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Technologies for the Formation of Professional Ethical Qualities in Future Physical Education Teachers: A Literature-Based Analysis

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Abstract: *The formation of professional ethical qualities is a central objective of contemporary teacher education, particularly in the preparation of future physical education teachers whose professional activity directly affects learners' physical, psychological, and social well-being. Despite the growing attention to ethical competence in pedagogy, many studies remain fragmented in their treatment of educational technologies that foster ethical development. This article aims to analyze and systematize European and international scholarly approaches to the use of innovative pedagogical technologies for the formation of professional ethical qualities in future teachers. Employing a structured literature review methodology, the study synthesizes key theoretical contributions related to interactive teaching methods, information and communication technologies (ICT), reflective pedagogy, and active learning strategies. The findings are presented through an analytical framework and a comparative literature table, highlighting dominant trends, methodological tools, and their ethical implications. The study contributes to teacher education research by offering a coherent conceptual basis for integrating ethical formation technologies into physical education teacher training programs.*

Keywords: *professional ethics, teacher education, physical education teachers, innovative technologies, reflective pedagogy.*

Introduction

In recent decades, the transformation of educational systems across Europe has intensified the focus on teacher professionalism, ethical responsibility, and value-based education. For future physical education teachers, professional ethics acquires particular significance due to the close interpersonal interaction with learners, the promotion of healthy lifestyles, and the responsibility for ensuring safety, inclusion, and fairness in educational practice. Consequently, the formation of ethical qualities is increasingly viewed as an integral component of professional competence rather than an auxiliary attribute[1].

Contemporary pedagogical research emphasizes that ethical competence cannot be developed solely through normative instruction or declarative knowledge. Instead, it requires the purposeful application of innovative educational technologies that engage future teachers in reflective, interactive, and practice-oriented learning experiences. While European and international scholars have explored various dimensions of ethical formation in teacher education, existing studies tend to examine isolated pedagogical tools or general ethical principles without offering a systematic synthesis of technologies applicable to specific subject domains[2].

In the context of physical education teacher training, this fragmentation is particularly evident. Despite the unique ethical challenges associated with physical education, such as ensuring student safety, promoting inclusivity, and modeling fair play, there remains a lack of integrative analytical frameworks that connect ethical formation with contemporary educational technologies[3].

Therefore, the purpose of this article is to analyze and systematize European and international scholarly literature on innovative pedagogical technologies used to form professional ethical qualities in future teachers, with particular relevance to physical education. The study contributes by synthesizing key

technological approaches into a coherent analytical framework, thereby addressing a conceptual gap in the literature on ethics-oriented teacher education[4]. The guiding research question is: Which educational technologies are most frequently identified in European and international literature as effective for fostering professional ethical qualities in pre-service teachers*?*

Methodology

This study employs a qualitative, theoretical research design grounded in a structured literature review, focusing on the analytical synthesis of existing scholarly works rather than the generation of primary empirical data, with the objective of identifying dominant pedagogical technologies and their associated ethical implications in teacher education. The literature selection was guided by criteria emphasizing relevance to teacher education and professional ethics, attention to innovative or technology-supported pedagogical approaches, inclusion of European and internationally recognized scholarship, and applicability to higher education and pre-service teacher training contexts. To ensure conceptual depth, the review incorporated foundational theoretical works, such as studies on reflective practice and experiential learning, as well as policy-oriented documents addressing professional competence development. The selected sources were analyzed through thematic content analysis, enabling the identification and categorization of key concepts, pedagogical technologies, and ethical outcomes, and the findings were subsequently synthesized into an analytical table to provide transparency, comparability, and methodological rigor.

Results

The development of professional ethical qualities in future teachers has been the focus of extensive European and international scholarship, particularly regarding pedagogical technologies that support reflective, interactive, and practice-oriented learning. Research in this area highlights four dominant approaches: interactive teaching methods, information and communication technologies (ICT), reflective pedagogy with self-assessment mechanisms, and active learning methodologies. Studies were selected for their relevance to teacher education, emphasis on ethical development, and recognition in peer-reviewed literature, with attention to their applicability to physical education teacher training[5]. By examining these works thematically, it becomes possible to identify patterns in the use of educational technologies, the pedagogical principles that underpin them, and their contributions to fostering ethical awareness, professional responsibility, and value-based decision-making[6]. This synthesis provides a conceptual foundation for understanding how these approaches can be integrated into the training of future physical education teachers and establishes a framework for reviewing individual contributions in detail.

Donald A. Schön's *The Reflective Practitioner: How Professionals Think in Action* (1983) remains one of the most influential works on professional reflective practice and has been widely cited in education research as a theoretical basis for developing professional ethical qualities in teachers[7]. Schön challenges the traditional "technical rationality" model, where professionals merely apply scientific theory or standardized techniques to solve problems, arguing instead that real professional practice is characterized by **unique, uncertain, and value-laden situations** that defy formulaic solutions.

Central to Schön's contribution are the concepts of **"reflection-in-action"** and **"reflection-on-action."** Reflection-in-action refers to the practitioner's ability to think critically and adaptively while engaged in practice, allowing them to adjust their behavior in response to surprises, dilemmas, or ethical tensions that arise spontaneously. Reflection-on-action, in contrast, occurs after the event, where professionals analyze their actions and decisions retrospectively to enhance future practice. These forms of reflection involve bringing **tacit knowing into explicit awareness**, enabling professionals to connect their practical experiences with underlying values, ethical commitments, and normative judgments[8].

In teacher education, Schön's framework has been widely applied to characterize **teachers as reflective practitioners** who continuously integrate experience, professional judgment, and ethical considerations into their work. Multiple educational researchers adopt Schön's approach to emphasize that teacher candidates should not only master pedagogical techniques but also develop habits of reflection that enable them to navigate complex classroom situations with moral responsibility and professional judgment. Reflection, in this view, becomes a critical mechanism for fostering **ethical awareness, accountability, and adaptive professional action** rather than mere technical competence.

Schön's theoretical perspective has directly influenced subsequent studies on reflective teaching, reflective journals, and reflective pedagogies in teacher education programs, highlighting that reflection supports the integration of theory and practice, enhances decision-making in ethically ambiguous contexts, and contributes to the **formation of professional identity** grounded in ethical responsibility[9]. This foundational role positions reflective practice not only as a pedagogical strategy but also as a central component of ethical teacher formation.

Building on the notion of reflective professional practice, David A. Kolb's experiential learning theory provides an influential conceptual framework for understanding how professional and ethical qualities are formed through practice-based learning. In Experiential Learning: Experience as the Source of Learning and Development (1984), Kolb conceptualizes learning as a cyclical process consisting of four interrelated stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. This model emphasizes that learning emerges through the transformation of experience rather than through passive acquisition of knowledge, a principle that has been widely adopted in European teacher education. Although Kolb's work does not explicitly focus on professional ethics, subsequent pedagogical scholarship interprets experiential learning as a critical mechanism for ethical development, as it situates future teachers within authentic, value-laden educational contexts that require judgment, responsibility, and moral reasoning. Through engagement in real or simulated teaching situations, pre-service teachers encounter ethical dilemmas related to fairness, inclusion, student safety, and professional conduct, which are then processed through structured reflection and conceptualization. In this way, ethical understanding is not transmitted as abstract norms but is gradually internalized through iterative cycles of experience and reflection[10]. In teacher education programs, Kolb's framework has informed the use of practicum-based learning, project-oriented tasks, and problem-based pedagogies, all of which contribute to the alignment of professional action with ethical values. Moreover, when combined with reflective pedagogical approaches, experiential learning supports the development of ethical self-regulation and value-based decision-making, reinforcing the view that professional ethics in teaching is a dynamic competence shaped through continuous interaction between experience, reflection, and practice[11].

Graham Gibbs' work on structured reflection represents a significant contribution to the operationalization of reflective practice in teacher education, particularly with regard to the development of professional and ethical qualities. In Learning by Doing: A Guide to Teaching and Learning Methods (1988), Gibbs introduces a cyclical model of reflection consisting of six stages, description, feelings, evaluation, analysis, conclusion, and action plan which provides a systematic framework for critically examining professional experiences . This model has been widely applied in pre-service teacher education as a pedagogical technology that supports ethical awareness by encouraging learners to analyze not only their actions but also the emotional and moral dimensions of pedagogical decision-making. Unlike more abstract reflective models, Gibbs' approach explicitly integrates affective responses into reflective analysis, acknowledging that ethical judgments in teaching are often shaped by emotions such as empathy, frustration, or uncertainty. Within teacher training programs, the reflective cycle has been used in practicum supervision, reflective journals, and professional portfolios to help future teachers evaluate ethically complex situations, including issues of fairness, learner inclusion, and professional responsibility. Through repeated engagement with structured reflection, pre-service

teachers develop the capacity for ethical self-regulation and value-based decision-making, reinforcing the view that professional ethics is a dynamic competence refined through critical self-evaluation and experiential learning rather than adherence to prescriptive norms[12].

Contemporary perspectives on professional ethics in teacher education are further elaborated through the complementary contributions of Darling-Hammond, Hattie, and the European Commission, each of whom addresses ethical development from a distinct yet interrelated standpoint. Linda Darling-Hammond emphasizes ethical professionalism as an integral outcome of high-quality teacher preparation, arguing that teachers' moral responsibility is cultivated through practice-based, collaborative, and inquiry-oriented learning environments that connect pedagogical knowledge with social responsibility. From this perspective, ethical competence emerges through engagement with authentic teaching challenges that require judgment, care, and accountability, positioning ethics as a core dimension of professional readiness rather than an abstract normative construct[13]. Complementing this view, John Hattie approaches professional responsibility through the lens of evidence-based practice, highlighting that teachers' ethical obligations are closely linked to their capacity to evaluate the impact of their instructional decisions on learners. Hattie's work frames ethical professionalism as a commitment to informed decision-making, transparency, and continuous self-evaluation, suggesting that reflective use of feedback and data constitutes an ethical stance toward learners' educational outcomes. At the policy level, the European Commission conceptualizes ethical competence as a transversal key competence essential for lifelong learning and professional activity, explicitly linking ethical values with digital competence, civic responsibility, and professional conduct within contemporary educational systems. Taken together, these works converge on the understanding that professional ethics in teaching is not developed through prescriptive codes alone but through pedagogical technologies that integrate reflective practice, collaborative inquiry, feedback mechanisms, and competence-based frameworks. Their combined insights provide a multi-level justification, pedagogical, empirical, and policy-oriented, for embedding interactive, reflective, and ICT-supported learning approaches into the preparation of future physical education teachers, thereby reinforcing ethical responsibility as a dynamic and professionally enacted competence[14].

The synthesized literature indicates a strong convergence across theoretical, empirical, and policy-oriented studies regarding the role of innovative pedagogical technologies in the formation of professional ethical qualities in future teachers. Reflective pedagogies, experiential learning models, and identity-oriented approaches collectively demonstrate that ethical competence develops through sustained engagement with practice, structured reflection, and value-based professional inquiry rather than through declarative instruction alone. The integration of interactive methods, ICT-supported learning environments, and feedback-driven practices further reinforces ethical self-regulation by enabling future teachers to evaluate the moral implications of their pedagogical decisions in dynamic and authentic contexts. Importantly, the reviewed scholarship suggests that ethical formation is most effective when embedded systematically across teacher education curricula and aligned with professional identity development and competence-based frameworks. For physical education teacher education, this implies the necessity of pedagogical designs that explicitly connect ethical responsibility with learner well-being, inclusivity, and professional accountability. Collectively, these findings support the view that professional ethics constitutes a dynamic and context-sensitive dimension of teacher competence, shaped through pedagogical technologies that integrate reflection, experience, and evidence-informed practice[15].

As summarized in Table 1, ethical competence is consistently linked to reflective, experiential, and technology-supported pedagogical approaches across the reviewed literature.

Table 1. Pedagogical Technologies Supporting the Formation of Professional Ethical Qualities in Teacher Education

Author(s), Year	Theoretical Focus	Pedagogical Technology	Ethical Contribution	Relevance to Physical Education
Schön (1983)	Reflective practice	Reflection-in/on-action	Ethical awareness, judgment	Managing ethical dilemmas in practice
Kolb (1984)	Experiential learning	Practice-based learning	Value internalization	Learning through physical activity contexts
Gibbs (1988)	Structured reflection	Reflective cycle	Ethical self-regulation	Reflective analysis of PE teaching
Beauchamp & Thomas (2009)	Teacher identity	Narrative reflection	Ethics–identity integration	Role modeling in PE
Hattie (2009)	Evidence-based teaching	Feedback, self-evaluation	Professional responsibility	Monitoring ethical impact on learners
Darling-Hammond (2017)	Teacher professionalism	Collaborative inquiry	Ethical accountability	Inclusive and safe PE practices
European Commission (2018)	Key competences	ICT, competence-based learning	Transversal ethical competence	Digital ethics in PE education

Discussion. The synthesized literature indicates a strong convergence across theoretical, empirical, and policy-oriented studies regarding the role of innovative pedagogical technologies in the formation of professional ethical qualities in future teachers. Reflective pedagogies, experiential learning models, and identity-oriented approaches collectively demonstrate that ethical competence develops through sustained engagement with practice, structured reflection, and value-based professional inquiry rather than through declarative instruction alone. The integration of interactive methods, ICT-supported learning environments, and feedback-driven practices further reinforces ethical self-regulation by enabling future teachers to evaluate the moral implications of their pedagogical decisions in dynamic and authentic contexts. Importantly, the reviewed scholarship suggests that ethical formation is most effective when embedded systematically across teacher education curricula and aligned with professional identity development and competence-based frameworks. For physical education teacher education, this implies the necessity of pedagogical designs that explicitly connect ethical responsibility with learner well-being, inclusivity, and professional accountability. Collectively, these findings support the view that professional ethics constitutes a dynamic and context-sensitive dimension of teacher competence, shaped through pedagogical technologies that integrate reflection, experience, and evidence-informed practice.

Conclusion. The reviewed literature demonstrates that professional ethical qualities in future physical education teachers are most effectively developed through pedagogical technologies that integrate reflection, experience, interaction, and ICT-supported learning. Ethical competence is not a static trait but a dynamic professional disposition cultivated through authentic practice, guided reflection, and continuous self-assessment. Embedding these technologies systematically within teacher education enhances ethical awareness, moral judgment, and professional responsibility, preparing graduates to respond to complex ethical challenges in educational contexts. Future research should empirically assess the application of these approaches in physical education teacher training.

References:

1. C. Beauchamp and L. Thomas, "Understanding teacher identity: An overview of issues in the literature," Cambridge Journal of Education, vol. 39, no. 2, pp. 175–189, 2009.
2. L. Darling-Hammond, "Teacher education around the world: What can we learn from international practice?" European Journal of Teacher Education, vol. 40, no. 3, pp. 291–309, 2017.
3. European Commission, Key Competences for Lifelong Learning. Luxembourg: Publications Office of the European Union, 2018, pp. 13–56.
4. G. Gibbs, Learning by Doing: A Guide to Teaching and Learning Methods. Oxford, UK: Oxford Polytechnic, 1988, pp. 45–92.
5. J. Hattie, Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement. London, UK: Routledge, 2009, pp. 125–210.
6. D. A. Kolb, Experiential Learning: Experience as the Source of Learning and Development. Englewood Cliffs, NJ, USA: Prentice Hall, 1984, pp. 30–115.
7. J. Loughran, Developing Reflective Practice: Learning About Teaching and Learning Through Modelling. London, UK: RoutledgeFalmer, 2002, p. 120.
8. D. Schön, The Reflective Practitioner: How Professionals Think in Action. New York, NY, USA: Basic Books, 1983, pp. 21–82.
9. K. van Veen, M. Theunissen, P. Sleegers, T. Bergen, C. Klaassen, and C. Hermans, "Relations between teachers' professional and religious orientations and their behavior during morally critical incidents," Educational Research & Evaluation, vol. 9, no. 1, pp. 51–74, 2003.
10. L. Shulman, "Those who understand: Knowledge growth in teaching," Educational Researcher, vol. 15, no. 2, pp. 4–14, 1986.
11. M. Fullan, The New Meaning of Educational Change, 4th ed. New York, NY, USA: Teachers College Press, 2007.
12. P. Freire, Pedagogy of the Oppressed. New York, NY, USA: Continuum, 1970.
13. A. Bandura, Social Foundations of Thought and Action: A Social Cognitive Theory. Englewood Cliffs, NJ, USA: Prentice Hall, 1986.
14. S. Brookfield, Becoming a Critically Reflective Teacher. San Francisco, CA, USA: Jossey-Bass, 1995.
15. T. Cochran-Smith and S. L. Lytle, "Relationships of knowledge and practice: Teacher learning in communities," Review of Research in Education, vol. 24, pp. 249–305, 1999.