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Digital Intelligence Empowerment and Embodied Practice: The Contemporary Characteristics and Generative Logic of Physical Education Teachers Upholding the Spirit of Educators

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Abstract: Against the backdrop of educational digital transformation, physical education faces dual challenges: the potential for technological application to cause "physical absence" and the risk of instrumental rationality obscuring the original purpose of education. Existing research has insufficiently addressed the professional specificity of physical education teachers' pedagogical spirit, particularly its embodied characteristics and evolutionary patterns in the digital-intelligent era, which remain unsystematically elucidated. This study constructs an analytical framework integrating digital-intelligent empowerment, embodied practice, and pedagogical spirit based on embodied cognition theory. It focuses on two core issues: the embodied characteristics of physical education teachers' pedagogical spirit in the digital-intelligent era and its developmental pathways. Findings reveal six defining characteristics of physical education teachers' pedagogical spirit in the digital age: First, technology-enhanced ideals and convictions, manifested as the deep integration of value recognition and mission commitment; second, moral integrity balanced by data support and humanistic care; third, data-driven educational wisdom, embodied in the organic combination of individualized instruction and reflective practice; Fourth, a diligent attitude empowered by technology, unified through lifelong learning and innovative spirit; Fifth, an expanded benevolent heart amplified by technology, achieving broader care coverage and enhanced precision; Sixth, a pursuit of promoting virtue extended by technology, manifested in the synergistic advancement of cultural heritage and collaborative education. The formation of these characteristics follows a progressive logic of "value recognition-embodied experience-reflective practice-ecological synergy," establishing a dynamic unified generation mechanism driven by internal motivation and external support. The theoretical value of this study lies in transcending traditional dualistic thinking, driving the deep integration of the spirit of educators with embodied cognition theory. Its practical value manifests in constructing a four-dimensional support system comprising "curriculum framework + training model + evaluation standards + educational ecosystem." This provides systematic theoretical guidance and practical pathways for building a high-caliber physical education teacher workforce in the new era, facilitating the evolution of physical education from skill training toward spiritual growth, and offering crucial support for building an education powerhouse.

Keywords: Digital Intelligence Empowerment, Embodied Practice, Educator Spirit, Generative Logic, Physical Education Teacher Professional Development.

1. Introduction

Against the backdrop of digital intelligence reshaping the educational ecosystem, China's digital education strategy has achieved remarkable results. By 2025, the National Smart Education Platform will have established a comprehensive resource system spanning all educational stages, driving profound transformations in teaching and learning models. However, the digital transformation of physical education faces unique challenges: on one hand, technological applications may lead to "physical absence," undermining the embodied interaction that constitutes the very essence of physical education; on the other hand, instrumental rationality may obscure the original purpose of education, transforming smart devices into tools for data competitions while neglecting the cultivation of core values such as willpower and character. Existing research exhibits notable shortcomings: first, insufficient attention to the professional specificity of physical education; second, inadequate exploration of the "embodied" nature of the educator spirit and its evolutionary patterns in the digital era. While current studies emphasize building a cultivation system integrating "spiritual cultivation and professional empowerment," discussions on how technology reshapes the intrinsic mechanisms of physical education teachers' spirit remain superficial. Embodied cognition theory offers a crucial perspective for understanding this issue. This theory emphasizes that cognition, knowledge, and spirit are rooted in the continuous interaction between the body and the environment. The professional practice of physical education teachers is fundamentally a process of interacting with students and the environment through embodied activities such as physical movement, demonstration, and observation. However, existing research has not fully utilized this theory to analyze the evolution of the characteristics of the educator spirit in physical education teachers in the digital-intelligent era. Based on this, this study explores two core questions: First, what new "embodied characteristics" does the educator spirit of physical education teachers exhibit in the digital-intelligent era? Second, through which pathways are these

characteristics generated? Addressing these questions holds significant theoretical value and practical implications. Theoretically, integrating pedagogical spirit with embodied cognition theory enables the construction of an analytical framework that transcends traditional dualistic oppositions. Practically, a support system spanning curriculum design, training models, and educational environments can be developed based on the generative logic of "value identification -embodied experience-reflective practice-ecological synergy." By examining the embodied characteristics and developmental pathways of educators' spirit in physical education teachers, this study aims to provide theoretical guidance for cultivating a high-caliber physical education teaching force in the new era. It seeks to advance physical education from external skill training toward intrinsic spiritual growth, thereby injecting new momentum into the development of a strong educational nation.

2. Research Methodology

To systematically explore the contemporary characteristics and generative logic of the educator spirit among physical education teachers in the digital-intelligence era, this study adopts a multi-method research framework grounded in the dialectical relationship between embodied cognition theory and digital-intelligence empowerment. The "theory construction—empirical investigation—in-depth validation" approach ensures scientific rigor, systematic coherence, and practical applicability, as detailed below:

2.1. Literature Survey

Using core keywords such as "digital-intelligent empowerment," "embodied practice," "educator spirit,""physical education teacher professional development," and "embodied cognition theory," this study systematically reviewed relevant policy documents (e.g., "Strategic Action Plan for Education Digitalization," "Opinions on Comprehensively Strengthening and Improving School Physical Education in the New Era"), academic monographs, core journal articles, and dissertations through Chinese and international literature platforms including CNKI, Wanfang Database, and Web of Science.

2.2. Semi-Structured Interview

To accurately capture the practical manifestations, implementation challenges, and intrinsic needs of physical education teachers embodying the spirit of educators in the digital age, this study employs semi-structured interviews for empirical research. Interviewees were selected following the principle of "stratified sampling + typicality," encompassing three major groups: First, 30 physical education teachers from different educational levels (elementary, middle, and high school) and varying digital development stages (smart campuses in first-tier cities, ordinary schools in counties, and township schools), ensuring the sample covered diverse technology application scenarios; Second, eight experts in physical education and scholars in digital and intelligent education were interviewed to obtain theoretical insights. Third, six school physical education administrators (department heads, vice principals) and county-level physical education administrators were interviewed to understand policy support and the actual conditions of the field environment.

3. Research Findings and Analysis

3.1. Theoretical Framework: The Integrative Foundation of Digital Intelligence Empowerment and Embodied Practice

3.1.1. Core Conceptual Definitions

(1) Digital Intelligence Empowerment

"Digital Intelligence Empowerment" refers to the enhancement of capabilities and expansion of development pathways for physical education teachers in teaching, research, and professional growth through digital intelligence technologies such as artificial intelligence, big data, and virtual reality. Its core lies in transcending the superficial role of technology as an auxiliary tool, emphasizing its systemic reshaping of the educational ecosystem. For instance, physical education teachers can leverage digital intelligence technologies for curriculum design, instructional guidance, and research projects, thereby shifting their work model from experience-driven to data-driven and evidence-based approaches.

(2) Embodied Practice

The theory of "embodiment" emphasizes that cognition, knowledge, and mental activities are rooted in the dynamic interaction between the body and the environment. "Embodied practice" specifically refers to physical educators' professional actions of interacting with students and teaching environments through concrete bodily engagement—such as physical movements, skill demonstrations, behavioral observations, and physical corrections—to achieve instructional objectives and fulfill educational tasks. Embodied practice embodies the essential nature of bodily participation in physical education, serving as a key distinguishing feature of the discipline from other educational fields. As one physical education teacher reflected in their teaching journal: "When we pore over philosophical classics beside sweat-stained lesson plans, or delve into educational treatises on the dawn-lit athletic field, we are embodying the educational ideal of 'cultivating the spirit and strengthening the body' in its most dynamic form."

(3) Educator Spirit

The "spirit of educators" represents a Chinese-specific educational philosophy, encompassing: "ideals of serving the greater good and dedicating oneself to the nation; moral integrity that sets an example for scholars and society; pedagogical wisdom that enlightens minds and nurtures talents through tailored instruction; a diligent, steadfast, and innovative attitude toward learning and practice; a compassionate heart that finds joy in teaching and devotion to students; and a vision to cultivate humanity through culture, embracing a global perspective." Educator spirit serves as the value orientation and spiritual foundation for physical education teachers' professional development, playing a central guiding role in shaping their professional identity and conduct.

3.2. Theoretical Integration: An Integrated Framework of Digital Empowerment, Physical Presence, and the Educator Spirit

3.2.1. The Tension Between Digital Empowerment and Physical Presence

Digital empowerment and embodied practice are not mutually exclusive but rather exhibit a dialectically unified relationship. This integration forms the theoretical foundation

of this study. Digital empowerment emphasizes the systemic reshaping of the educational ecosystem through technology, while physical presence highlights the fundamental value of bodily engagement in physical education. Significant tension exists between the two:

Balancing Technological Augmentation and Physical Experience: Digital-intelligent technologies enhance teaching efficiency through data-driven approaches and virtual simulations, yet may fragment or dislocate physical experiences. For instance, while virtual reality can simulate athletic scenarios, it cannot fully replace the tacit knowledge conveyed through embodied interactions—such as physical demonstrations and tactile corrections—by physical education instructors.

Coupling and conflict between virtual and physical spaces: The blended environments created by digital technologies (e.g., motion-sensing interactions, scenario simulations) expand instructional boundaries but may also trigger the practical dilemma of "the eyes understand, but the body cannot perform." Physical education teachers must seek a dynamic equilibrium between technological assistance and bodily agency, preventing technology from 'intercepting' or "disciplining" bodily presence.

This tension demands that physical education teachers, amidst digital transformation, actively leverage technology to optimize instruction while steadfastly upholding the ontological value of bodily practice—achieving a dialectical unity between "mastering technology" and "embodied presence." This triadic framework of "technology-body-spirit" interaction provides a key to understanding the emergence of the educator spirit in the digital-intelligent era: it is precisely within the daily educational arena, where digital-intelligent empowerment and embodied practice intertwine, that the educator spirit is practiced, manifested, and elevated.

3.2.2. The Theoretical Relevance of Embodied Cognition to Educator Spirit

Embodied cognition theory emphasizes that cognition and action are rooted in the interaction between the body and the environment, providing crucial theoretical support for understanding educator spirit. 1. The Bodily Foundation of Spiritual Internalization: Educator spirit is not an abstract concept but is generated and expressed through educators' "embodied practice." For instance, physical education teachers transform spiritual qualities like "compassionate heart" and "educational wisdom" into perceptible professional behaviors through physical actions such as demonstration, correction, and situational interaction. 2. Alignment with Practice-Oriented Education: Physical education heavily relies on bodily engagement, with teaching effectiveness directly determined by educators' ability to convey knowledge and emotion through embodied actions (e.g., movement demonstration, tactile guidance). The embodied cognition perspective precisely reveals how the spirit of educators achieves the transformation from concept to action through "mind-body unity" practices. 3. Adaptation Needs in the Technological Era: Against the backdrop of digital and intelligent empowerment, the spirit of educators must be repositioned through the synergy of "embodied-technology." For instance, teachers must maintain reflection on the essence of education within the coupling of virtual guidance and physical perception, avoiding the hollowing out of spiritual values caused by technological application.

3.3. The Contemporary Characteristics of Educator Spirit in Physical Education Teachers in the Digital Age

3.3.1. Ideals and Convictions: Technology-Enhanced Value Recognition and Mission Commitment

Digital technologies provide new platforms and pathways for physical education teachers to deepen their ideals and convictions. For instance, some regions utilize AR technology to recreate pivotal events in the growth of educators, developing "Teacher Ethics Simulation Systems" that enable teachers to strengthen their value recognition of the spirit of "having a heart for the greater good and serving the nation with utmost sincerity" through immersive experiences. Simultaneously, digital platforms enable physical education teachers to more tangibly connect their instruction with student physical health and the nation's sports development goals, heightening their sense of contemporary mission. Following digital training, the vice principal of Zhangbei County No. 3 Middle School in Hebei Province recognized: "Digital transformation does not overturn tradition; rather, it returns education to its essence of nurturing people. Just as Zhangbei's winds perpetually drive windmills, the electricity generated ultimately illuminates countless homes." This insight reflects the elevation of value recognition through technological empowerment.

3.3.2. Moral Sentiment: Balancing Data Support with Humanistic Care

In the digital age, physical education teachers demonstrate moral character through the organic integration of data-driven insights and humanistic care. While smart devices offer data-driven understanding of students' physical conditions,"the warmth of technology ultimately stems from the educator's ingenuity."Even as AI generates countless training plans, only teachers can keenly notice the solitary figure of an individual student on the track field and offer the most heartfelt care. For 31 years, Zhang Bengang, a physical education teacher at Xiwuqi Fourth Primary School, has consistently integrated moral character into his daily practice: "PE class isn't just about running and jumping; it's about helping children find confidence through movement and learn to love the feeling of sweating." Through personalized attention and meticulous care, he embodies the moral character of physical education teachers in the digital age.

3.3.3. Educational Wisdom: Data-Driven Differentiated Instruction and Reflective Practice

Digital intelligence technologies propel physical education teachers' educational wisdom from experience-dependent approaches toward data-empowered instructional decision-making and reflective practice, forming a closed-loop mechanism of"data insights—strategy adjustments—outcome validation."This manifests across two dimensions:

(1) Data-Driven Differentiated Instruction

Physical education teachers utilize tools such as smart wristbands and video analysis systems to collect real-time student movement data (e.g., heart rate, movement angles, performance curves). This data is integrated with student profiles to build personalized training models. For instance, one teacher identified shooting angle deviations through data analysis and tailored training plans, resulting in a 15% improvement in student shooting accuracy. Xiao Xinbo of Jingzhou Middle School, by long-term tracking of students' physical fitness data, designs differentiated training plans for students with distinct characteristics, achieving precise "one-

student-one-plan" guidance. This data-driven, tailored instruction breaks through the limitations of traditional"one-size-fits-all" teaching, making educational practices more scientific and adaptable.

(2) Reflective Practice Supported by Quantitative Evidence

Teachers establish instructional reflection databases (e.g., training logs, classroom recordings, student feedback) to uncover pedagogical patterns, transforming experiential knowledge into evidence-based insights. For instance, one teacher's data analysis revealed that"classes overly focused on competitive results saw a 23% increase in sports injuries," while"the gamified teaching experimental group experienced a 37% rise in intrinsic motivation."This contrast prompted the teacher to reconstruct a balanced teaching model emphasizing "fun—safety—effectiveness." Such reflective practices not only enhance the scientific rigor and precision of instructional optimization but also exemplify the"truth-seeking and innovation-driven"professional ethos of physical education teachers in the digital age.

3.3.4. Dedicated Attitude: Lifelong Learning and Innovation Empowered by Technology

The digital era demands that physical education teachers engage in lifelong learning to keep pace with technological evolution, transforming technological potential into educational outcomes through innovative practices. This dedicated attitude manifests in the following aspects:

(1) Lifelong Learning Through Technology Integration

Teachers proactively acquire digital skills such as video editing, data analysis, and virtual simulation, forming a learning trajectory of "adaptation-integration-creation." For instance, veteran teachers wearing reading glasses learn video editing, while younger teachers actively develop exemplary lesson plans, demonstrating intergenerational collaboration in technological advancement. Following digital training, the Vice Principal of Zhangbei County No. 3 Middle School in Hebei Province noted that the essence of digital transformation is "returning education to its core mission of nurturing students." This elevated understanding reflects the deepening of the diligent attitude within the technological environment.

(2) Technology-Empowered Innovation Practices

Teachers leverage digital tools to innovate teaching models. For instance, Teacher Chen Daiyu designed a"Whole-School Sports Meet" that transcends grade boundaries to foster teamwork. Another educator developed a virtual mountain-climbing scenario, using motion-sensing game data to identify students' psychological states. These innovations not only embody the diligent and dedicated attitude of"diligent study and steadfast practice"but also reconstruct the interactive ecosystem of teaching and learning through technology, injecting vitality into physical education.

3.3.5. Compassionate Care: Expanding Scope and Precision Through Technology

Digital intelligence technology elevates physical education teachers' compassionate care from emotional guidance to precision-targeted support, broadening coverage while enhancing pedagogical nuance. Through smart devices and platforms, teachers can simultaneously monitor multiple students' physiological data and engagement levels, enabling scaled care. For instance, Teacher Chen Daiyu ensures "no student is left behind" through engaging games and diverse activities, significantly boosting participation rates. Educators also leverage biological data (e.g., heart rate variations, exercise load) to identify students' unspoken needs. One teacher noted that technology helps detect "lonely figures on the track field" and provides timely psychological support. Teacher Xiao Xinbo quantifies care by documenting each student's progress trajectory—such as advancing from zero to five pull-ups or improving 800-meter times by 15 seconds—transforming abstract concern into tangible growth. This data-driven compassionate practice enables educators to grasp overall learning dynamics while addressing individual differences, showcasing the deep integration of humanistic care and technological rationality in the digital age.

3.3.6. Pursuit of Enlightenment: Cultural Transmission and Collaborative Education Through Technological Expansion

Digital intelligence technologies provide physical education teachers with cross-temporal transmission channels and multi-stakeholder collaboration platforms to advance their pursuit of promoting values, effectively disseminating the spirit of Chinese sports. Teachers utilize AR/VR technologies to recreate traditional sports (such as martial arts and archery), enabling students to immerse themselves in cultural significance through virtual simulations. Simultaneously, they develop "Physical Education Ideological and Political Case Libraries" using digital resource repositories, integrating materials like the spirit of the women's volleyball team and the growth patterns of Olympic champions into teaching to achieve the contemporary transformation of cultural values. Second, educators establish "school-home-community-government" coordination mechanisms through digital platforms, organizing participation in volunteer services, champion-led public welfare classes, and other practical activities to foster a multi-stakeholder sports culture ecosystem. For instance, Teacher Xiao Xinbo established the "Blue-and-Green Relay" mechanism, using digital archives to pass down teaching expertise and facilitate the intergenerational transmission of educational wisdom. These practices demonstrate that technology not only expands pathways for pursuing educational ideals but also strengthens physical education's role as a vital link in cultural heritage preservation and collaborative education.

Table 1. Comparative Analysis of the Contemporary Characteristics of the Educator Spirit in Physical Education Teachers in the Digital Intelligence Era

Traditional Spiritual Traits	New Characteristics of the Digital Intelligence Era	Specific manifestations
Ideals and Beliefs	Technology-Enhanced Value Recognition and Mission Commitment	Leveraging AR/VR technology to deepen value recognition, closely linking physical education with national development.
Moral Sentiments	Balancing data-driven support with humanistic care	Monitor students' well-being through smart devices while providing personalized humanistic care.
Educational Wisdom	Data-Driven Differentiated Instruction and Reflective Practice	Make teaching decisions based on data analysis to achieve personalized guidance.
Attitude of Personal Diligence	Lifelong Learning and Innovation Empowered by Technology	Proactively learn new technologies and innovate teaching methods and models.
Compassionate Heart	Technology expands the scope and precision of care	Leveraging technology to focus on each student's uniqueness, achieving education for all.
The Pursuit of Promoting the Way	Cultural Heritage and Collaborative Education in Technological Advancement	Preserving sports culture through digital platforms and building a collaborative education ecosystem

3.4. The Generative Logic of Educator Spirit in Physical Education Teachers

The emergence of educator spirit in the professional growth of physical education teachers is a dynamic construction process driven by both internal motivation and external support. This process follows a progressive logic from value recognition to ecological synergy, embodying the dialectical unity of spiritual cultivation and professional practice. Its generative logic comprises the following four interlinked stages:

3.4.1. The Initiating Logic of Value Recognition

The process begins with physical education teachers internalizing the essence of the educator spirit and embracing its values. Through systematic theoretical study, specialized seminars, and exposure to exemplary cases, teachers transform concepts like "embracing a greater purpose and serving the nation with utmost sincerity" from external norms into intrinsic aspirations. This stage serves as the driving force for spiritual development, providing directional guidance for subsequent practice. For instance, platforms like the "Educator Spirit Specialized Study," the "Huang Danian-Style Teacher Team Case Library," and the "Zhang Guimei Teacher Ethics Practice Workshop" deepen physical education teachers' understanding of the educator spirit. One teacher noted that insights from educational classics (such as Sato Manabu's The Quiet Revolution) directly inspired their initiative to build a teaching reflection database, illustrating the shift from theoretical cognition to value recognition. Value recognition propels teachers beyond instrumental teaching behaviors, fostering professional consciousness guided by spiritual aspirations.

3.4.2. The Catalytic Logic of Embodied Experience

Value recognition must be transformed into individual experience through technology-enhanced practice. Physical education teachers can utilize smart devices (such as biosensors and video analysis systems) to conduct teaching activities, validating concepts and accumulating practical wisdom through the interaction between body and technology. This stage serves as the critical bridge connecting spiritual cognition to action. For instance, a teacher using a smart wristband to monitor student movement data identified a deviation in a student's shooting angle. By adjusting the training regimen accordingly, the student's shooting accuracy improved by 15%. Such successful experiences reinforce the teacher's recognition of the value of data-driven instruction, deepening the integration of the educator spirit with professional identity. Embodied experience transforms abstract concepts into tangible, actionable strategies, achieving an initial convergence of "unity of knowledge and action."

3.4.3. The Elevation Logic of Reflective Practice

The core component lies in engaging in reflective practice. Teachers must leverage data support and situational replays provided by digital intelligence technologies to conduct continuous, in-depth critical reflection on their teaching behaviors and educational outcomes. This reflection helps teachers break free from the constraints of fixed experience, refine their pedagogical artistry, and thereby achieve the tempering of educational wisdom and the elevation of the educator spirit. A physical education teacher shared: "Through years of accumulating training logs, conducting classroom reflections, facilitating teacher-student dialogues, and administering surveys, I uncovered alarming patterns within the data... This quantitative evidence overturned traditional experience, giving birth to a new teaching model centered on 'interest-safety-effectiveness.'" This process vividly demonstrates how reflective practice propels the elevation of the educator spirit. This approach aligns with the practice-oriented principle of "unity of knowledge and action" in Marxist educational thought, emphasizing the refinement of professional competence through rational reflection.

3.4.4. The Nurturing Logic of Ecological Synergy

The emergence and sustained development of the educator spirit hinges on robust external support. Building a synergistic ecosystem comprising schools, families, society, and policies is particularly crucial. For instance, establishing a developmental evaluation system centered on "moral integrity and professional competence + process-based value-added assessment,"coupled with fostering a culture that honors educators and encourages innovation, provides teachers with continuous positive feedback and growth momentum. This creates a virtuous cycle that nurtures the emergence of the educator spirit. After returning from training, the vice principal of Zhangbei County No. 3 Middle School actively promoted the creation of the "Smart Physical Education Teaching Resource Library," compiling exemplary lesson plans from all school teachers. An elderly teacher who once held the belief that "sports must be done under the sun and wind" quietly wiped away tears from the corner of his eye upon seeing students repeatedly practicing triple jump approach angles on a virtual track. He finally understood that digital technology does not aim to replace traditional training but rather opens new dimensions for sports development. This illustrates how such an ecosystem plays a crucial role in

fostering the spirit of educators.

Table 2. The Generative Logic and Support Strategies for the Development of Educator Spirit in Physical Education Teachers

Generative Logic	Core Process	Support Strategy
The Activation Logic of Value Recognition	Incorporate the spirit of educators into one's personal values and aspirations.	Value-driven initiatives through teacher ethics course modules, case libraries, workshops, and other formats
The Catalytic Logic of Embodied Experience	Validate and deepen value alignment through technology-enhanced practice	Virtual simulation technology and AR technology recreate educational scenarios, providing hands-on practice opportunities.
The Sublimation Logic of Reflective Practice	Transcend experience through data-driven reflection and distill wisdom.	Support and Application of Teaching Reflection Databases and Intelligent Analysis Systems
The Nurturing Logic of Ecological Synergy	Gaining momentum for sustained development in a supportive environment	Multi-stakeholder collaboration mechanism, developmental evaluation system, cultural immersion initiative

3.5. Practical Pathways: A Four-Dimensional Framework Supporting the Cultivation of Educator Spirit

To foster the spirit of educators among physical education teachers in the digital intelligence era, it is essential to establish a systematic support framework encompassing four dimensions: curriculum system, training model, evaluation standards, and educational ecosystem.

3.5.1. Developing a Curriculum System Integrating "Spiritual Cultivation + Professional Empowerment"

During the training and development of physical education teachers, a curriculum system that integrates spiritual cultivation with professional empowerment should be established. Within the teacher ethics module, a "Specialized Study on Educator Spirit" course can be introduced. Utilizing resources like the Huang Danian-style Teacher Team Case Library and Zhang Guimei Teacher Ethics Workshops, this course reinforces alignment with the "heart for the greater good" value system. In the professional curriculum module, the essence of Chinese sports spirit is broken down into teaching units such as "Special Analysis of the Women's Volleyball Team Spirit" and "Research on Olympic Champion Development Patterns," alongside the development of a "Physical Education Ideological and Political Education Case Library." For instance, Chen Daiyu, a teacher at Beijing Normal University Guiyang Affiliated Primary School, continuously uncovers children's latent athletic talents based on their interests, guiding them onto training grounds, competition fields, and into the joyful realm of sports. He integrates the "universal participation" teaching goal into his classroom by designing fun games and organizing diverse physical activities, ensuring every student engages. This curriculum design effectively combines spiritual cultivation with professional empowerment.

3.5.2. Innovating a "Value-Driven + Digital Empowerment" Training Model

Physical education teacher training models urgently require innovation, necessitating the creation of a progressive system centered on "value-driven + digital empowerment." A three-stage progressive model can be established: During the cognitive construction phase, virtual simulation technology develops a "Teacher Ethics Scenario Simulation System," using AR technology to recreate pivotal events in educators' development. In the competency enhancement phase, a case resource repository is built on the National Smart Education Platform, with AI-driven personalized learning paths. During the practical application phase, "dual-teacher co-teaching" and "joint teaching research" facilitate the collision and integration of educational wisdom and sports spirit. Xiao Xinbo, a physical education teacher at Jingzhou Middle School, innovatively established the "Blue-and-Green Relay" mechanism, passing on his three decades of training insights and teaching methods to young educators. As an external mentor for physical education master's students at Yangtze University, he extends this educational relay to higher education, continuously striving to cultivate physical education talent for the new era. This cultivation model fully embodies the organic integration of value-driven leadership and digital empowerment.

3.5.3. Establishing Evaluation Standards Based on "Dual Dimensions of Ethics and Competence + Process-Based Value-Added"

The physical education teacher evaluation system urgently requires reform, necessitating the establishment of a developmental evaluation standard centered on "ethical integrity and professional competence + process-based value enhancement." In the ethical dimension, observation points should be set for ideals and convictions, patriotic sentiment, and professional ethics, incorporating participation in patriotic education practices and guidance of student volunteer services into the assessment scope. In the professional dimension, evaluation modules should be established for "ability to inherit the spirit of sports" and "ability to implement innovative teaching." Establish a "developmental evaluation portfolio" to document teachers' growth trajectories in activities like preserving China's traditional sports culture and developing sports-based ideological education case studies. This forms a three-dimensional evaluation system featuring "bottom-line constraints, baseline assessments, and top-tier guidance." For instance, one vice principal of physical education spearheaded the creation of the Smart Physical Education Teaching Resource Repository, which compiles exemplary lesson plans from all faculty members. This repository serves not only as a teaching reference but also as an evaluation basis for professional development, documenting educators' growth trajectories.

3.5.4. Enhancing the "Multi-Stakeholder Collaboration + Cultural Immersion" Educational Ecosystem

The cultivation of an educator's spirit relies on a robust educational ecosystem. A collaborative mechanism involving families, schools, communities, and government should be established. This can be achieved by implementing family education empowerment programs, advancing the "Sports Culture Immersion Project" in schools, developing social "Sports-Education Integration Practice Bases," and organizing teachers to participate in volunteer services, champion-led public welfare classes, and other social practice

activities. These efforts foster a multi-stakeholder, mutually influential sports culture ecosystem. For instance, Zhang Bengang, a physical education teacher at Xiwuqi Fourth Primary School, spearheaded the development of detailed teaching research plans while serving as head of the physical education research group and director of physical education, health, and arts. He regularly organized open classes and demonstration lessons, guiding young teachers in exploring teaching methodologies. He also led his team in conducting research on the topic "The Impact of High School Entrance Exam Physical Education Assessment on Upper Elementary Physical Education Teaching and Countermeasures," which was successfully completed. The research findings were promoted throughout the banner. This collaborative mechanism creates a favorable ecological environment for fostering the spirit of educators.

4. Conclusion

4.1. Triadic Synergy: The Essential Characteristic of Educator Spirit in the Digital-Intelligent Era

In the digital-intelligent era, the educator spirit of physical education teachers manifests the essential characteristic of triadic synergy among technology, body, and spirit. Its six defining traits include: technology-enhanced ideals and convictions; moral integrity that balances data-driven approaches with humanistic care; data-driven pedagogical wisdom; technology-empowered dedication to diligent practice; technology-expanded benevolence; and technology-extended pursuit of promoting virtue. These traits both inherit the core essence of the educator spirit and achieve a contemporary reshaping of physical education teachers' professional ethos through the deep integration of technological rationality and humanistic values. This forms a new professional competency structure unifying technological empowerment with humanistic guidance.

4.2. Four-Stage Progression: The Dynamic Generation Logic of the Educator Spirit

The generation of the educator spirit in physical education teachers follows a four-stage progression logic: "Value Recognition → Embodied Experience → Reflective Practice → Ecological Synergy." This process manifests as four interlinked, progressively layered stages: value recognition establishes the ideological foundation; embodied experience drives conceptual transformation; reflective practice achieves wisdom elevation; and ecological collaboration provides sustained support. These stages form a complete generative chain from cognition to action and from the individual to the ecosystem, constructing a dynamically spiraling, continuously optimized development model that fully embodies the core tenets of embodied cognition theory.

4.3. Four-Dimensional Support: A Systematic Framework for Cultivating the Educator Spirit

The four-dimensional support system developed in this study—comprising the "Spiritual Cultivation + Professional Empowerment" curriculum, the "Value Guidance + Digital Empowerment" training model, the "Dual-Dimensional Evaluation of Virtue and Competence + Process-Based Value Enhancement" assessment standards, and the "Multi-Stakeholder Collaboration + Cultural Immersion" educational ecosystem—provides a systematic practical solution for nurturing the educator spirit among physical education teachers. This framework innovatively integrates value guidance, technological empowerment, process evaluation, and environmental support. It respects the embodied nature of physical education practice while fully leveraging the enabling value of digital and intelligent technologies, offering an actionable and scalable implementation pathway for building the physical education teacher workforce in the new era.

4.4. Dual Value: Theoretical Contributions and Practical Significance

The theoretical contribution of this study lies in constructing an analytical framework that transcends traditional dichotomies, deepening our understanding of the mechanisms underlying the formation of the educator spirit. Its practical value provides systematic theoretical foundations and implementation pathways for building a new-era physical education teacher workforce. Future research could further explore differentiated studies across different educational stages and regions, investigate the dynamic impact of technological iteration on the educator spirit, and continuously optimize practical pathways for physical education teachers' professional development. This will provide sustained theoretical innovation and practical guidance for advancing high-quality physical education development.

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