



# Model for Promoting The Learning Physical Education for Medical Students of Medical College In Hunan Province The People's Republic of China

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## Abstract

**Background and Aim:** Medical students are in an important stage of physical and mental development, while also shouldering heavy academic tasks and university pressure. Prolonged sitting and excessive nutrition have led to the occurrence of overweight and obesity in high school students. Tall students are the reserve force for building the motherland, and their physical health not only affects their learning and life, but also affects the progress and development of the entire society. Due to the professional characteristics of medical colleges, physical education teaching has its particularities. The main manifestation is that trained medical talents not only need to possess solid professional knowledge and skills, but also need to have certain knowledge and abilities in physical health care, to provide correct guidance for patients' rehabilitation training or healthy physical exercise in their future medical careers. The purpose of the research is to describe the factors of poor physical quality of medical students under the background of epidemic situation, explore the variables needed to improve physical education from every Angle as much as possible, to establish a strategy model suitable for physical education in Medical College of Hunan Province, and provide scientific basis for further targeted improvement of medical students' physical health level.

**Materials and Methods:** The research content of this research is to explore the reasons why medical students do not like physical education classes, and to construct a model to promote medical students' physical education learning, to verify the model of medical schools promoting medical students' physical education learning. The research sample comes from five universities and is divided into three groups. The first group consisted of 397 students and 17 respondents, the second group was consulted by 17 experts using the Delphi method, and the third group was evaluated by 9 experts on the improvement model of physical education courses.

**Results:** (1) For student cultivation, it helps to cultivate medical talents with better physical and psychological qualities. To provide a reference for the reform of physical education courses in other medical colleges in course development. In terms of the integration of sports and medicine, it can promote the development of interdisciplinary fields such as sports rehabilitation; (2) The achievements of improving the physical education curriculum model in medical schools have broad prospects for future development; and (3) Improving the physical education curriculum model in medical schools can enhance the quality of talent cultivation and discipline construction.

**Conclusion:** Improving the physical education curriculum model in medical schools can deepen the integration of medical and physical education teaching, enhance students' professional qualities, improve their health management abilities, and promote the development of the sports industry. Therefore, improving the physical education curriculum model in medical schools has broad prospects for future development.

**Keywords:** Model for Promoting; Learning Physical Education; Medical Student; Medical College

## Introduction

In the new era, the Party and the state attach great importance to the physical health of students. In 2020, the country proposed the "Healthy China" strategy to comprehensively improve the national health level and to raise the national health level to the level of moderately developed countries. Under the advocacy and promotion of the government, the Healthy China Action has been fully launched, which not only improves residents' health awareness but also enhances their enthusiasm for physical exercise. Universities in Hunan Province have also joined the "Healthy China" movement and carried out various activities consistent with the movement.

The development of society, economy, science, and technology has led to the improvement of people's living standards, as well as the change in lifestyle and living habits, which has led to the rapid rise of the incidence rate of obesity among adolescents in China, and has become a serious social health problem. Constitution refers to the basic activity ability of the human body, which reflects the function of organ systems in muscle work. Good physical fitness is the foundation of students' learning and life (Hao Zhiwei, 2020). A study abroad has shown that enhancing muscle strength and endurance can reduce the risk of obesity, and good physical fitness may be a reliable predictor of disease risk, helping

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to prevent overweight and obesity in adolescents (Hu & Ji, 2021). Body Mass Index (BMI), also known as Body Mass Index. It is calculated based on the formula of height and weight, reflecting the relationship between weight and height, as well as the accumulation of fat in the human body, and has the characteristics of simplicity and practicality (Li, 2023). It can be used to assess overweight and obesity in adolescents, as abnormal BMI may affect the body's health level (Liu & Li, 2020). Through a sampling survey of medical students, it was found that their physical fitness has sharply declined (He, 2021). According to a survey conducted by researchers, it was found that students' interest in physical education classes is not as unsatisfactory as we usually imagine. Some students also revealed that they believe the school's sports facilities are poor, and there is a severe shortage of sports equipment and materials. This is also an important factor that constrains the development of students' interests. Many schools do not provide students with sufficient basic facilities such as basketball courts, football fields, and standard athletics fields, nor do they have enough equipment for students to use. Students are not interested in sports because the teacher's personal charm and teaching level are insufficient, which cannot arouse students' emotional investment. If there are problems with the teaching status of teachers, it is likely to give students a negative impression and gradually make them dislike physical education courses.

Therefore, this study explored the reasons for medical students' poor physical fitness and lack of interest in sports through a literature review, questionnaire survey, and expert interviews. This study aims to describe the factors contributing to the poor physical fitness of medical students under the background of the epidemic, explore as many variables as possible to improve physical education from various perspectives, establish a strategic model suitable for physical education at Hunan Medical College, and provide a scientific basis for further targeted improvement of medical students' physical fitness level.

## Objectives

- (1) To explore the situation of learning physical education for medical students in Hunan Province, the People's Republic of China
- (2) To construct a model for promoting the learning of physical education for medical students of the Medical College in Hunan Province. In Hunan Province, the People's Republic of China
- (3) To verify the model for promoting the learning of physical education for medical students of the Medical College in Hunan Province. In Hunan Province, the People's Republic of China

## Literature review

Joshi (2024: 4) suggested that improving students' physical fitness, including cardiovascular function, muscle strength, flexibility, coordination, etc.; Cultivating students' interest and habits in sports, and helping them establish a lifelong awareness of physical education; Enhancing students' teamwork spirit, competitiveness, and ability to withstand pressure; Based on the characteristics of the medical profession, carrying out targeted physical education teaching to improve students' professional physical fitness and health literacy. Zhang (2023) has suggested that, in terms of controlling, it is necessary to establish a comprehensive evaluation system and select diversified evaluation indicators. In addition to traditional sports skill assessments and physical fitness tests, it is necessary to increase evaluation indicators such as students' learning attitude, participation, and teamwork ability. It is also important to focus on process evaluation and incorporate students' classroom performance and extracurricular activities into the evaluation system. Finally, personalized evaluation is conducted based on individual differences and the progress of students, encouraging them to continuously improve on their existing foundation.

Zhang (2023) proposed that it is necessary to consider the comprehensiveness of the planned management content, including the comprehensive management of physical education teachers, students, teaching progress, venues, equipment and facilities, teaching documents, and teaching evaluations. Any inadequate management will affect the quality of teaching. Simultaneously considering the continuity of the management process, physical education teaching is a gradual process, and management also needs to follow this routine to maintain continuity, form and maintain a good teaching order, and ensure that teaching activities are carried out according to the teaching plan.





Chen and Li (2024) proposed that the timeliness of feedback needs to be managed in the plan, which means that physical education teaching management is a dynamic system influenced by multiple factors. During the operation process, it is necessary to obtain feedback information from all aspects and make adjustments to maintain the normal operation of the system and improve the utilization and efficiency of human, material, financial, venue, equipment, etc.

Wu & Ji (2023) proposed that organizational academic management should include developing classroom routines, arranging classes, scheduling schedules, and assigning teacher tasks. Institutionalized and standardized classroom routines are necessary conditions to ensure smooth classroom teaching. It is also necessary to organize classroom teaching management, put forward specific requirements for teacher lesson preparation, and conduct inspections and evaluations; Classroom management should create a good teaching environment for teachers and strengthen inspection and supervision; Classroom management requires teachers to finish classes on time, summarize, arrange homework, organize and tidy up the venue, and equipment hand, and propose tasks for the next class.

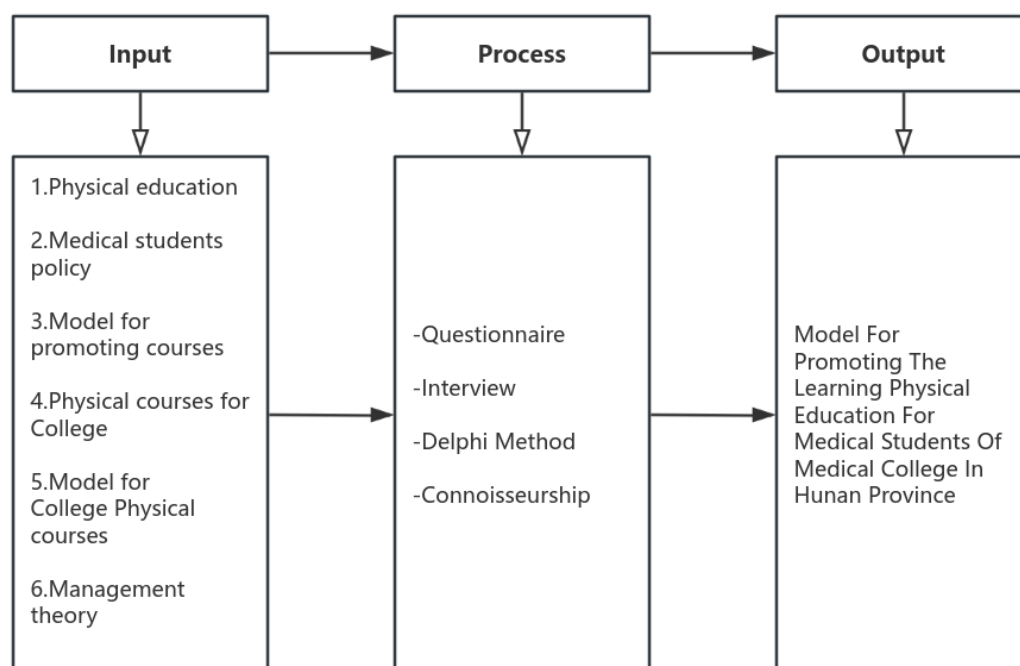
Wan (2019) mentioned that in organizing the management of accidental injuries and accidents, medical schools need to establish the awareness of "safety first, prevention first", ensure that sports teaching facilities meet safety standards, and regularly inspect and repair them; Carry out on-site handling and management, correctly determine the nature of the accident and provide first aid or medical treatment. Promptly notify relevant departments of major accidents and fill out reports.

Anoek et al. (2024) have mentioned that the management of physical education courses in universities requires first improving the management of teaching facilities and resources to ensure sufficient and high-quality sports venues, equipment and equipment, and regular maintenance and updates. Reasonably arrange the use of venues and equipment to improve resource utilization efficiency. Managers need to establish clear teaching quality standards and evaluation indicators. Teachers must carry out regular teaching inspections, listening and evaluating activities, and promptly provide feedback and address the problems that exist in teaching. Encourage students to participate in the design and evaluation of physical education courses, fully considering their interests and suggestions. Researchers can establish effective student feedback mechanisms to promptly address student opinions and demands.

#### Conceptual Framework

Zhang (2023) proposed considering the comprehensiveness of planning and management content. Chen and Li (2024) proposed that the timeliness of feedback needs to be managed in the plan. Wu et al (2023) proposed that organizational academic management should include developing classroom routines, arranging courses, scheduling schedules, and assigning teacher tasks. Hong (2018) suggests implementing quality management of physical education curricula in universities. Anoek et al. (2024) mentioned that establishing control management for university physical education courses can promptly address students' opinions and needs.

## Conceptual Framework



**Figure 1** Conceptual Framework

## Methodology

This research is mixed-method research between qualitative and quantitative research, with the following research methods:

### 1. The population and sample in the research include:

1.1 Population: There are a total of 397 professional students from Hunan Medical College, 5 universities in Hunan Province, and 17 experts in physical education courses from 5 medical colleges in Hunan Province.

1.2 Sample group: The 1st group of experts is teaching staff with over 10 years of teaching experience, all of whom have obtained master's degrees or higher. During the investigation, the researchers selected 8 physical education course experts for interviews, selected from 5 universities of Hunan Medical College, and conducted semi-structured interviews with 8 professors and researchers from Hunan Medical College in the form of phone calls, videos, WeChat, and emails. Necessary conversation records and audio, and video recordings without involving personal privacy were made. Starting from the current situation of the educational model of learning physical education for medical students and the teaching status of physical education courses in medical schools, this inquiry and discussion will be conducted. The 2nd group of experts consists of researchers and teaching managers with over 15 years of management experience, all of whom have obtained master's degrees or higher and hold professorial or higher titles. During the survey process, the researchers selected five physical education curriculum experts to conduct IOC recognition tests on whether the questionnaire content and research objectives were consistent. The tests were conducted from the aspects of whether the survey met the research objectives, whether the questions were clear and easy to understand, whether the content was reasonable, whether the writing style and language were consistent, and whether the questions and questionnaire were appropriate. The 3rd group of experts consists of teaching managers with over 10 years of experience, all of whom have obtained master's degrees or higher. During the survey, 17 physical education course experts were selected for the Delphi method research. The five-point scoring method was used to conduct in-depth research on the teaching methods of physical



education courses for medical students, the promotion of physical education courses for medical students, the characteristics of learning-oriented physical education for medical students, and the development trend of physical education teaching practice. The 4th group of experts is composed of physical education course teaching and research personnel with over 15 years of experience, all of whom hold doctoral degrees and professorial titles. In the final investigation and verification, the researchers selected 9 physical education course experts to conduct research and verification, and effectively validated and analyzed the promotion model of physical education course mode for clinical medical students in medical schools and The researchers organized it.

1.3 Target groups: The target group was 17 experts for consulting about the preliminary model for improving physical education courses in medical schools, using the Delphi method.

## **2. Research instruments: The researcher used a three-part survey questionnaire.**

Part 1: Overview.

Part 2: Variables for learning physical education for medical students.

Part 3: Suggestions and Supplementary Opinions (open-ended).

This tool, the model for promoting the learning of physical education for medical students, requires respondents to determine to what extent each statement reflects the variables. Each statement was measured using Likert's 5-point scale (Likert, 1932): 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree.

A high score on the scale indicated the positive levels of the model for promoting the learning of physical education for medical students of the Medical College in Hunan Province. As for measuring the items, a model for promoting the learning of physical education for medical students of the Medical College in Hunan Province was considered from the mean score of the answers arranged into five perception levels. The mean score was calculated by using the evaluation criteria of Best, which were classified into five levels.

Therefore, the range of the measurement score and the mean of the model for promoting the learning of physical education for medical students of Medical College in Hunan Province were classified into five perception levels of the model for promoting the learning of physical education for medical students of Medical College in Hunan Province. For the interpretation criteria to classify the mean score, the researcher used the measurement criteria according to the concept of Best (Best, 1997: 190). Details are below.

The instrument was developed from step (1) as a questionnaire. The quality of the questionnaires was assessed by content validity and reliability. For the content validity, it was checked by five experts and analyzed by Item-Objective Congruence (IOC). The item value was  $\geq 0.60$ . For the reliability, it was analyzed by Cronbach's Alpha at  $\geq 0.80$ . The content validity of this research questionnaire was examined by five experts to check the correctness and appropriateness of the language, content coverage, and content relevance of the research dimensions. The instrumental items were passively checked, validated, and lastly finalized based on the experts' recommendations as to the results of Item-Objective Congruence (IOC). Itemization presented its IOC between "0.60 – 1.00," which was relatively expected to be used in the research. As a result, a total of 53 variables were found, and the research instrument was a five-point rating scale questionnaire. Four items with scores below 0.6 were revised. On the other hand, the items that had scores higher than or equal to 0.6 were reserved. Thus, it was found that there were 50 items in the questionnaire. After the questionnaire was organized, the content validity (IOC) value was checked, resulting in an IOC of 0.87 (0.60-1.00).

The items for promoting the learning of physical education for medical students of the Medical College in Hunan Province were relatively employed to examine by a group of 17 experts as a pilot study from of college or university. Those questionnaires were not included in the research as the sample, and reliability was conducted using Cronbach's Alpha coefficient (Cronbach, 1970). The Cronbach's alpha coefficient of 0.60 or above was considered to be acceptable for this research, and the total reliability of questionnaire items with the indicated acceptable Cronbach's Alpha value was checked accordingly before the research site's initiative distribution. As a result, Cronbach's alpha coefficient was at 0.944, which can be used to describe the reliability of the questionnaire.

## **3. Data collection**

Included 1) collecting data from the original survey questionnaire, which is obtained through in-depth interviews with medical student groups and the use of questionnaires. 2) Secondary data refers to data obtained from collecting various documents, such as books, textbooks, academic files, research, and interviews with relevant experts.

#### 4. Data analysis

which includes data analysis divided into 5 parts: 1) Evaluate the content validity of the questionnaire and interview form through the utilization of the Program Validity Analysis method, employing the Indexes of Items of Objective Congruence (IOC=0.88). 2) Use computer analysis software to collect and organize the data obtained from the questionnaire. 3) Content analysis for interview method 4) Use the software package to analyze the data. 5) Content analysis for the Connoisseurship method.

#### 5. Statistics

Statistics used in the research include ready-made descriptive statistics programs, including percentages (Percentage), mean (Mean), and standard deviation (Standard Deviation).

### Results

1. The Current situation of learning physical education for medical students of the Medical College in Hunan Province.

This research conducts preliminary research and analysis through a literature review, and the researcher can see that, in terms of curriculum design, the trend of integrating sports and medicine is gradually emerging. To comprehensively understand the curriculum design and participation of students, influencing factors, and existing problems, this article will use the CIPP model to conduct a comprehensive analysis of the learning of physical education for medical students at the Medical College in Hunan Province. In terms of assessment and evaluation, the assessment methods are diverse. In addition to traditional sports skills assessment and theoretical exams, some medical colleges have also added assessment contents such as daily performance and classroom participation to more comprehensively evaluate students' physical education learning situation. The evaluation criteria are more scientific, and in the assessment and evaluation, more and more attention is paid to the individual differences and progress of students, encouraging them to continuously improve their physical education level based on their original foundation. Therefore, the current situation of student participation in the minds of experts still has shortcomings that need to be improved. Essentially, the learning physical education evaluation belongs to the category of educational evaluation. Since the introduction of educational evaluation in China in the 1980s, the CIPP model has provided curriculum decision-makers with a basis for improving the curriculum, filling the gap of the target model that focuses on evaluating the degree of achievement of curriculum goals. Overall, there are four steps: background evaluation, input evaluation, process evaluation, and outcome evaluation.

Context evaluation(C): Evaluate the background of a course or project and answer the question, "Why is this course being developed? Do the existing conditions for course development meet the requirements?"

Input evaluation(I): Evaluating the feasibility of a plan or proposal to ensure sufficient resources are available to achieve the objectives.

Process evaluation(P): Identify potential issues during implementation, provide feedback information, and ensure smooth execution of the plan.

Product evaluation(P): Evaluating the degree to which educational activities have achieved their goals and assessing the effectiveness of educational activities. This evaluation system was proposed by the renowned American education evaluation expert Staffelbeim in the 1960s and 1970s, aiming to provide comprehensive and holistic information to assist in determining program objectives, revising research plans, implementing programs, and assessing program implementation results.



**Table 1** The promoting model for learning physical education

Primary Indicators	Secondary Indicators	Secondary Endpoint
Context evaluation (Content)	Target analysis	Determine whether the course objectives meet the requirements
		Assess the alignment course and the training objectives.
	Need assessment	Understand requirements
		Analyze the requirements for quality and literacy.
Input evaluation (Input)	Teaching resources	Evaluate the teaching staff and educational background
		Assess the availability of the venue and equipment.
	Course Design	Analyze whether the course content is reasonable.
		Evaluate the difficulty level of the course.
Process evaluation (Process)	Teaching method	Observe effective methods
		Evaluate progress and provide feedback on status.
	Student engagement	Statistics on student attendance
		Assess classroom motivation
Product evaluation (Output)	Mastery of knowledge and skills	Assess the level of mastery of sports knowledge and skills among medical students.
	Improvement of physical fitness	Compare the physical fitness indicators of medical students at the beginning and end of the course.
	Attitude and behavior change	Investigate whether medical students' attitudes towards physical exercise have undergone positive changes.
		Observe whether there is a habit of continuous physical exercise.

2. The Preliminary model and Evaluation of the improvement mode for improving physical education courses in medical schools.

While drawing on the integration of sports disciplines and medical knowledge, management principles have long been divided into four functions: Planning, Organizing, Implementing, and Controlling (POIC framework) to help medical schools tackle the challenges of creative problem-solving. The four functions summarized in the POIC theory are highly integrated into the daily operations of research organizations.

Planning mentioned that the Medical School Physical Education Curriculum Plan Included Course Objectives, Course settings, etc.

Organizing mentioned that the organization of physical education classes in medical schools included Course planning, Teaching preparation, Student grouping, etc.

Implementing the proposed physical education curriculum in medical schools can start from the following aspects, including clarifying the course philosophy and objectives, as well as building an excellent teaching team etc.

Controlling proposed that controlling the connotation of physical education courses in medical schools, we can start from the following key aspects, including Health orientation, medical integration,



Professional competence cultivation, and Personalized Follow-up etc.

In this step, the researchers combined expert interview opinions with relevant questions from the questionnaire survey. To ensure the validity and reliability of the data collected through the Delphi method, experts evaluated the questionnaire and found that its quality was good and met the criteria for using the Delphi method, as shown in Table 2.

**Table 2** The results of the 17 expert group Delphi method.

No.	Indicators	N=17		Result	Remark
		Mdn.	IQR.		
Planning					
1.	Increase sports and rehabilitation programs	5	1	Keep	
2.	Introduce outdoor sports courses	4	1	Keep	
3.	Establishing traditional sports programs	4	1	Keep	
4.	Stratify based on physical fitness level and interest in sports	4	1	Keep	
5.	Provide personalized solutions for special groups	4	1	Keep	
6.	Promote communication and learning among students	5	1	Keep	
7.	Strengthen the professional training of teachers	4	1	Keep	
8.	Introduce professional coaches with medical backgrounds	4	2.5	Delete	Incorporate indicator 7
9.	Invite experts to train teachers	5	1	Keep	
10.	Increase investment in sports facilities	5	1	Keep	
11.	Regularly maintain and update sports facilities	5	1	Keep	
12.	Equipped with rehabilitation training equipment and devices	4	1	Keep	
Organizing					
13.	Combining medical cases	4	1	Keep	
14.	Organizing students to jointly complete sports projects and tasks	4	1	Keep	
15.	Organizing competition activities to stimulate competitive awareness	3	0.5	Delete	Incorporate indicator 14
16.	Organizing teachers to participate in academic exchanges	4	1	Keep	

Implementing





No.	Indicators	N=17		Result	Remark
		Mdn.	IQR.		
17.	Provide personalized solutions for special groups	4	1	Keep	Incorporate indicator 5
18.	Increase the proportion of theoretical courses	5	1	Keep	
19.	Develop athletic skills and self-protection abilities	4	1	Keep	
20.	Comprehensively evaluate students' learning outcomes	4	1	Keep	
21.	Adopting a combination of procedural and summative evaluation methods	4	1	Keep	
22.	Promote communication and learning among students	4	1	Keep	
Controlling					
23.	Provide personalized solutions for special groups	4	1	Keep	
24.	Increase the proportion of theoretical courses	5	1	Keep	
25.	Develop athletic skills and self-protection abilities	5	1	Keep	
26.	Combining medical cases	3	0.5	delete	
27.	Combining Sports Injury cases	5	1	Keep	
28.	Comprehensively evaluate students' learning outcomes	5	1	Keep	Incorporate indicator 20
29.	Adopting a combination of procedural and summative evaluation methods	4	1	Keep	
30.	Promote communication and learning among students	4	1	Keep	Incorporate indicator 6
31.	Strengthen the professional training of teachers	5	1	Keep	Incorporate indicator 7
32.	Introduce professional coaches with medical backgrounds	4	2.5	Delete	Incorporate indicator 31
33.	Invite experts to train teachers	5	1	Keep	
34.	Increase investment in sports facilities	4	1	Keep	
35.	Combining the characteristics of the medical profession	2	1	Delete	

In summary, by incorporating 15 components to improve the physical education curriculum model mentioned above, researchers can better meet the needs of medical students at Hunan Medical College, enhance their physical fitness and comprehensive abilities, and cultivate outstanding talents for the future medical industry.

**Table 3** Components of the model for promoting the learning of physical education

No.	Components of the model for promoting the learning of physical education
1.	Increase sports and rehabilitation programs.
2.	Introduce outdoor sports courses.
3.	Establishing traditional sports programs
4.	Stratify based on physical fitness level and interest in sports.
5.	Increase the proportion of theoretical courses.
6.	Develop athletic skills and self-protection abilities.
7.	Combining Sports Injury cases
8.	Organize students to jointly complete sports projects and tasks.
9.	Adopting a combination of procedural and summative evaluation methods
10.	Understand their strengths and weaknesses.
11.	Organize teachers to participate in academic exchanges.
12.	Invite experts to train teachers.
13.	Increase investment in sports facilities.
14.	Regularly maintain and update sports facilities.
15.	Equipped with rehabilitation training equipment and devices

3. Confirm the model for promoting the learning of physical education for medical students of the Medical College in Hunan Province by the connoisseurship method.

In the third part of this study, the researchers validated the physical education curriculum model of medical students at Hunan Medical College using the appraiser method with 9 experts, including physical education experts, university physical education teachers, and professors. Researchers posed the following questions to 9 experts:

1. How can to better combine the characteristics of the medical profession to design physical education curriculum content, so that students can truly experience the auxiliary role of sports in medicine?

2. How to ensure that physical education teachers have sufficient medical knowledge to better guide medical students in teaching?

3. With the development of technology, what emerging physical education teaching methods can be applied to medical students' physical education courses?

According to the opinions of 9 experts (connoisseurship), the results of the seminar are as follows:

#### **Suggestion 1:**

(1) This model can integrate rehabilitation training into physical education courses, such as designing specific stretching and strength training movements for common muscle strain areas, allowing students to understand how to prevent and alleviate these problems through physical exercise.

(2) This model can combine medical cases to explain the preventive effect of exercise on specific diseases, such as reducing the risk of cardiovascular disease through aerobic exercise. (3) This model can arrange physical fitness training in simulated medical scenarios, such as endurance and strength training required for transporting patients, long-term standing surgeries, etc.

#### **Suggestion 2:**

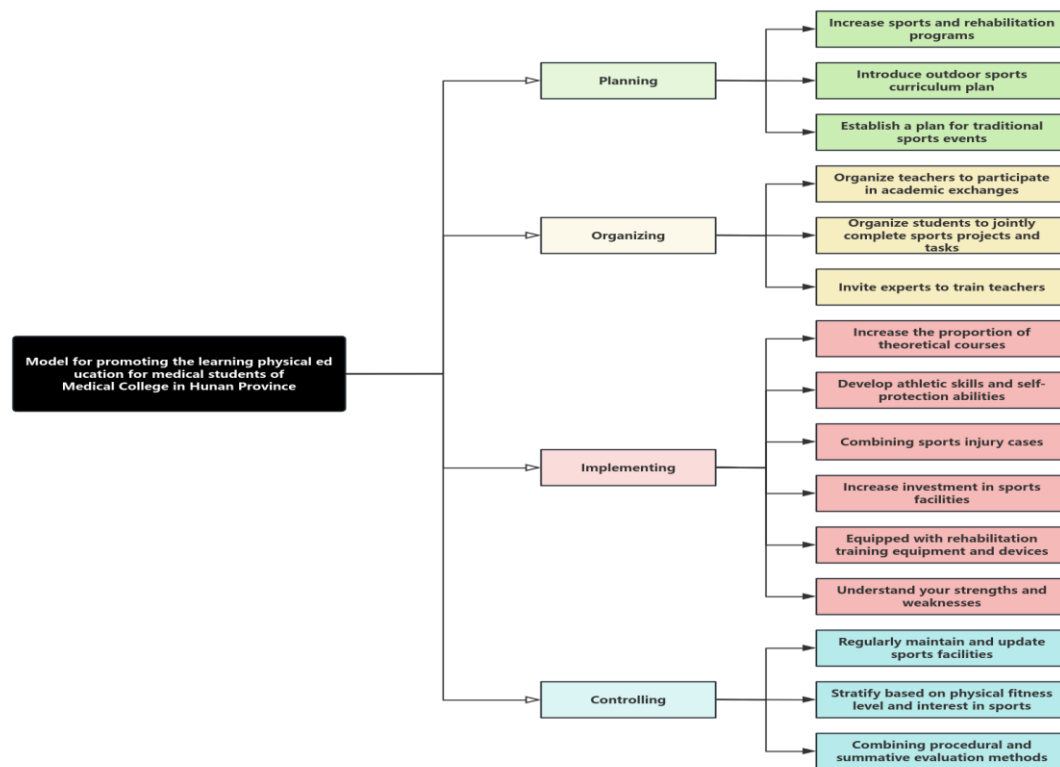
(1) his model can provide regular medical knowledge training for physical education teachers and invite medical professionals or doctors to give lectures and guidance. (2) This model can encourage physical education teachers and medical professionals to collaborate in lesson preparation, jointly design course content, and learn from each other. (3) This model allows physical education teachers to participate in medical-related academic seminars and training courses, expanding their medical knowledge.

#### **Suggestion 3:**

(1) The proposal of this mode can enable medical colleges to utilize virtual reality technology, allowing students to conduct sports training and scene simulation in a virtual environment, such as simulated training for emergency handling. (2) The proposal of this mode can enable medical colleges to use exercise monitoring equipment and software to monitor students' exercise data in real-time, such

as heart rate, exercise intensity, etc., and provide personalized exercise recommendations for students. (3)The proposal of this model can enable medical colleges to develop online sports course platforms, providing teaching videos, case studies, and interactive discussions that combine medicine and sports, facilitating students' self-directed learning.

Summary of the model for promoting the learning of physical education for medical students of the Medical College in Hunan Province:



**Figure 2** Model for promoting the learning of physical education for medical students of the Medical College in Hunan Province

## Discussion

The results of research objective 1 found that the interest of students in physical education classes is not as unsatisfactory as we usually imagine. A certain proportion of students do not like or care about physical education classes, which inevitably triggers our thinking as sports workers. Many parents and students believe that medical students have heavier courses and deeper research, and they need to spend more time on professional studies. When arranging teaching content, the psychological and physiological endurance of students was not taken into account. The classroom was dull, monotonous, lacked vitality, and had little free space. Students were unlikely to self-study, had poor physical condition, were emotionally unstable, or female students found it not easy to speak, or could not get rid of unpleasant things. They were not interested in preparing activities, felt bored, and were afraid of exposing themselves. This also exposed their belief that the school sports field was poor and there was a serious lack of sports equipment and materials. This is also an important factor that constrains the development of students' interests. Students are not interested in sports because the teacher's personal charm and teaching level are insufficient, which cannot arouse students' emotional investment. The teacher's demonstration did not leave a deep impression on the students; The teaching language lacks stimulation; The teaching attitude fluctuates greatly, emotions are unstable, teaching is impatient, and there is a preference for students with good foundations, while neglecting students with average and



poor foundations. If there are problems with the teaching status of teachers, it is likely to give students a negative impression and gradually make them dislike physical education courses.

The results of research objective 2 found that identifying which resources to develop and how to develop them can reflect the educational values of the developers. Conduct a survey on the quality, quantity, and form of existing resources, and select resources with development value, some of which can be directly utilized, while the majority require processing. By transforming, integrating, and creating, the existing resources are processed into more realistic physical education curriculum resources that meet the needs. Resource utilization is a key link related to the effective service of curriculum resource development goals, involving areas such as curriculum design, implementation, evaluation, and management, as well as user initiative. The important criterion is whether the course objectives are effectively achieved, whether they can enhance students' interest in learning, and promote their comprehensive development. This may be because Hong (2018) suggests that in implementing quality management of physical education curriculum in universities, the first step is to optimize curriculum design and planning and develop a scientific, reasonable, and diversified physical education curriculum system based on the school's educational goals and students' needs. Regularly evaluate and update course content, introducing emerging and popular sports to enhance the attractiveness and practicality of the course.

The results of research objective 3 found that the initial improvement of the physical education curriculum model for medical students in medical colleges requires five important aspects: changing the curriculum design, enhancing teaching methods, strengthening teaching evaluation, expanding the construction of teaching staff, and building a large number of sports facilities. This may be because Li (2019) believes that physical education curriculum management refers to the scientific management of physical education courses by university physical education managers, achieving procedural, institutionalized, and standardized management activities, stabilizing the order of physical education teaching in universities, improving the quality of physical education teaching in universities, completing the tasks of physical education teaching in universities, and ultimately achieving the goals of physical education teaching in universities. Bian (2018) mentioned that the main body of physical education curriculum resource development plays a guiding role in the country and government, and bears significant responsibility in the middle society. Schools are the most direct developers and entities, and school administrators are responsible for comprehensive planning and implementation. Physical education teachers are important entities that need to organize, develop, and utilize resources, and students are also one of them. Their thoughts, emotions, experiences, etc., are the basic resources of curriculum activities and the builders of campus sports culture. Joshi (2024) It is recommended to improve students' physical fitness, including cardiovascular function, muscle strength, flexibility, coordination, etc.; Cultivate students' interest and habits in sports, and help them establish lifelong sports awareness; Enhance students' teamwork spirit, competitiveness, and ability to withstand pressure; According to the characteristics of the medical profession, targeted physical education teaching should be carried out to improve students' professional physical fitness and health literacy.

## Recommendation

From the research results, the researcher has suggestions as follows:

### 1. Suggestions for applying research results

1.1 Results from research objective 1 found that, in terms of teaching, it can provide better examples for physical education teaching in medical majors. Therefore, relevant agencies should take action. As follows: Teachers can arrange teaching content and progress more reasonably according to the new curriculum model, such as better combining actual movements to explain the knowledge of human body structure in the course of sports anatomy.

1.2 Results from research objective 2 found that student cultivation helps to cultivate medical talents with better physical and mental qualities. These students will be able to have better endurance and stress resistance in their future medical work. Therefore, relevant agencies should take action. As follows: Providing a reference for curriculum reform in the development of physical education courses in other medical colleges. Different medical schools can learn from successful curriculum models and improve and apply them according to their situations.



1.3 Results from research objective 3 found that the integration of sports and medicine can promote the development of interdisciplinary fields such as sports rehabilitation. Incorporate more rehabilitation training content into physical education courses to provide more professional talent with knowledge in the field of sports medicine. Therefore, relevant agencies should take action. As follows: By deeply integrating medical knowledge with physical education teachings, such as sports anatomy, sports physiology, and other medical courses, and closely integrating them with sports practice courses, students can have a deeper understanding of human body structure and movement principles, laying a solid foundation for future medical work and guiding patients' exercise rehabilitation.

## 2. Suggestions for next research

This research has found that improving the physical education curriculum model of Hunan Medical College can cultivate students' good physical and mental qualities and communication and collaboration abilities, better adapt to future high-intensity and high-pressure medical work, and enhance professional competitiveness. The important thing is personalized teaching and organizing interdisciplinary teaching teams. This study can be applied to curriculum reform in the development of physical education courses in other medical colleges. For the next research question, the following related issues should be studied: how to better combine the characteristics of the medical profession to design physical education curriculum content, so that students can truly experience the auxiliary role of sports in medicine. How to ensure that physical education teachers have sufficient medical knowledge to better guide medical students in teaching. With the development of technology, emerging physical education teaching methods can be applied to medical students' physical education courses. These new issues and technologies are worth further research.

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