Quality Enhancement of Physical Education in Chinese Universities from the Perspective of the Supply-side Structural Reform

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Abstract
The overall characteristics of higher education in China have been transformed from extensible development to connotative development, which is consistent with the core content of improving quality and effect in the strategy of supply-side structural reform. In response to the current dilemma of the supply-side output of physical education in Chinese universities, it calls for a balance between the demand and supply for higher physical education. In terms of exploring factors that contribute to a high-quality supply system from the perspective of supply-side structural reform, the supplier, the content, the mode, and the conditions of the supply side is supposed to be optimized by improving the teaching abilities of the leading suppliers, optimizing the output of the supply content, facilitating a collaborative supply model, and expanding the online supply field. Accordingly, the coordinated and unified development of the supply and demand of physical education for college students can be promoted, to enhance the quality of physical education in Chinese universities.

Keywords: physical education, the quality of higher education, the supply-side structural reform

1. Background
The supply-side structural reform, which was proposed and put into effect by the Communist Party of China (CPC) Central Committee in 2015, increased the economic growth of China while supporting the global economic recovery. It did this by addressing the imbalance between supply and demand, which was the root cause of the deflationary tendency. The goal of “the supply-side structural reform” is to ensure that the economy is running smoothly and efficiently by reducing unnecessary and low-end supply while simultaneously increasing aggregate demand. It also aims at improving the quality of efficiency, medium to high-end production on the supply side (Xi, 2015). Once “The supply-side structural reform” was proposed, it became a hot topic of concern in current affairs, media and even academia. The relative balance between the supply and demand sides in pursuing their respective maximal advantages and efficiency is referred to as “the supply-side structural reform” in the economics area (Liu et al., 2022). The world is currently undergoing a process of economic globalization and informatization, and the global flow of resources, technology, and capital has sparked
an international talent exchange as well as competition and cooperation. Throughout the social system, the economy and education is closely linked, and any change in economic policy will inevitably have repercussions on education as well. Thus the economic strategy of supply-side structural reform also applies to the realm of education (Agasisti & Bertolotti, 2020). The concept of “the supply-side structural reform” contributes new ideas to enhancing the physical education in Chinese universities within the broader reform context.

2. Dilemma: The demand and supply for Chinese physical education is imbalanced

At the National Education Conference in September 2018, General Secretary Xi Jinping attached great importance to the necessity to create an education system that cultivates the moral, intellectual, physical, aesthetic, and labor growth of students in their whole as well as higher-level talent nurturing (Xi, 2018). The “Educating Five Domains Simultaneously” system of moral, intellectual, physical, aesthetic, and labor development is the value appeal of educational reform and talent development in colleges and universities, pointing out the educational purpose of the all-round development of individuals with depth within disciplines, integration between disciplines, and penetration in practice. In terms of the status of the “Educating Five Domains Simultaneously” system, moral, intellectual, physical, aesthetic, and labor education is equal; each educational domain undertakes different nurturing functions due to its uniqueness, among which physical education in Chinese colleges and universities is the quality-oriented education to cultivate the all-round development of individuals, and is the main link to improve the physical health of college students, which directly affects the quality of talent training in colleges and universities. In order to promote the positive development of physical education fundamentally and strengthen the comprehensive quality of physical education, it is indispensable to pay attention to the reform of physical education in colleges and universities from a deep level.

Similar to the economic reform, the demand-side and supply-side reform follows two distinct logical paths in higher physical education. Although the fundamental ideas and principles are the same, the emphasis placed on techniques and components varies, with the former emphasizing aggregate issues and the latter, structural issues. China has actively promoted the demand policy orientation with the domestic demand as the primary strategy in the past, and has achieved significant results. However, it has also led to a series of structural issues, namely three: firstly, the unreasonable ratio between physical education input and consumption; secondly, the unreasonable distribution structure; thirdly, the unreasonable structure of total demand (Ye & Chen, 2017). We can examine the structural inconsistencies of higher physical education in China under the new normal from the supply and demand standpoint. Historically, we continued to increase demand through various strategies, which to some extent, worsened the overcapacity. In contrast, the supply-demand relationship clearly showed that the supply was greater than the demand because the effective demand was still insufficient. The overall characteristics of higher education in China have been transformed from extensible development to connotative development (Jin, 2018). The reform of physical education in Chinese universities urgently needs to enter the stage of “improving quality and increasing efficiency”, which involves significantly modifying the supply structure, optimizing the structure of physical education, and allocating educational resources.

3. Rationale: Factors contributing to supply quality of higher physical education

According to economic theory, the supply is the main aspect of contradiction, all products and services are composed of the supply and demand, and the same applies to higher physical education (Castro et al., 2014). It is the internal logic of university development to highlight the output side and pursue quality, it is also the basic logic that must be followed in the supply-side structural reform.

Currently, humanities education is neglected in physical courses in Chinese universities as seen by the overemphasis placed on improving students’ sporting competence rather than humanities education (Han, 2005). Students’ performance on the curriculum is frequently evaluated based on their athletic prowess, inspiring them to commit themselves to great practice and competition. Students are more susceptible to serious utilitarianism and even warped value orientation as a result of limited or regimented schooling that does not adequately develop students’ innovative, practical, self-learning, social adaptation, and reshaping skills. To ensure that the “supply side” and the “demand side” pursue their respective maximum interests and benefits, a relative balance between the two is urgently required. Following a review of the pertinent studies, it was determined that the “supply side” of higher physical education primarily consists of four basic components: the supplier, the content of supply, the mode of supply, and the conditions of supply (Shi, 2016). In order to enhance the effectiveness and quality of the supply side of higher physical education, it is crucial to concentrate on the output conundrum of the supply side and recommend the appropriate solutions.
3.1 Who – The ideological and political awareness of the supplier is insufficient

The fundamental objective of higher physical education in the new era is to cultivate physical talents with both a high scientific and technical level of physical education and a high cultural quality. In the restructuring of the main body of educational activities, the most important thing to focus on is the educators, to strengthen the guidance and cultivation of their nurturing awareness, and to give full play to their subjectivity and creativity in order to improve the quality of supply of physical courses for nurturing students effectively. Physical education instructors still strongly emphasize teaching technical skills of sports while instructing physical education courses in Chinese universities. The teaching of cultural knowledge, ideologies, and values, in contrast, is notably weak in sports programs.

Related scholars performed a questionnaire study and in-depth interviews among 1,860 physical education teachers from Chinese universities (Dong et al., 2022). It was found that 47.8% of these teachers do not have time to carry out the physical course on the ideological and political dimension, and 29.8% of them believe that teaching physical course from the ideological and political perspective is a “dismemberment” of professional courses and affects the teaching progress. Related studies also claimed that most physical instructors hold the view that humanities education has a distinctive curriculum and that excellent instructors and counselors are responsible for it (Li et al., 2021). The teaching and development of specific technical skills should be attached to great importance to physical education courses. This situation mainly stems from the fact that teachers of professional courses have obstacles in understanding the main body of their own ideological and political education, coupled with the weak theoretical foundation knowledge of ideological and political education. As a result, they exhibit blatant instrumentalism in designing physical courses on ideological and political dimensions. They frequently overlook the fact that it is an organic combination of knowledge transfer and political education. According to related studies, ideological misunderstandings and concerns about the actual teaching process make the motivation of physical teachers for insufficient reform of physical courses on the ideological and political dimension (Zhao et al., 2020). This has a greater impact on the effectiveness of the “physical courses on the ideological and political dimension” of physical teachers in Chinese universities. The effective way to assist physical teachers in effectively fusing ideological and political education with the teaching of physical education curriculum, it is argued, is to improve their cognitive level of thinking.

3.2 What – The depth of the supplying content is superficial

The Outline for Building a Leading Sports Nation issued by the State Council in 2019, pointed out that teachers are the first person accountable for fostering the all-encompassing quality of students’ sports. Teachers must thoroughly explore the ideological elements in the physical education curriculum and transfer them to students with educational skills when teaching physical courses (GOSC of PRC, 2019).

The ideological elements are the crucial supply content of high-quality physical courses, and likewise the integration of these elements and resources directly affect the quality of physical education. “The objective of the course is to educate participants”. At present, there are still difficulties in excavating resources for nurturing ideological elements and insufficient innovation of practical pathways in the curriculum of college sports (Zhang, 2020). According to the results of relevant studies, 75.9% of physical teachers claimed that “the integration of the physical curriculum and the ideological and political dimension is rigid, too labeled, superficial and formalized”, and 31.2% of teachers said that the “it has no rules and regulations, and they do not know how to start” (Han, 2002). They need to be more adept when utilizing the ideological education elements in sports programs due to the bias of the supplying subjective teaching team’s awareness of nurturing students and their lack of the comprehension of physical course on the ideological and political dimension. Some physical education teachers are subjectively aware of the need to play the nurturing function of professional courses, but they lack the ability to explore and transform the implicit ideological educational elements in professional courses (Wang, 2022). During the teaching process, the straightforward integration of ideological and political education and physical education courses easily occur, detaching them from their intended goal of “educating people with physical education”.

3.3 How – The mode of educational supply calls for innovation

Higher education is a complex operating system, based on Harken’s synergy theory, the interaction between subsystems is non-linear, and the final nurturing effect is contributed by the joint action of each subsystem (Wu & Chen, 2022). China’s Education Modernization 2035 calls for the integration of moral education, intellectual education, physical education, aesthetic education, and labor education, which is referred to as “Educating Five Domains Simultaneously” (GOSC of PRC, 2019). The plan, which calls for the spontaneous fusion of moral, academic, physical, aesthetic, and vocational education, is not only an important requirement for the implementation of the fundamental task of educating individuals with moral values, but also a key pathway to achieve all-round development for
human beings and a demand of the times to build a high-quality curriculum system. The “Educating Five Domains Simultaneously” emphasizes the coordinated development of morality, intellect, physique, aesthetics and labour, and the PE curriculum is not only a vehicle for subject-specific education and talent training, but also has the implicit value for all-round development for human beings.

Other disciplines do not play the same fundamental and comprehensive function in the formation and development of human resources as physical education does. However, the reality is that physical education has long been neglected, and access to and feeling of professional identity among physical education teachers have not yet been improved. The task of “nurturing individuals” is sometimes assumed to be the responsibility of the teachers of ideological and political courses and has nothing to do with physical teachers, and failing to seize that nurturing students is a long-term systematic project (Lozano et al., 2013).

The essence of physical education is to improve students’ morality, intellect, physical fitness, aesthetic sense, and work ethic by using sports as a vehicle and form for achieving physical strength and mental health. There is no priority between “the five aspects of education”; and none of them can be completed by the teachers of the relevant subjects or courses or the educators of the relevant aspects alone (Brassler & Dettmers, 2017). This is the only way to bring the comprehensive nurturing function of subject knowledge and related courses into full play, and to truly realize the “the comprehensive education”.

3.4 When and where – The conditions of educational supply need to be optimized

The Internet has developed into a “new type of position” for education in universities since it is a “virtual field” of learning. For starters, with the rapid development of information technology, the conditions of physical education have shown the development trend of diversification and informatization, the educational structure has been improved and the form has become more complex. Higher physical education is particularly notable for its practical focus, and sports demonstrations and specifics are more suited for multimedia. As a result, higher education in physical education needs to understand the Internet as a frontier. Another reason is that physical education is now a mandatory component of higher education. The need for additional theoretical and scientific guidance on physical education in practice is growing along with the content of the related physical courses. Resources for physical education are being strained more and more in this situation, making it impossible to continue using the large-class consistent teaching paradigm (De Jong et al., 2013). In order to alleviate the problem of strained resources of physical education, it is necessary to rely on information technology and physical resources, promote the depth of the application of information technology in higher physical education, build an online platform for physical education, use networks to break the limitations of time and space, so as to improve the quality of physical education in Chinese universities.

4. Methods

The concepts of “Physical Courses on the Ideological and Political Dimension” and “the Supply-side Structural Reform” share some similarities, and the internal relationship between demand-side and supply-side reform of higher physical education is examined from the “supply-side” viewpoint that can successfully address the issue of “mismatch between supply and demand” in the delivery of physical education.

4.1 Improving the teaching abilities of the leading suppliers

In higher education, educators serve as both the carriers of knowledge and preachers of truth. The Guideline of Ideological and Political Curriculum Construction in Higher Education issued by the Ministry of Education requires that “the awareness and ability of teachers in teaching courses from the the ideological and political perspective should be raised” (MOE of PRC, 2020). To deepen the ideological and political recognition of professional course teachers are the prerequisite and foundation for promoting various courses on the ideological and political dimension in Chinese universities, and so does physical education.

A consciousness of how to educate should always be kept in mind for teachers. Each one should view the importance and necessity of education and teaching work from the political height of nurturing person for the whole society, and consciously take up the important mission of nurturing the new generation and must rely on the main line of “what kind of people to cultivate, how to cultivate people and for whom to cultivate people” in the teaching process to impart knowledge to students and cultivate their abilities. The main theme is “what kind of people to train, how to train people and for whom to train people”.

Besides, efforts should be made to improve the humanistic qualities of physical teachers. Make full use of channels such as pre-service training for the teaching staff, centralized learning by Party organization and online learning, innovate learning contents, methods and carriers, stimulate the endogenous motivation of teaching staff to study theories of ideology and politics, incorporate the
enhancement of the ability to educate people in thought and politics into teachers’ pre-service training, on-the-job training, and working ethic training, enhance the ability of teachers of professional courses to explore and transform the elements of the ideological and political education embedded in their courses, help them integrate these teaching resources into their classroom teaching, and stimulate the development of the humanities, and stimulate the emotional resonance of students. (Wang, 2022).

4.2 Optimizing the output of the supply content
The purpose of the curriculum of physical education is to integrate the ideological and political education elements into the physical education curriculum, so that students can enhance their physical fitness while cultivating correct values and moral sentiments, thus optimizing and internalizing their self-discipline and ability structure, and ultimately promoting the overall free development of students (Sun & Xu, 2021). To improve the quality and efficiency of the supply of political content in physical courses, teachers are required to dig deep into the implicit educational resources and enhance the artistry of their teaching abilities, to infiltrate the ideological and political elements into the teaching sessions of physical courses, so that students can be guided and influenced by the implicit thought in an invisible way. Because of its practical, interesting, and infectious characteristics, physical education contains more nurturing elements than other disciplines, and can be explored in two ways.
For one thing, we can dig deeper into the nurturing elements in the existing curriculum. Currently, the supply of physical education content in colleges and universities is mainly based on traditional sports, but each sport has unique teaching contents and forms, and contains unique project essence, cultural characteristics, ideologies, and value connotations, which is also multi-dimensional and multi-level. Teachers should combine the goal of integrating ideological and political education to build a perfect teaching mode of physical courses, and infiltrate the implicit educational elements into the activities of ideological and political education, realize the integration of implicit and explicit educational resources, mobilize the enthusiasm and motivation of students in the teaching process, realize the objectives of physical education courses. For instance, instructors can divide all students into several equal-sized learning groups, to arouse the awareness of cooperation and sense of group honor while also exploring students’ potential. The educational exercises are meant to develop the students’ sense of teamwork and respect for the whole.
For another, keeping the course teaching and educational resources updated is needed. According to the idea of staying current, the ideological and political materials that are suitable for teaching college physical courses are likely to be selected from the hot topics of current affairs, and the design of the physical curriculum is provided with timely updates to enhance the quality of higher physical education (Huang, 2022).
For example, traditional exercises such as “Ba Duan Jin” and “Chinese Medicine Exercise” with Chinese cultural characteristics can not only enhance students’ physical fitness, but also enable them to understand the essence of Chinese traditional culture, which has a positive impact on the transmission of traditional culture.
In addition, when teaching the techniques of sports in the basic teaching session, make full use of the numerous examples provided by competitive sports champions as well as the compelling cases to explain and introduce the background information for each gold medal. Su Bingtian, for instance, who is not in good physical condition, is a role model of persistence and diligence.

4.3 Facilitating a collaborative supply model
The formation of an educational community, a comprehensive educational environment, and a social organism through emotions, habits, memories, geography, and spirituality are the fundamental requirements of education (Tonies, 2010). Allocation issues have prevented the practical improvement of educational standards and the effective release of the vitality of higher physical education, leading to structural and unresolved issues on the supply side of higher physical education. The value of college physical education can be strengthened by applying the Synergy Theory of Hacken (1971) to the design of higher education and managing the synergistic operation process among various subsystem fields, as well as giving full play to the “physical cultivation” “mental cultivation” and “mind cultivation” of physical courses in Chinese universities.
For this reason, universities should deepen the reform of teaching, actively create a comprehensive talent training system, and improve the quality of talent training on all fronts.
- Improving the construction of sports disciplines on the ideological and political dimension
The nurturing value, curriculum design, course objectives, teaching content, teaching implementation, and evaluation of the ideological and political framework of physical courses are the primary concerns that still require unified understanding. In order to enhance the individual multi-sense of participation and professional identity of PE teachers, and enhance the construction of sports disciplines, colleges and universities should actively improve the construction of the ideological and political evaluation of
physical education as well as carrying out the theories of the ideological and political teaching and skill teaching and teaching evaluation (Zhang & Wang, 2022).

- Integrating interdisciplinary teaching resources
With the resources of the subject of ideological and political education, actively carry out teaching seminars among subject teachers, provide training and further training opportunities for the physical teaching team, help them to explore the resources of ideology and politics in physical education and enrich the teaching elements of ideological and political education in physical courses, and at the same time enrich library resources, increase the literature resources of physical education literature and history, to provide material resources to guarantee the condensation of ideological and political elements in courses of sports.

- Engaging in humanistic sports activities actively
Physical education can be combined with universally exemplary traditional culture by using the students’ preferred method of engaging in humanistic sports activities (Hills et al., 2015). For instance, during the opening and closing ceremonies of sporting events, traditional sports events such as t’ai chi ch’uan, lion dance, and other performances can be seen, allowing students to “learn to do” and “do to learn”. They can increase their confidence in the spirit and culture of Chinese sports while learning about the humanities of sports, appreciating the science and rigor of sports laws, and gaining life experience and self-awareness.

4.4 Expanding the online supply field
The Working Formulation for Promoting the Construction of the “Comprehensive Ideological and Political Curriculum” in all respects stresses the need for building an educational platform within abundant resources, positions “Comprehensive Ideological and Political Curriculum” in the prominent position of education informatization, and actively promotes the construction of national innovative education platform (MOE of PRC, 2022). Higher physical education should take advantage of the strategic opportunity presented by the growth of digital education, maximize the supply of online educational resources, and promote online education in order to keep up with the development of new educational models and gain ground in the online supply market. The overlapping consensus theory proposed by Rawls (1972) aims at resolving rational differences and ensuring the good order of the democratic society in response to the fact of rational pluralism (McKenna, 2015). With the idea of overlapping consensus, in the current online environment where multiple opinions coexist, measures to intervene in online public opinion can effectively strengthen the mainstream of nurturing culture.

For one thing, the various models of physical education should be activated. The traditional physical teaching mode is mainly an unilateral explanation and demonstration by teachers, and students learn and practice simultaneously by imitating the technical movements done by the teacher, with relatively little effective practice time, which cannot meet the specific needs of students. It is obvious that the teaching process lacks independence, hierarchy, and relevance (Cavallo et al., 2012). The establishment of an online learning space for the course and the establishment of a whole-life linked teaching model for physical education can enable students to preview the exercise techniques they are going to learn before class and thus establish a clear learning objective. Students can also practice on their own based on the online exercises after class and meanwhile continue to share their learning experiences online with teachers, get timely feedback on their instructional strategies, which can enhance the initiative and enthusiasm of students for learning physical courses (Kuo et al., 2014).

For another, in line with the development trend of Internet technology, timely release and push of real-time notification and hot events information. In the daily management of physical education in universities, there are a lot of activities that need to be announced and notified promptly, through a special web announcement publishing platform, it can help teachers and students to keep abreast of the latest sports frontier information and course information, which not only helps to realize the information-based university sports management, but also can push timely details on hot events, such as the notification of physical examination standards, professional course work notifications of schedule arrangements, etc. The management of physical education can be substantially improved by using online learning platforms to analyze sports data swiftly and precisely.

5. Concluding remarks
Higher physical education is essential to the overall implementation of high-quality education and students’ fundamental qualities as a response to the current shortcomings of teachers’ perceptions of the concept of nurturing, the insufficient exploration and expansion of the value of nurturing, insufficient synergy of nurturing among subsystems, and the need to strengthen the construction of online positions. The main objective, “enhancing the quality of talent training” is the subject of intense concentration. We can effectively strengthen the efficacy of higher physical education through precisely improving the supply capacity of physical education, and realize the synergistic development of the supply and demand sides of higher physical education by improving the teaching abilities of the leading suppliers,
optimizing the output of the supply content, facilitating a collaborative supply model, and expanding the online supply field. The initiative intends to increase higher education physical education’s efficacy, expand its capacity for delivery, and create a positive feedback loop between the supply and demand sides of higher physical education.

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