

New Productivity in Higher Education: Enhancing University PE Teacher Growth and Development

Ziqi Wang^{1*}, Zixuan Jia^{1*}, Wenjun Wang^{2#}, Xiangui Bu^{2#}

¹Graduate School of Shandong Sport University, Shandong Sport University, Jinan, China

²Department of General Education, School of Sports and Art, Shandong First Medical University, Tai'an, China

³School of Competitive Sports, Shandong Sport University, Rizhao, China

Email: wangwj@sdfmu.edu.cn, 13561037122@163.com, *wangwj7273@163.com, #buxiangui@sdpei.edu.cn

How to cite this paper: Wang, Z. Q., Jia, Z. X., Wang, W. J., & Bu, X. G. (2024). New Productivity in Higher Education: Enhancing University PE Teacher Growth and Development. *Open Journal of Social Sciences*, 12, 32-40.

<https://doi.org/10.4236/jss.2024.1210003>

Received: August 31, 2024

Accepted: October 13, 2024

Published: October 16, 2024

Copyright © 2024 by author(s) and
Scientific Research Publishing Inc.

This work is licensed under the Creative
Commons Attribution International
License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

During President Xi Jinping's field inspection in Heilongjiang and the 11th collective study session of the Central Politburo, he emphasized the concept of new productivity, which aligns closely with the demand for high-quality teaching among university physical education teachers. This concept not only responds to the call to improve education quality in China but also offers new perspectives for innovation and development in sports education. Objective: This study aims to assess the impact of the new productivity concept on the professional development of university physical education teachers and explore how technological innovation and teaching method reforms enhance teachers' professional skills and teaching efficiency. Methods: This research employs literature review, interdisciplinary research methods, qualitative analysis, and future forecasting to explore development paths for university physical education teachers from the perspective of new productivity. Results: 1) Innovation-Driven: New productivity emphasizes innovation, particularly in technology and educational methods, which can enhance student experience and engagement, meeting diverse needs and improving classroom interaction and learning efficiency. 2) High Efficiency: Intelligent teaching management systems and data analysis tools enable teachers to track student performance in real-time and adjust teaching strategies, enhancing flexibility and response speed in teaching. 3) High Quality: New productivity focuses on improving teaching quality. Physical education teachers can improve course content and teaching quality through professional assessment tools, promoting the comprehensive development of students' physical and mental health. Teachers can

*Co-first author.

#Corresponding author.

adjust teaching content based on assessment results to ensure that teaching outcomes align with student needs. Summary: 1) Innovation-Driven Teaching Methods: Physical education teachers leverage cutting-edge technology to enhance learning interaction. This updated teaching approach not only increases student engagement but also helps them better understand and master complex sports skills. 2) Enhanced Educational Efficiency: Digital management systems and automation tools improve the efficiency of course management and student performance evaluation, optimizing course content and teaching layout. This allows teachers to focus more on teaching innovation and targeted instruction, thereby improving teaching quality. 3) High-Quality Teaching: New productivity emphasizes high-quality teaching output. University physical education teachers can better guide courses through new technology training and student fitness data support, achieving the goal of improving teaching quality.

Keywords

New Productivity, University Physical Education Teachers, Professional Development of Teachers, Teaching Innovation

1. Introduction

With the rapid evolution of the global economy and technology, higher education faces unprecedented challenges and opportunities. The concept of “new productivity,” first introduced by President Xi Jinping during his inspection in Heilongjiang, emphasizes technological innovation to enhance national competitiveness. This modern productivity concept focuses on innovation in technological and production elements and the deep transformation and upgrading of industries. It represents a shift from traditional productivity to a more advanced, efficient, and sustainable form. This concept aligns with the notion of high-quality teaching in university physical education. It not only responds to the need for improved educational quality and efficiency but also promotes innovation in teaching methods and practices (People’s Daily, 2023). This study aims to explore how new productivity stimulates reforms in university sports education and the professional growth of teachers, analyze its relationship with modern physical education demands, and examine how technological innovation and teaching method reforms can enhance teaching efficiency and quality, thereby promoting overall educational quality improvement (Liu, 2023).

2. Analysis of the Concept of New Productivity and Its Educational Value

2.1. Definition and Connotation of New Productivity

New productivity is a modern concept that emphasizes advanced structure, high-tech levels, efficiency, and sustainability. This concept reflects revolutionary

breakthroughs in technology and innovative configuration of production elements, encompassing the deep transformation and upgrading of industries. By integrating technological innovation and optimizing labor elements, new productivity significantly enhances total factor productivity, marking a transition from traditional productivity to a more advanced, efficient, and sustainable form, with innovation at its core, in line with new development concepts. In education, the integration of new productivity is crucial. The education system must adapt to this new form of productivity, characterized by high technology, efficiency, and quality, driving innovations in educational models and quality (Chen, Chen, & Lin, 2020).

The promotion of new productivity opens new possibilities for achieving educational equity. Through the dissemination of technology and the digitization of educational resources, it becomes possible to bridge educational gaps between urban and rural areas and different social groups. This technology-driven sharing and optimization of educational resources are expected to elevate overall educational levels across society, achieving true educational equity (Abdelrahman, Wang, & Nunes, 2023). Teachers must not only master traditional teaching skills but also be able to innovate in teaching and curriculum design using new technologies (He & Cao, 2015). Additionally, educational policymakers and administrators must develop new evaluation and quality assurance methods that align with this new productivity to ensure that educational outcomes meet the demands of the new era (Wang, 2006).

2.2. Enhancement of Education System Efficiency

New productivity plays a decisive role in enhancing the efficiency of the education system. With the integration of new technologies, the education system is transforming from traditional models to modernized forms, where the widespread use of information technology and digital tools significantly improves the efficiency of teaching and learning. Intelligent learning platforms and online educational resources make the learning process more personalized and flexible, allowing for innovation in educational content and methods that meet the diverse and ever-changing needs of modern society (Liu, 2022).

The promotion of new productivity not only improves the operational efficiency of the education system but also significantly enhances the overall quality of education. By introducing efficient educational technologies and methods, such as Virtual Reality (VR), Augmented Reality (AR), and Artificial Intelligence (AI), educators can provide richer and more interactive learning experiences. These technologies help students better understand complex concepts and skills, thereby improving learning outcomes. Additionally, the use of big data analysis tools allows educators to accurately assess student progress and outcomes, enabling timely adjustments to teaching strategies to ensure continuous improvement in educational quality (Shin, Cho, & Kim, 2021).

3. The Impact of New Productivity on the Professional Development of University Physical Education Teachers

3.1. Theoretical Framework and Its Influence on Teaching Strategies

3.1.1. Interpretation of the Educational Concept of New Productivity

The core of new productivity lies in promoting technological innovation and the renewal of educational methods. This innovation is not only reflected in technology but also in how these technologies are utilized to improve teaching methods and content. For university physical education teachers, this means that existing teaching strategies must be reformed to adapt to the possibilities brought by new technologies (Huo, 2013). The concept of new productivity prompts physical education teachers to rethink their teaching methods, emphasizing creative thinking and student-centered learning environments. Students can practice and improve their sports skills in a controlled environment while increasing interaction and engagement. The introduction of such technology not only enhances classroom interaction but also enables students to experience more realistic sports scenarios, effectively improving their motivation and engagement in learning (Huo, 2012). New productivity also requires teachers to utilize data analysis tools to assess students' learning outcomes and sports performance. This data-driven teaching approach allows teachers to accurately understand each student's needs and progress, providing personalized feedback and guidance. By tracking student performance in real-time, teachers can adjust teaching strategies and optimize the teaching process, making it more efficient and targeted (Zhang, 2023). Moreover, the promotion of new productivity has led to a deep update of educational content. Physical education teachers are encouraged to develop courses that include diverse learning paths, aiming to enhance students' physical abilities while also strengthening their mental and social skills. In this way, education is no longer just about imparting skills but also about cultivating comprehensive abilities (Dai, 2024).

3.1.2. Theoretical Support for Implementing New Teaching Strategies

New productivity, as the driving force for educational innovation, brings unprecedented opportunities for change in teaching strategies for university physical education teachers. Driven by new productivity, physical education is no longer just the transfer of skills and knowledge but also the cultivation of innovation and problem-solving abilities. This shift emphasizes that the innovation of teaching strategies must be based on theoretical support to effectively promote the comprehensive development of students (Xi, 2021). The innovation-driven education advocated by new productivity prompts physical education teachers to shift from traditional teaching models to more flexible and interactive teaching methods. Physical education teachers can create simulated sports activity environments, enhancing students' experience and participation. The application of such technology not only provides students with a realistic sports experience in terms of vision and perception but also allows them to learn complex sports skills in a safe environment, thereby improving the effectiveness and efficiency of teaching

(Calabuig-Moreno, González-Serrano, Fombona et al., 2020). New productivity emphasizes a student-centered education model, promoting personalized and customized teaching in physical education. Through data analysis and intelligent learning systems, physical education teachers can develop personalized training plans and teaching strategies based on students' specific needs and learning progress, adjusting teaching content in real-time to ensure that each student achieves the best learning outcomes in the most suitable environment (Li & Shao, 2014). Additionally, new productivity promotes the professional development of physical education teachers. Under the concept of new productivity, physical education teachers not only need to master teaching skills but also need to have the ability to apply technology, think innovatively, and engage in continuous learning. This requires that the training and development mechanisms for physical education teachers must also innovate, strengthening lifelong learning and professional development for teachers, enabling them to continuously progress and adapt in the rapidly changing educational environment (Wang & Wu, 2023).

3.2. The Promotion of Teacher Professional Development by the Concept of New Productivity

3.2.1. Pathways for Professional Skill Enhancement

The core of new productivity lies in promoting the enhancement of university physical education teachers' professional skills through innovative and efficient teaching methods. In this process, teachers must not only adapt to rapid technological changes but also continuously improve their professional skills and teaching quality through ongoing learning and practice.

On one hand, new productivity emphasizes the importance of continuous learning and professional development. Through professional training and online learning platforms, physical education teachers can continuously update their knowledge and skills. For example, participating in workshops and training courses on new teaching technologies helps teachers master the latest educational tools and improve their ability to solve practical teaching problems. Additionally, teachers can engage in online forums and social media groups to exchange teaching experiences and strategies with other educators, thereby continuously improving their teaching levels (Murtagh, Calderón, Scanlon et al., 2023).

On the other hand, new productivity also promotes the diversification of teachers' career paths. With the development of educational technology, physical education teachers are not only classroom instructors but also developers and managers of online courses. They can participate in various aspects of course design, textbook development, and student evaluation, which not only expands their professional skills but also provides them with more career development opportunities (Zhang, 2013).

3.2.2. Strategies for Teacher Evaluation and Self-Improvement

The introduction of new productivity has not only changed the teaching model in physical education but also deeply influenced the ways in which teachers evaluate

themselves and pursue professional development. In this new teaching environment, teachers' self-improvement has become more data- and outcome-driven, with a greater focus on continuous professional development (He & Luo, 2019).

On one hand, teachers' self-evaluation methods have evolved from traditional reflective practices and peer reviews to more systematic and technology-driven processes. Digital tools help teachers identify strengths and weaknesses in their teaching and provide personalized improvement suggestions, allowing teachers to adjust teaching strategies more precisely to meet students' needs and learning styles (Gong & Li, 2000).

On the other hand, new productivity encourages teachers to actively participate in professional development activities. Through online platforms and educational technology, teachers can attend various online seminars, workshops, and certification courses, making professional development more accessible and motivating. Teachers must proactively explore and engage in professional development activities to acquire the latest educational resources and teaching methods, share experiences with other educators, and continuously improve teaching quality and professional skills. Additionally, the perspective of new productivity allows teachers to expand their professional networks using a wide range of online resources. By participating in educational communities and professional forums, teachers can exchange experiences with peers nationwide and even globally, share best practices, and enhance their sense of professional identity and belonging. Such exchanges and collaborations help teachers build a supportive professional network and enhance their professional competitiveness (Ji & Ma, 2019).

4. Empowerment Strategies and Implementation Paths

4.1. Top-Level Design and Policy Support

In the context of modern educational development, top-level design and policy support for new productivity are crucial as they provide the necessary guidance and resources for educational innovation and development. Top-level design involves formulating strategic guidelines, policy frameworks, and development plans, which are key factors. Top-level design is crucial for aligning all educational activities with national long-term educational goals and social needs. Clear policy directions and strategic planning effectively concentrate resources and optimize resource allocation, enhancing the overall efficiency of the education system and its ability to respond to market changes. Additionally, top-level design supports the establishment of a comprehensive evaluation and feedback mechanism, essential for continuously improving education quality and outcomes.

Policy support plays a core role in promoting the development of new productivity in education. Governments can incentivize educational institutions and individuals to invest in new technologies and innovative teaching methods through tax incentives, R&D subsidies, professional training, and other measures. These initiatives not only increase the adaptability and diversity of education but also

help the education system better meet the evolving demands of society and the economy.

4.2. Resource Integration and Technology Application

The concept of new productivity emphasizes technological innovation and the comprehensive integration of educational resources to drive educational innovation. This involves optimizing educational materials, technological equipment, faculty, and research funding, creating an efficient resource allocation model that ensures high-quality resources reach broader regions, particularly remote and economically underdeveloped areas, to reduce educational inequality. Through the establishment of educational centers and sharing platforms, as well as inter-school collaboration projects, the quality of education and knowledge updates can be enhanced. The application of technology, such as intelligent learning systems, enhances educational interactivity. However, challenges related to the widespread adoption of technology, matching of faculty, and continuous updates must be addressed to ensure the effective and sustainable use of educational technology, ultimately promoting the modernization and quality improvement of the education sector.

5. Summary

The concept of new productivity has profoundly impacted the professional development of university physical education teachers, driving innovation in teaching methods and technology, thereby improving teaching quality and efficiency. Specifically, this concept emphasizes the importance of innovation, manifested in technological advancements and updates in educational methods. Physical education teachers employ VR and AR technologies to simulate sports activities, enhancing learning interactivity and helping students better understand and master complex sports skills. Additionally, the use of intelligent teaching management systems and data analysis tools enables teachers to track students' performance in real-time and adjust teaching strategies promptly, improving educational efficiency. This technological support enhances the flexibility and responsiveness of teaching activities, optimizing the teaching process. Through these innovations, teachers can provide personalized teaching that meets the learning styles and progress of different students, thereby improving the quality of teaching outcomes and student satisfaction. Furthermore, new productivity emphasizes the enhancement of teaching quality, with physical education teachers using professional assessment tools to improve course content and teaching quality, promoting the comprehensive development of students' physical and mental health. These changes and improvements not only enhance the overall effectiveness of teaching but also strengthen teachers' professional abilities, enabling them to better meet the challenges of modern education.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- Abdelrahman, G., Wang, Q., & Nunes, B. (2023). Knowledge Tracing: A Survey. *ACM Computing Surveys*, 55, 1-37. <https://doi.org/10.1145/3536221>
- Calabuig-Moreno, F., González-Serrano, M. H., Fombona, J., & García-Tascón, M. (2020). The Emergence of Technology in Physical Education: A General Bibliometric Analysis with a Focus on Virtual and Augmented Reality. *Sustainability*, 12, Article No. 2728. <https://doi.org/10.3390/su12072728>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. *IEEE Access*, 8, 75264-75278. <https://doi.org/10.1109/access.2020.2988510>
- Dai, Y. (2024). Development of Innovative Methods in University Physical Education in the New Era—A Review of Methodology of Innovation in University Physical Education. *Yangtze River*, 55, 266-267.
- Gong, J., & Li, X. (2000). A Discussion on Constructing an Innovation System for University Physical Education Teaching. *Journal of Sport Science*, No. 3, 22-24.
- He, B., & Cao, Y. (2015). SPOC: Innovation of Teaching Process Based on MOOC. *China Educational Technology*, No. 3, 22-29.
- He, T., & Luo, Q. (2019). A Review of Motion Capture Technology and Its Application in Sports. *Electronic Measurement Technology*, 42, 140-146.
- Huo, J. (2012). Research on the Theory and Practice of Physical Education Teaching Methods under the Concept of Innovative Education. *Educational Science*, 22, 33-45.
- Huo, J. (2013). Research on the Implementation and Innovation of Physical Education Teaching Methods. *Journal of Beijing Sport University*, 36, 84-90.
- Ji, L., & Ma, D. (2019). School Physical Education Reform and Development in China in the New Era. *Journal of Sport Science*, 39, 3-12.
- Li, Q., & Shao, W. (2014). The Significance and Implementation Strategies of Adhering to the “Student-Centered Development” Concept in Physical Education Curriculum. *Journal of Sport Science*, 34, 15-23.
- Liu, G. (2022). Physical Education Resource Information Management System Based on Big Data Artificial Intelligence. *Mobile Information Systems*, 2022, Article ID: 3719870. <https://doi.org/10.1155/2022/3719870>
- Liu, Y. (2023). Deeply Understand and Grasp the Core Meaning of Developing New Productivity. *Red Flag Manuscript*, No. 24, 20-22.
- Murtagh, E. M., Calderón, A., Scanlon, D., & MacPhail, A. (2023). Online Teaching and Learning in Physical Education Teacher Education: A Mixed Studies Review of Literature. *European Physical Education Review*, 29, 369-388. <https://doi.org/10.1177/1356336x231155793>
- People's Daily (2023, September 9). Firmly Grasp the Strategic Positioning within the National Development Framework and Strive to Create a New Situation of High-Quality Development in Heilongjiang [Newspaper]. *People's Daily*, p. 1.
- Shin, S., Cho, J., & Kim, S. (2021). Jumble: Interactive Contents for the Virtual Physical Education Classroom in the Pandemic Era. In *Augmented Humans Conference 2021* (pp. 268-270). ACM. <https://doi.org/10.1145/3458709.3458964>
- Wang, L., & Wu, B. (2023). The Connotation, Significance, and Future Prospects of Smart Sports—A Review of Research on Innovation in University Smart Sports Services under the Modernization Context. *Chinese Journal of Education*, No. 3, 158.
- Wang, X. (2006). Research on the Development of Teachers' Teaching Ability from the Perspective of Curriculum Reform. *Educational Development Research*, 36, 45-50.

- Xi, J. (2021). Grasping the New Development Stage, Implementing the New Development Concept, and Building a New Development Pattern. *Contemporary Party Members*, No. 10, 3-9.
- Zhang, L. (2023). Research on Innovation of Physical Education Teaching Methods in Chinese Universities—A Review of Exploration and Practical Research on the Theory of University Physical Education Teaching. *Educational Development Research*, 43, 2.
- Zhang, X. (2013). The Value Choices of Physical Education Curriculum Reform in Basic Education in China in the New Century. *Journal of Physical Education*, 20, 49-53.