



# The Teaching and Research Orientation of the Master of Chinese Discipline Teaching (Physical Education): Development Stage and Academic Orientation

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## ABSTRACT

The discipline teaching and physical education major is mainly to cultivate professional talents in physical education and teaching required by the society, engaged in front-line physical education, with strong professionalism, application, and practice. This paper takes the master's thesis of physical education in the past ten years (2010-2019) as the research object, analyzes the word cloud map of the past ten years through bibliometrics, and studies its development picture. Then, the past ten years were divided into five time periods, the keywords of each period were visualized, the keywords were extracted and clustered, and the five time periods were obtained to obtain a co-occurrence map of five time periods. In-depth analysis of mainstream research hotspots and research orientations in each time period. Finally, the LDA theme is used to analyze and mine the five mainstream themes of the master's thesis of teaching and physical education, and then TF-IDF is used to conduct data mining to analyze the research law of the graduation thesis in the past ten years, to think about the future research development trend of the discipline.

## 1. Introduction

As of the end of 2019, the total number of graduation theses of the master's degree in subject teaching and physical education is 304, which accounts for the smallest number of disciplines in the master's degree of education, followed by subject teaching music (625), and the largest number of English graduation theses in subject teaching, a total of 5120. Physical education has always been an important part of school teaching, and it is also an indispensable part of the comprehensive cultivation of high-quality talents. Physical education teachers play a leading role in school physical education and are also an important factor in improving the quality of physical education. As world sports powers, China, the United States, the United Kingdom, Germany, and other countries have their own characteristics for the cultivation of sports talents. In general, the development direction of sports graduate students in all countries in the world tends to be the same, and they all follow the trend of the times. (Ren Kai, 2018) The training of the Master of Physical Education in Discipline Teaching is based on the necessary subject knowledge, skills and practical ability,

and throughout the ten years of the development of the discipline teaching and physical education major, its graduation thesis is helpful to explore the academic development process and evolution law of the Master of Physical Education in Discipline Teaching, and to see through its disciplinary background and development logic and trend.

## 2. The development picture of the master's thesis in physical education in subject teaching

CNKI's doctoral and master's thesis database searched, and the name of the subject major in the search conditions was set to subject teaching and including physical education, and the degree year was set to 2010-2019, and a total of 304 master's theses in subject teaching and physical education were obtained. The earliest professional master's thesis in this discipline included in CNKI was in 2014, and no excellent papers were selected into CNKI before 2014, after which the research of teaching sports gradually developed. Statistics by time period: only 6 articles from 2010 to 2015; A total of 57 articles were published in 2016;

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And from 2016, the number of articles began to grow significantly. The number of articles from 2017 to 2019 was similar, with a total of 79 articles in 2017; A total of 82 articles in 2018; A total of 80 articles in 2019. Since 2009, more universities have begun to recruit full-time postgraduate students in various disciplines with a master's degree in education. With the increase in the number of professional master's degree programs and enrollment in various places, the number of high-quality graduation theses has also increased.

From 2010 to 2019, it is found that the vocabulary of primary and secondary school students, campus football, physical education, physical fitness, mental health, and development status prominent. he teaching methods and teaching content of physical education have always been the focus of research; There are many studies on the current status of teaching of various sports projects; Detailed analysis of students' actual learning situation with students as the main body. To sum up, the overall picture of the master's thesis in subject teaching and physical education is based on teaching and primary and secondary school students as the core of graduate students, and the "teaching" of teachers and the "learning" of students intersect with each other, showing a relatively complete academic picture. However, in this period of research development, there is a lack of research and analysis of teacher-student interaction and interdisciplinary

development, and these fields are waiting for more graduate students to analyze and research, to open the picture.

In order to further explore the evolution characteristics of the orientation of the master's thesis in physical education in discipline teaching, the period 2010-2019 is divided into five periods, with 2010-2015 as the first period, during which the Outline of the National Medium- and Long-term Education Reform and Development Plan (2010-2020) was publicly solicited for comments in February 2010, and the Compulsory Education Physical Education and Health Curriculum Standards (2011 Edition) were publicly released in 2011, and since then the curriculum reform has entered a stage of deepening and comprehensive development. Physical education courses pay more attention to promoting the healthy and well-rounded development of students. In 2016, 2017, 2018 and 2019, the second, third, fourth and fifth periods were respectively. During this period, in May 2016, the state issued the "Opinions on Strengthening School Sports to Promote the Comprehensive Development of Students' Physical and Mental Health", emphasizing the connection between physical education teaching and extracurricular activities, and strengthening the practical role of physical education in quality education.



Fig.1: Keyword word cloud of master's thesis in physical education (2010-2015, 2016, 2017)



Fig.2: Keyword word cloud of master's thesis in physical education (2018 and 2019)

In June of the same year, the "National Youth School Football Teaching Guide (Trial)" was issued, to implement the national policy, vigorously develop football, and promote the popularization of school football. In November 2017, the "Youth Sports Activity Promotion Plan" was promulgated, and in the same year, the "General High School Physical Education and Health Curriculum Standards (2017)" were promulgated, paying more attention to ensuring that young people are physically strong and cultivating young people's exercise habits. Due to the large

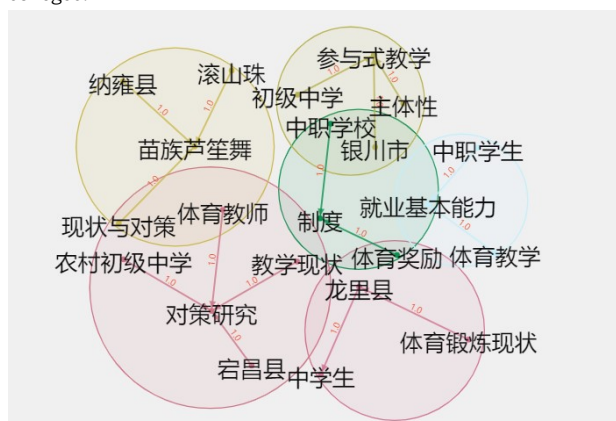
number of research literature and diverse content, in order to better analyze the research themes and subsequent development orientation of the graduation thesis of teaching and physical education in various periods, the method of data mining is used to visually analyze the co-occurrence of keywords, extract the association network and aggregation relationship, and convert it into JSON data exchange format, to obtain the visual analysis source. Then, the online complex network analysis platform is used to analyze the correlation of keywords, and the Louvain algorithm in the platform is selected for clustering, and

the co-occurrence maps of five time periods are obtained. The five time periods are divided into two major stages of development to analyze and see through the picture of each stage.

### 3 Academic enlightenment stage of discipline teaching, professional study of physical education

#### 3.1 Research on the current situation and strategy of physical education

From 2010 to 2015, the master's thesis of teaching and physical education came from Hunan University of Science and Technology, Northwest Normal University and Guizhou Normal University, and the research topics focused on the investigation of the current situation of teaching system and sports projects in a certain place, the experimental experiment of teaching strategies, and the existing employment problems. **Research hotspot 1: Preliminary investigation of the current situation and development prospects.** The current situation survey of sports is mainly divided into the following two aspects, one is the current situation investigation of the school physical education teaching system, such as Peng Guoyu's investigation of the teaching situation of physical education teachers in rural junior middle schools in Dongchang County (Peng Gouyu,2015). (Ouyang Ping, 2015) investigated the reward system set up in the physical education curriculum of three secondary vocational colleges in Zhuzhou, Hunan Province, and analyzed the advantages and disadvantages of the teaching effect of each reward system. (Li Dongmei,2014) investigated the attitude and cognition of students in a junior middle school in Longxi County on physical exercise, the subjective and objective conditions of the school, and looked for ways to improve students' physical fitness. The second is the investigation of sports projects, (Li Jun,2014) investigated the entertainment culture of Miao asparagus dancing rolling mountain beads in Nayong County, and tried to promote the spread and development of traditional sports. **Research Hotspot 2: Attempts at Teaching Strategies.** (Mu Xiaojun,2015) introduced participatory teaching strategies into physical education classrooms based on the actual situation of schools, and it was found that participatory teaching strategies can improve students' initiative in learning physical education. **Research hotspot 3: Employment status.** (Hanhui,2015) found that the actual situation of physical education will affect the basic employability of students in secondary vocational colleges.



**Fig.3: The hot vocabulary of the master's thesis in physical education from 2010 to 2015 appeared**

#### 3.2 Reform and comparison of physical education teaching

In 2016, the academic research of discipline teaching physical education began to rise, focusing on the teaching of sports in the school-based curriculum, the attempt of teaching strategies, the implementation of national policies, the investigation and analysis of

physical education teachers, examinations, teaching status, and experimental research on cultivating students' executive functions.

#### Research Hotspot 1: Analysis of school physical education teaching.

First, the school-based curriculum of football, aerobics, calisthenics between classes, track, and field, etc., began to be studied separately. For example, (Hu Qiuping,2016) analyzed the feasibility of popularizing aerobics in Huidong Rong Chao Middle School. Second, the implementation and reform of teaching strategies and policies. (Zhou Zhe,2016) made a detailed analysis of the development status of sports projects in the teaching mode of the "Sports and Art 2+1 Project" in primary schools in Duodao District. Under the background of the new curriculum standard issued by the Ministry of Education in 2011, (Ni Yaqi,2016) made an investigation and study on the current situation of the implementation of physical education and health curriculum in xiangcheng district Middle School in Zhangzhou. **Research Hotspot 2: Investigation and research on the current situation of teaching in various places.** First, investigation of the teaching staff. (Zhu Hanna,2016) studied the basic situation of teachers' participation in school-based training in Chenzhou City, and revealed that there were some problems in teachers' participation in school-based training, such as knowledge misunderstanding, teachers' lack of awareness of participation, lack of pertinence in training content, imperfect evaluation mechanism, lack of training resources, and imperfect organization and management system. By investigating 26 primary and secondary schools in Lund County, (Shen Yuanbo,2016) summarized the basic status quo, teaching work, scientific research and training, workload, and treatment of rural teachers in Lund County. Second, the overall teaching situation is investigated. This paper investigates the current situation of physical education teachers, teaching practice and students' study in Zhangzhou City, (Luan Jie,2016) explores the objective teaching elements of physical education, such as venues, equipment and so on, thus revealing the problems existing in this high school. Third, investigation of physical education examination in each school section. (Liu Jiahui,2016) analyzed the current situation of teachers and students' teaching and learning in Huai 'a City, Jiangsu Province from the perspective of teachers and students, and found that after the implementation of the physical examination, teachers' classroom teaching means and teaching methods were diversified, and the teaching process would pay more attention to students' physical health, physical quality, and motor skills. (Lin Jianfeng,2016) investigated the basic situation, educational management, difficulties, and parents' expectations of the physical education college entrance examination students in Quanzhou, and put forward corresponding countermeasures against the existing problems. **Research Hotspot 3: Comparative research.** (Huang Rui,2016) compared the traditional teaching mode and the special teaching mode from the three aspects of students' basic physical fitness, special ability, attitude and three aspects, and found that special teaching has a more positive promotion and promotion effect on students' awareness of physical exercise, special learning interest and recognition of physical education courses.(JiaoJunmei,2016) adopted the two teaching methods prescribed before and after the reform of physical education teaching in two schools, and made different arrangements for students' extracurricular physical exercises. It was found that teaching design combined with the sports test in senior high school entrance examination can more reasonably and effectively arrange physical education courses and extracurricular physical exercises, increase students' interest in learning, and more effectively improve the results of sports test in senior high school entrance examination. **Research**

**Hotspot 4: Experimental research on executive function.** (Zhang Peipei,2016) found that the 8-week soft baseball and softball program can develop the overall executive function of primary school students. The change of students' executive function is significantly related to the change of academic performance, and the change of executive function can predict the change of primary school students' academic performance, which plays an "intermediary effect" between soft baseball and softball and academic performance. Through the teaching of left-behind children, (Chen Liping,2016) found that the executive function and three sub-functions (inhibition, refresh, and conversion) of left-behind children can be significantly improved.



Fig.4: The hot vocabulary of the master's thesis of physical education in 2016 appeared

#### 4. Academic development stages of the Master of Physical Education in Discipline Teaching

##### 4.1 Rural and health research based on curriculum and teaching advancement

In 2017, the research topics of the master's thesis in teaching and physical education focused on teaching mode, teaching policy suggestions and teaching reform, the current situation of rural teaching development and the feasibility of teaching strategy application in rural areas, the curriculum and development status of campus football, physical fitness, and exercise methods, etc.

**Research Hotspot 1: Research on Teaching Mode and Reform.** 1. Research on teaching models. (Guo Wei,2017) conducted a survey of students and teachers in Nanyang City, found that there were some problems in the teaching mode of applying sports games, and then found the factors affecting the development of sports games and independently created sports games. Through the study of volleyball teaching in high schools, (Qiao Yang, 2017) found that the sports education model has good teaching advantages in teaching effect, student state, and learning emotion. (Zheng Xumin,2017) conducted an investigation on the reform of the special curriculum of sports in Shanghai and found that the facilities in the Shanghai market initially have the hardware conditions for carrying out the teaching connection of the "specialized" project of junior and senior high schools, but the teaching ability of the special project of teachers here is insufficient, and the teaching materials cannot meet the actual needs of the teaching connection of special sports projects. 2. Experimental research on teaching reform. (Zhou Ting,2017) conducted an experiment on physical education option teaching in Jiangling County Experimental High School, and the results showed that the option teaching mode can enhance students' motivation to learn sports, improve students' interest and attitude to learning, and improve their skills and physical fitness. However, there are still problems such as backward teaching methods

and unclear teaching goals in the optional teaching mode, and this teaching reform still needs further improvement and exploration. **Research hotspot 2: Development status of rural teaching and feasibility study of teaching strategy.** (Zhuang Qi,2017) analyzed the development of free time sports among rural primary school students in northern Jiangsu, and analyzed its teaching characteristics, development status and influencing factors. (Wang Lei,2017) investigated in detail the development and utilization of physical education curriculum resources in rural primary and secondary schools in Fuyang City. (Han Kun,2017) discussed the feasibility of introducing local martial arts programs into rural secondary physical education. (Deng Junhui,2017) tried to introduce the flipped classroom into the rural teaching in Fufeng County, and independently designed a course to teach the rope skipping movement, to verify the feasibility of the flipped classroom in rural teaching. **Research Hotspot 3: Theoretical research on the current situation of campus football courses.** (Qiu Mengjuan,2017) investigated and analyzed the current situation of curriculum design of primary school football under the background of "school football", and put forward relevant suggestions for the design of primary school football curriculum. (Gao Fen,2017) investigated the current situation of campus football development in middle schools in Liupanshui City, hoping to provide a theoretical basis for the good development of campus football. **Research Hotspot 4: A one-dimensional investigation of physical fitness development.** (Sun Ran,2017) found through comparative experiments that calisthenics teaching can improve the physical fitness of primary school students in all aspects. (Sun Yineng,2017) surveyed four junior high schools in Xiangtan City to analyze the correlation between mobile phone dependence and students' physical activity. (Wu Xuerui,2017) tried to teach fourth-grade elementary school students to figure jump rope and observe the positive impact of pattern jump rope on the physical health of primary school students.

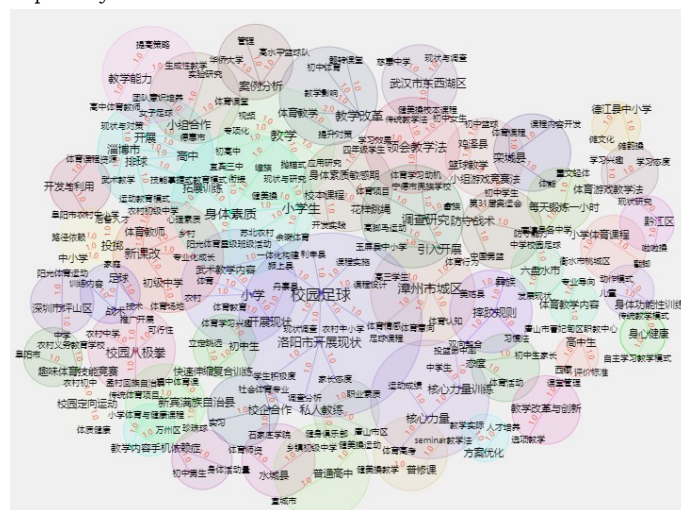


Fig.5: The hot vocabulary of the master's thesis in subject teaching (physical education) in 2017 appeared

##### 4.2 Scientific evaluation and monitoring of teaching and health behaviors

In 2018, the research topics of the master's thesis in physical education focused on teaching effect, rural teaching development, rural teaching countermeasures, campus football teaching status and campus football teaching experiment, students' physical fitness and mental health.

**Research focus 1: Research on teaching effectiveness.** (Ling Xiao,2018) used a layered teaching method when teaching table tennis

to high school students and found that after teaching, students' overall understanding, learning interest, skill learning and learning satisfaction were improved and improved. (Li Guobing,2018) tried to use the forward decomposition teaching method and the reverse decomposition teaching method to teach volleyball, and summarized the reasonable teaching methods of these two teaching methods in volleyball teaching. (Gu Ying Ying,2018) analyzed the changes of students' physical, mental, and social adaptability after Yunyang Banwu entered middle school teaching. (Liu Jiaxia,2018) applied the scaffold teaching method in high school physical education to analyze the excellent teaching effect when using this teaching method. **Research focus 2: Research on the current situation and countermeasures of rural teaching.** (Wu Chengyu,2018) investigated the current status of physical education teachers' understanding of curriculum reform, teaching behavior, classroom organization management and physical education classroom evaluation in rural areas of Tianshui City.(Xie Junjie,2018) compared the physical health status of urban and rural primary school students in Zhangzhou City, found that the current situation of uneven urban and rural development in Zhangzhou City gradually decreased, and put forward countermeasures and insights for related problems. **Research Focus 3: Football on campus.** (Shi Pan,2018) discusses the current situation of school football teaching, training and teaching environment guarantee. (Han Zhequan,2018) tried to introduce football games into the football classroom, adopted the educational idea of "edutainment", analyzed the changes of students' physical conditions, special tests and psychological conditions in the teaching of football games, and tried to enrich teachers' teaching methods. **Research Focus 4: A two-dimensional survey of physical and mental health.** 1. Physical exercise behavior. (Zhou Mingyang,2018) analyzed the causes of injuries of sports specialty students during exercise, and put forward relevant suggestions for injury prevention, health recovery and normal training of high school sports talent students. (Kong Fangfang,2018) analyzed that the vigorous development of campus sports culture has allowed middle school students to actively participate in physical exercise. 2. Mental health. (Guo Zuqi,2018) found that the physical exercise behavior of junior high school students was correlated with tough personality. (Qi Yufei,2018) investigated the psychological status of migrant children, and found that sports intervention can provide positive help for the self-esteem and self-confidence of migrant children.

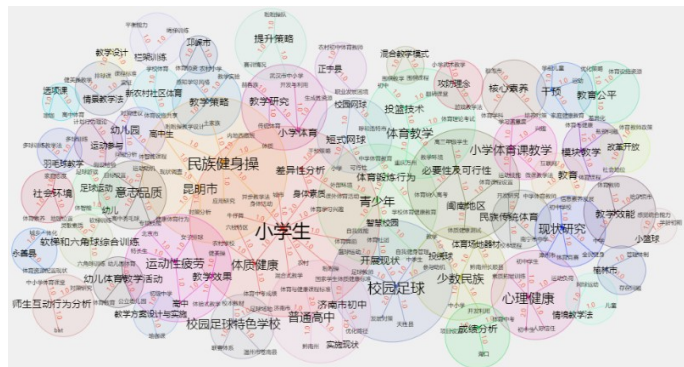


**Fig.6: In 2018, the hot vocabulary of the master's thesis of subject teaching (physical education) appeared**

**4.3 Research on curriculum standards and core competencies**

In 2019, the research topics of the master's thesis in physical education focused on emerging teaching strategies, core literacy of

sports, physical education teaching mode of young children and primary school students, and the learning, inheritance, and development of traditional sports. **Research Hotspot 1: Research on Emerging Teaching Strategies.** This includes applied research into emerging pedagogies, instructional design, and pedagogical models. (Mou Hao,2019) combines basketball teaching with flipped classroom, and analyzes the current state and practical application of the flipped classroom teaching model. When teaching sports dance, (Sun Jiaqiong,2019) found that combining online teaching platforms in blended teaching design has more advantages for physical education teaching. Taking tennis as an example, (Wang Wei,2019) proposed a five-in-one teaching model of "government, enterprise, learning, society, and family", supplementing the existing model of sports entering the campus, and fully coordinating the participation of the government, enterprises, schools, society, and families. **Research hotspot 2: Sports core literacy.** Sports core literacy can be divided into three categories: athletic ability, healthy behavior, and sports morality. 1. Athletic ability. (Chen Yang,2019) found that compared with conventional badminton training teaching, the use of badminton multi-ball training can effectively improve students' basic hitting skills, and the success rate and stability of hitting will also be greatly improved. 2. Health behaviors. (Zhang Shuyan,2019) conducted a physical health teaching experiment based on the extended education model, and found that the extended education model can help junior high school students improve their social adaptability and improve students' mental health. 3.Sports morality. For example, (Huang Zixia,2019) introduced quality development training courses in her classes, which can bring important help to students' mental health and interpersonal trust. (Liu Zenglong,2019) analyzed the cultivation strategies of three core sports literacy through the current situation survey. **Research hotspot 3: Physical education curriculum teaching mode for preschool students.** (Zhao Shuwan,2019) integrated micro-lessons into primary school physical education and found that most of the students' motor skills had improved, and at the same time, students showed greater interest in physical education classes, and their learning satisfaction had changed somewhat compared with traditional teaching methods. (Fan Chao,2019) found that the teaching of small basketball can improve children's sensory integration ability more than the teaching of normal physical education courses, and children's proprioception, tactile defense and learning ability have also been improved and improved, and small basketball can also effectively improve children's balance and coordination ability and sensitive quality, thereby improving the problem of sensory integration disorder. **Research hotspot 4: teaching and development of sports with national characteristics.** (Gao Yin,2019) studied the effect of ethnic gymnastics on the physical fitness of Tujia high school students, and found that it could effectively improve the physical fitness of Tujia high school students, and the results of sitting forward flexion were particularly significant, which had an obvious positive effect on improving the weak flexibility of Tujia high school students. (Huang Min,2019) found that the current situation of traditional sports of ethnic minorities in middle schools in southwest Hubei was not satisfactory: lack of professional teachers, lack of professional theories of teachers, and insufficient attention and publicity of traditional sports of ethnic minorities by leaders.



**Fig.7: The co-occurrence of hot words in the master's thesis of physical education in 2019**

**5.Academic orientation and reflection of the master's thesis in physical education in subject teaching**

Next, LDA theme analysis explores the mainstream research orientation of the master's thesis in physical education (Table 1). LDA (Latent Dirichlet Allocation) is a document theme generation model for the analysis of text topic modeling, LDA is also known as three-layer Bayesian probability model, it involves words, topics, and documents

**Table 1 Analysis of LDA themes for master's theses in physical education**

Topic1	Topic2	Topic3	Topic4	Topic5
Middle school student 4.98	Junior high school student 2.59	Physical Education and Health Curriculum Standards 1.76	Physical education 3.22	Rural secondary schools 3.44
Physical activity behavior 2.61	Secondary school 2.20	General high school 1.73	Campus football 2.78	Physical teaching 2.93
High school 1.95	Primary school student 2.161	Physical education courses 1.67	Physical Education Secondary School Exam 2.58	Primary school student 2.14
Zhangzhou City 1.72	Countryside 2.12	Countermeasure research 1.58	Launch status 2.19	Aerobics 1.84
Physical teaching 1.70	Large recess sports activities 1.75	Campus football 1.58	Schools 1.97	Junior high school students 1.81
Junior high school 1.68	School sports 1.66	High school student 1.50	Junior high school 1.84	Physical 1.70
Physical education teacher 1.68	Physical education learning interests 1.56	Secondary school 1.35	Viability 1.62	Rural junior high school 1.60
Secondary school 1.39	Experimental research 1.54	Child 1.26	Teaching 1.53	Middle school student 1.53
Harbin City 1.37	Physical teaching 1.38	Hainan 1.23	Physical education courses 1.51	Liu panshui City 1.40
Physical education 1.34	Rural junior high schools 1.36	Implementation status 1.20	Physical fitness 1.50	Physical health 1.40

**5.2 Discipline teaching: development and reflection of the physical education profession**

TF-IDF model is a basic information retrieval model, which is widely used in search engines, literature classification and other fields, the main idea is: assuming a word appears frequently in a specified article, and rarely appears in other articles in the entire collection, then this word is the keyword of the text and can be used for classification or labeling. The use of TF-IDF can effectively narrow the text word space, filter common words in the article, retain the vocabulary necessary for research, and efficiently analyze the main characteristics of the article. Term Frequency (TF) in the model refers to the frequency at which a given word appears in the article; Inverse Document Frequency (IDF) refers to the particularity of a word in the entire collection, counting the number of articles in the collection containing a specified word, the smaller the number indicates that the word represents the specified article. The key word TF-IDF value of the graduation thesis article is calculated as a unit per year, and the ten keywords that can best represent the research of subject teaching and physical education are selected based on the three indicators of co-occurrence frequency, TF-

three-layer structure, its main role is the shallow semantic analysis of text data, identify the subject information in the text or text set. At the same time, in order to further reveal the research development trend in the past ten years, TF-IDF is used for data mining to discover its deep-seated development law. TF-IDF is a relatively simple and classic word weight algorithm, which is concise and accurate, which can well measure the importance of a word in a text. This part synthesizes two data mining techniques to analyze and reflect on the development orientation of the master's thesis in physical education.

**5.1 Subject Teaching: The mainstream theme of the Master's thesis in Physical Education**

According to the sample characteristics of the master's thesis in physical education, the classical LDA text analysis method was adjusted to overcome the problems of insufficient sample size and difficult subdivision of topics in documents in the same field, and the processing method of topic analysis was adopted and combined with different parameters, and finally the result with the smallest difference in the number of subject words was selected as the final theme analysis result (Table 1). These five themes focus on physical exercise behavior, primary and secondary school students, curriculum standards and teaching strategies, physical education, and rural teaching.

IDF value and topic correlation, and then a line chart with each stage on the horizontal axis and TF-IDF value on the vertical axis is each stage. As shown in Figure 7, it can be found that physical education has always been the mainstream research orientation, and from 2010 to 2015, there was more research on physical education and less research in other directions, resulting in a high TF-IDF value in physical education. Research on secondary schools has been attracting attention since 2016, and the degree of research attention fluctuates slightly from year to year, but gradually strengthens it. Since 2016, the development of various research orientations has gradually emerged, and the "National Youth School Football Teaching Guide (Trial)" was published in June 2016, so that from 2017, the research of school football began to rise. From 2017 to 2018, more attention was paid to rural secondary school teaching, and in 2019, the research attention turned to less. In November 2017, the Youth Physical Activity Promotion Plan was promulgated, which increased the research on physical exercise behavior in 2018-2019 and paid more attention to students' mental and physical health. At the same time, after 2018, all ten keywords appeared, the scope of students' thesis research was more

extensive and richer, and the research of subject teaching and sports began to develop in a balanced manner.

Physical education is the mainstream research direction in the master's thesis of subject teaching, and most of the investigations on the teaching strategy and development status of the subject are surveyed. The graduate thesis focuses on teaching and teaching, the teaching content of physical education courses, students' physical and mental health issues, and the core literacy of physical education gradually enters the research field of students. Most of the master's

theses in physical education are based on the actual problems in physical education teaching in primary and secondary schools, and the thesis is written based on the educational content, teaching status and reform practice needs of primary and secondary school physical education, and the form of the thesis is also mostly presented in research reports, practical analysis, school-based curriculum development, etc. In general, the thesis research is relatively rich, but there are few studies on teacher-student interaction, which needs to be further explored.

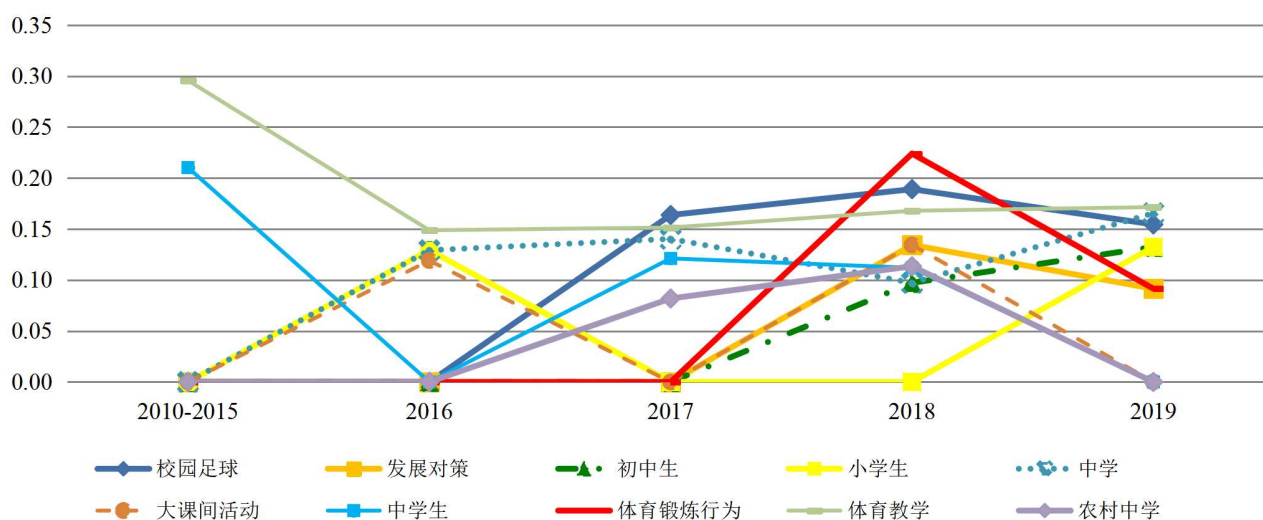


Fig.8: Research orientation trend of subject teaching and physical education based on TF-IDF method mining in the past 20 years

The research status of the graduation thesis can well represent the development degree of this discipline research, through the analysis of the research context of the graduation thesis in this decade, we can clearly see the development process of this discipline, the research of this discipline has always adhered to people-oriented, and closely around the core literacy of sports discipline. In recent years, there is no lack of teaching and research on the application of modern science and

technology, and in the future of the gradual development of artificial intelligence, science and technology and teaching will continue to be combined, sports equipment, teaching forms, etc. will also appear more fresh attempts, and teaching reform will also have more bold innovations. It is believed that in the future, the research paradigm and research methods of teaching sports with Chinese characteristics will be gradually constructed.

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