based learning, deontological competence, prospective coaches, sports pedagogy, professional ethics, ethical decision-making, innovative educational technologies, coach education.

Introduction. Contemporary sports coaching requires a combination of professional knowledge, practical skills, communication abilities, leadership qualities, and ethical responsibility. Coaches influence athletes' physical development, psychological well-being, motivation, interpersonal relationships, and attitudes towards fair play. Consequently, the effectiveness of coach education should not be assessed exclusively through the acquisition of technical and tactical knowledge. It should also be evaluated in terms of prospective coaches' readiness to make responsible decisions and observe professional and moral standards.

Deontological competence can be understood as an integrated professional quality that enables a coach to recognize ethical obligations, understand the consequences of professional decisions, respect athletes' rights, and act according to principles of fairness, responsibility, integrity, and human dignity. It combines theoretical understanding of professional duties with value-based motivation, practical ethical behavior, and the capacity for self-assessment.

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The development of this competence is particularly important because coaching practice frequently involves situations in which professional responsibilities may conflict. For example, a coach may have to choose between achieving an immediate competitive result and protecting an injured athlete from further harm. Similarly, decisions concerning team selection, equal opportunities, discipline, confidentiality, and communication with parents may involve competing expectations and interests. In such circumstances, knowledge of ethical principles alone may be insufficient; prospective coaches must learn how to apply those principles to complex situations.

Research on ethics education in university-level coach education highlights the importance of creating learning opportunities in which students deliberate, examine complex situations, and practise ethical decision-making rather than merely memorising professional rules (Barker-Ruchti & Purdy, 2023). Research on problem-based learning in sports-related professional education also emphasises its potential to strengthen critical thinking, independent inquiry, and professional decision-making [1, 2].

Problem-based learning is an educational approach in which students begin with a practical problem, identify what they need to learn, investigate possible explanations, evaluate alternative solutions, and justify their conclusions. Rather than receiving ready-made answers from the teacher, students actively construct knowledge through inquiry, discussion, collaboration, and reflection.

In sports coach education, this approach can be used to present prospective coaches with realistic ethical situations that require the integration of pedagogical, psychological, medical, legal, and professional knowledge. It can therefore help bridge the gap between understanding ethical principles and applying them in professional practice.

The purpose of this article is to theoretically substantiate the use of problem-based learning technologies in developing deontological competence among prospective coaches and to propose a methodological framework for their implementation in higher education.

The objectives of the study are:

1. To clarify the pedagogical significance and structure of deontological competence in prospective coaches.

2. To identify the educational potential of problem-based learning for ethical and professional development.

3. To develop a staged framework for applying problem-based learning in coach education.

4. To propose practical learning tasks and assessment criteria for evaluating the development of deontological competence.

Research methods. The article is theoretical and methodological in nature. It does not report an empirical experiment or claim measured improvements in students' competence. Instead, it develops a pedagogical framework based on the analysis and synthesis of literature on professional ethics, problem-based learning, sports coaching, and teacher education.

The following theoretical methods were employed:

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- Literature analysis: examination of scholarly publications concerning ethical decision-making in coaching, problem-based learning, and professional preparation.
- Conceptual analysis: clarification of the relationship between deontological competence, professional ethics, and ethical decision-making.
- Comparative analysis: consideration of the differences between predominantly reproductive teaching methods and problem-oriented learning.
- Pedagogical modelling: construction of a staged framework connecting learning objectives, problem situations, student activities, and assessment procedures.
- Synthesis and generalization**:** formulation of methodological recommendations for integrating problem-based learning into coach education.

The framework is intended for adaptation to courses in sports pedagogy, coaching methodology, professional ethics, physical education, and related areas of higher education.

The role of problem-based learning. Problem-based learning is distinguished by the use of meaningful, open-ended problems that cannot always be resolved through the simple reproduction of previously learned information. Students must identify relevant information, examine different perspectives, evaluate evidence, and defend their decisions.

In coach education, problem-based learning can be organised around dilemmas such as:

- A talented athlete is selected for a team despite repeatedly violating team rules, while a more disciplined athlete is excluded.
- An athlete reports pain before an important competition, but the coach faces pressure to achieve a high result.
- A coach learns confidential information about an athlete that may affect training participation.
- A parent demands preferential treatment for their child.
- A coach uses humiliating language in an attempt to motivate athletes.
- An athlete suspects unfair treatment but is afraid to raise the issue publicly.

These situations are pedagogically valuable because they require students to distinguish between personal preference, competitive pressure, institutional expectations, and professional obligations.

Problem-based learning should not be confused with simply giving students difficult questions. A properly designed learning problem requires a clear educational purpose, access to relevant information, opportunities for collaboration, teacher guidance, and structured reflection.

Research results. Based on the theoretical analysis, a five-stage framework is proposed for integrating problem-based learning into the professional preparation of prospective coaches.

At this stage, the teacher presents a realistic coaching situation containing an ethical conflict. Students examine the facts, identify the individuals affected, and determine which professional obligations may be involved.

The teacher avoids immediately providing a correct answer. Instead, students are encouraged to formulate questions, distinguish known facts from assumptions, and identify the central ethical issue.

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For example, students may be asked to analyses a situation in which an athlete wishes to continue training despite pain shortly before a major competition. The initial task is to identify the relevant concerns, including athlete safety, informed decision-making, professional responsibility, and competitive pressure.

Expected educational outcome: the ability to recognise ethical problems and formulate relevant questions.

Students identify the information needed to analyse the problem. Depending on the situation, they may examine professional codes, institutional policies, relevant legal requirements, safeguarding procedures, and scholarly publications.

The teacher provides appropriate resources and supports students in distinguishing reliable evidence from unsupported assumptions. Where a situation involves medical or legal questions, students should recognise the limits of a coach's professional authority and identify when qualified specialists must be consulted.

Students work in small groups to generate possible solutions. Each group identifies the advantages, risks, and ethical implications of the available alternatives.

For example, in a team-selection dilemma, students may compare selection based on performance alone with selection based on transparent criteria that include performance, attendance, conduct, and the requirements of the sport. They must explain how the proposed decision can be made fairly and communicated respectfully. Group discussion enables students to encounter different interpretations of the same situation. The teacher facilitates discussion, challenges unsupported conclusions, and ensures that less confident students can contribute.

Students translate their proposed solutions into practical coaching actions. They may conduct role-plays, simulated conversations, case presentations, or structured decision-making exercises.

In a role-play involving an athlete who reports inappropriate treatment, for instance, one student may act as the coach, another as the athlete, and others as observers. The participants practice respectful communication, clarification of facts, appropriate documentation, and referral to relevant institutional procedures when necessary. The purpose is not simply to identify the most theoretically convincing answer. Students must also demonstrate how they would communicate and implement their decision in a realistic professional environment.

PBL stage	**Main student activity**	**Deontological competence developed**
Problem orientation	Identifying ethical conflicts	Cognitive
Independent inquiry	Analysing professional standards and evidence	Cognitive and value-motivational
Collaborative analysis	Comparing alternatives and defending decisions	Value-motivational and practical-activity

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Practical simulation	Communicating and acting professionally	Practical-activity
Reflection and evaluation	Reviewing decisions and identifying improvements	Reflective-evaluative

The stages should be treated as an integrated cycle rather than isolated teaching activities. A student may need to return to an earlier stage when new information emerges or when reflection reveals weaknesses in the original decision.

Assessment of deontological competence. Assessment should examine not only what prospective coaches know but also how they interpret ethical problems, justify decisions, communicate with others, and reflect on their actions.

A proposed assessment rubric includes five dimensions:

1. Recognition of ethical issues: identifies the central dilemma and relevant professional obligations.

2. Use of knowledge and evidence: applies relevant ethical principles, policies, and reliable information.

3. Quality of reasoning: considers alternative solutions and explains the likely consequences of each.

4. Professional communication and action: demonstrates respect, fairness, appropriate boundaries, and responsible decision-making.

5. Reflection and self-correction**:** evaluates the decision critically and identifies opportunities for improvement.

Teachers may assess these dimensions through case analyses, group presentations, role-play observations, reflective journals, and individual written assignments. A common rubric can help improve consistency across different tasks.

For example, performance can be described through four qualitative levels: beginning, developing, competent, and advanced. The descriptors should specify observable behaviors rather than rely on vague judgments about a student's character. The proposed rubric is a methodological recommendation, not a validated measurement instrument. Before it is used to make formal claims about student competence, its criteria and reliability should be examined through appropriate empirical research.

Research discussion. The proposed framework positions problem-based learning as a potentially valuable approach to developing deontological competence because it connects ethical knowledge with the interpretation of practical situations. Traditional lectures remain important for introducing professional principles, legal requirements, and theoretical concepts. However, lectures alone may provide limited opportunities for students to practice making decisions when professional duties conflict.

Problem-based learning addresses this limitation by requiring students to apply knowledge, evaluate alternatives, collaborate with peers, and justify their decisions. Research on ethical decision-

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making in coach education supports the educational importance of deliberation and the analysis of complex professional situations (Barker-Ruchti & Purdy, 2023). Similarly, literature on case-based learning in physical education teacher education indicates that structured analysis of practical situations can support critical thinking and professional learning [3].

A significant advantage of problem-based learning is that it can make the hidden ethical dimensions of coaching more visible. Decisions that initially appear purely technical—such as training intensity, team selection, discipline, or performance evaluation—may also involve fairness, safety, dignity, and accountability. By examining these dimensions explicitly, prospective coaches can develop a more comprehensive understanding of professional responsibility.

Another important feature is the integration of collaborative learning. Ethical dilemmas may be interpreted differently depending on an individual's experiences, values, and professional assumptions. Structured group discussion allows students to compare interpretations, identify potential biases, and explain why particular principles should guide their actions. The teacher's role is to facilitate critical inquiry rather than impose unexamined opinions.

The proposed approach also supports reflective practice. Professional competence requires more than the ability to defend an initial decision; it involves recognising uncertainty, learning from mistakes, and revising one's judgment when new evidence becomes available. Reflective activities can help prospective coaches develop these habits before entering professional practice.

Nevertheless, several implementation challenges must be considered.

First, the quality of problem-based learning depends on the relevance and complexity of the cases. Problems that are too simple may encourage superficial answers, while problems that are excessively complicated may overwhelm students who lack the necessary theoretical foundation.

Second, teachers need appropriate preparation. Facilitating ethical discussion requires the ability to formulate meaningful questions, manage disagreement, identify unsupported assumptions, and maintain a respectful learning environment.

Third, ethical assessment should not reward students merely for agreeing with the teacher's personal preferences. Assessment criteria should focus on the quality of reasoning, use of evidence, recognition of professional obligations, respect for stakeholders, and ability to justify decisions.

Fourth, students should be encouraged to recognize the limits of their authority. Some situations require consultation with medical professionals, safeguarding officers, administrators, or other qualified specialists. Problem-based learning must reinforce appropriate referral and reporting procedures rather than encourage students to act beyond their professional competence.

Finally, the proposed framework requires empirical evaluation. Future research could compare students' performance before and after a structured problem-based learning programmed, use comparison groups where feasible, and examine whether improvements in ethical reasoning are reflected in simulated coaching behaviour. Longitudinal research could also explore whether learning outcomes are retained during professional placements and early coaching careers.

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The framework may be particularly relevant to higher education institutions preparing sports coaches in Uzbekistan. It can be adapted to local curricula, professional standards, institutional safeguarding procedures, and the specific needs of different sports. Uzbek scholarship on the pedagogical foundations of deontological competence in prospective sports coaches provides a relevant starting point for further development of this research direction (Xamrayev, 2025).

Conclusion. Problem-based learning technologies offer a structured pedagogical approach to integrating professional ethics into the preparation of prospective sports coaches. By engaging students in realistic coaching dilemmas, independent inquiry, collaborative analysis, practical simulation, and reflection, educators can create learning conditions in which ethical principles are examined in relation to professional action.

The article proposes a five-stage framework consisting of problem orientation, independent inquiry, collaborative analysis, practical decision-making, and reflective evaluation. These stages are designed to support the cognitive, value-motivational, practical-activity, and reflective-evaluative components of deontological competence.

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