Research on the Training Dilemma and Path Optimization of Publicly-Funded Normal College Students in Physical Education Major from the Perspective of Agency

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Abstract: Normal students are an important force for the development of sports in our country. They undertake an important task for the training of future sports talents. However, from the perspective of principal-agent, public funded normal students of physical education are faced with a series of dilemmas, such as asymmetric information and inconsistent goals among the government, universities and public funded normal students of physical education, and adverse selection and moral hazard appear in the principal-agent relationship between the government, universities and public funded normal students. This paper aims to explore the dilemma of public sports education, and put forward some suggestions for path optimization, as well as to provide reference for the training of public sports education normal students.

Keywords: principal agent; Public funded students of physical education major

1. Introduction

In order to attract outstanding talents to teach and cultivate a large number of "four" good teachers with ideals, convictions, moral sentiments, solid knowledge, and benevolence, in July 2018, The General Office of the State Council issued the Measures for the Implementation of Public Education for Normal University Students Directly under the Ministry of Education. The Measures for the Implementation of Free Education for Normal University Students Directly under the Ministry of Education, which has been in effect for 11 years, will be changed from "free normal university students" to "government-funded normal university students". The policy is expected to take public education as the starting point to further attract outstanding young people to take up teaching and further promote the reform of teacher education. Solve the problem of poor flow of teacher resources allocated in the market, and strive to solve the problem of shortage of excellent teachers in the vast rural areas and the central and western regions from the source [1]. It shows that the state pays more attention to normal education, which makes the government-funded normal students become the focus of the society. So far, colleges and universities have returned to the level of talent training and teaching with the high attitude of "focusing on the ability training of normal university students". It emphasizes the transformation from a new mode centered on "quality", and requires following the law of the growth of public-funded normal students, and pursuing the knowledge ability and quality of every public-funded normal students upon graduation to meet the standard requirements. So far, the concept of pursuing the quality training of public funded normal university students has gradually taken root in colleges and universities advocating "quantity standard", and this important strategy has become the requirement of building teachers, reforming education and developing education. At present, the main contradiction in the field of education in China has become the contradiction between the growing demand for high-quality education and insufficient development. Therefore, it is an effective way to improve the modern teacher training system and develop a new type of teacher training to improve the quality of public funded normal college students. This is also an important measure to promote the development of quality culture, maintain the lifeblood of urban and rural teacher training, and comprehensively improve the quality of public funded teachers. At present, in the cultivation and management of publicly-funded normal students in colleges and universities, it is mainly through the public funded normal students, the school and the provincial education administration department where the students are located to sign the "Public funded Education Agreement for normal students" to achieve the policy goal. From the perspective of principal-agent theory, students are the clients, schools
are the agents, and the government is the principal, so as to jointly promote the training of public funded normal students in physical education.

In the aspect of physical education major, there are some difficulties in the training mode of public funded normal students of physical education major (hereinafter referred to as “public funded normal students of physical education”). First of all, due to the lack of strict supervision by the government and universities, some students lack solid academic foundation and practical experience in the training process, resulting in low teaching quality. Therefore, it is necessary to further clarify the demand orientation and grasp the talent demands on the demand side in the training of public funded normal students in physical education [2]. Secondly, due to the overlapping functions and unclear responsibilities between the government and universities, the government often only focuses on the formulation of various policy guidance, but does not pay enough attention to the specific talent training of students. Universities only focus on students’ academic performance, but ignore students’ professional quality and educational practice. Finally, as a special social organization, colleges and universities analyze the problems existing in the training process of public funded normal students in physical education from the perspective of principal-agent, which is of great guiding significance for improving the operational efficiency of colleges and universities, better achieving the purpose of training students, and improving the training quality [3]. Therefore, the policy of publicly-funded normal students implemented in the form of contract has a principal-agent relationship, that is, the government, as the principal, entrusts colleges and universities to take certain measures to train publicly-funded normal students in physical education. Previous studies have found that most of the studies in China focus on the professional identity and teaching knowledge of public funded normal students in sports education, and there is no sorting out and internal logical analysis of the three interest subjects of public funded normal students in sports education.

In view of this, from the perspective of principal-agent theory, this study explores the entrusting relationship among the government, universities and employers of public funded normal college students in order to explore the training dilemma of public funded normal college students in physical education. Using principal-agent theory, this paper analyzes the influencing factors behind the training of public funded normal college students, and puts forward effective solutions. The aim is to improve the quality of pre-service training of public funded normal college students, improve rural physical education, and provide a feasible training path for the training of public funded normal college students.

2. Sorting out the essential relationship of principal-agent in the training of public funded normal college students

2.1. Connotation of principal-agent theory

Principal-agent relationship is a contractual relationship in which the principal and the agent engage in a certain activity according to their own interests in two or more cooperative activities, and give the agent decision-making rights and pay for the services provided [4]. Principal-agent theory is one of the main contents of contract theory of institutional economics, which has been widely applied to modern enterprise organization and management, and has also achieved good results in practice [5]. The training of publicly-funded normal students in sports education also involves the contract theory of institutional economics. From the perspective of principal-agent, the problems existing in the current training of publicly-funded normal students in sports education by the government, universities and employers of publicly-funded normal students are analyzed, which has important guiding significance for improving the training quality of publicly-funded students in the field of sports and better solving the problem of insufficient physical education teachers in rural areas.

The training quality of publicly-funded normal students is actually related to the stakeholders of the government and the employment units of publicly-funded normal students in colleges and universities. From the current point of view, the client (government) has issued relevant policies to bear the relevant tuition fees, and the agent (university) needs to formulate relevant training plans to train outstanding publicly-funded normal students for sports and education to provide high-quality teaching venues and facilities for customers (employment units for publicly-funded normal students). As shown in Figure 1; The client is the government, the agent is the university, and the client is the employment unit of the publicly-funded normal students of sports education. In order to solve the dilemma of the actual training of publicly-funded normal students, this study analyzes the reasons of the three stakeholders of the government, universities, and the employment units of publicly-funded normal students in physical education.
education from the perspective of the narrow definition of principal-agent relationship, and sorts out the existing internal mechanism.

![Diagram showing the relationship between the principal (Government), agent (Colleges and Universities), and client (Sports Education Public Funded Normal University Students Employment Unit)](image)

**Figure 1. Summary of the essential relationship between the principal and agent**

### 2.2. Client: Government

The client government is mainly the leader and financial undertaker in the field of education. From the “Public education Agreement for normal students”, the provincial education administration department of the province where the students are located (on behalf of the government) is responsible for financial expenditure. From the point of view of the principal-agent relationship, the entrusting government is mainly the service buyer, initiates the entrusting task, conducts policy guidance and organization implementation, fully inspects the service ability of the agent (university), and supervises the training process of public funded normal students in sports education. The entrusted behavior of the government can improve the quality of public funded teacher education. Through the communication between agents (colleges and universities) and customers (employment units of publicly-funded normal students in sports education), the revitalization of rural teachers can be promoted, the conflicts between the interests of various subjects in the training process of publicly-funded normal students in sports education can be resolved, and the problems such as the shortage of rural physical education teachers can be further solved.

### 2.3. Agent: University

Agents (colleges and universities) are education providers that provide quality teachers. From the point of view of the principal-agent relationship, agents (universities) are mainly education service providers, strictly implement the contract signed with the principal (government), ensure the quality and quantity of services, complete the agency work of education supply services, and unconditionally accept reasonable supervision and evaluation from the principal (government). For example, as an agent of the government’s education service supply, colleges and universities can obtain financial support and policy support from the client government, alleviate the problem of brain drain of sports professionals, solve the problem of unbalanced development of rural education resources, and achieve balanced development of teacher resources in the process of rural revitalization.

### 2.4. Client: Employment unit of public funded normal students in sports education

The client (the employer of the public funded normal students) is the receiver of the service object exported by the public funded normal students, or the subject of the entrusted agent service. Starting from the principal-agent relationship, the employment unit of public funded normal college students in physical education mainly participates in it as the recipient, and requires the agent to train high-quality physical education teachers according to the actual needs, so as to meet their own service needs. At the same time, the customer (the employer of the public funded normal college students) also enjoys the right to express the service demand and fulfill the obligation of objective evaluation and feedback of the supply of educational services, so as to promote the effect of the agent (university) to improve the teaching quality.
3. Review of the principal-agent problem in the implementation of the policy of public funded normal students in physical education

In 2007, the policy of “Implementation Measures for Free Education of Normal Students in Normal Universities directly under the Ministry of Education (Trial)” was issued, which made the development of public funded normal students in colleges and universities begin to step on the right track, and the training of public funded normal students in physical education also has a trend of stagnation and recovery. Nowadays, government-funded normal university students are the reserve army of education talents in remote areas at the grassroots level. However, the objective fact that the specific process of the training of public funded normal college students is poorly implemented has not been completely reversed. The principal government is mainly manifested in the following aspects: 1) The education administrative department only plays a role in a few important links, and fails to conduct whole-process and full-coverage supervision on the training and performance of publicly-funded normal students. 2) There are certain loopholes in the design of the education policy for publicly-funded normal students. As a policy framework, the responsibility for every detail in the implementation of the policy has not been implemented. Agent colleges and universities are mainly manifested in: 1) Lack of targeted management methods in daily teaching management and ideological and political education management, compulsory administrative orders of policies and the particularity of publicly-funded normal students lead to low enthusiasm in training management of colleges and universities. 2) For the sake of safety and convenience, training colleges at all levels usually choose primary and secondary schools with relatively rich educational resources in the districts (counties) when selecting internship units. Although this ensures the rapid professional growth of public-funded normal students in a short period of time, it has little direct interaction with the future work field of public-funded normal students. 3) The teaching curriculum design is unreasonable, which cannot arouse the learning interest of normal university students. The public funded normal college students of sports education are mainly manifested in the following aspects: 1) Many students choose to join the teaching faculty. In order to achieve stable employment security from policy incentives, they lack a clear understanding of the teaching profession, a sense of mission and responsibility, and lack of learning motivation resulting in learning fatigue. 2) Studies have shown that the average course scores of public funded normal students are about 0.56 points higher than those of ordinary normal students and non-normal students. The academic performance of public funded normal students is indeed better, especially in elective courses, teacher courses and general courses. However, from a horizontal perspective, the academic performance of publicly-funded normal students in professional courses is slightly lower than that of students in other majors, and it is estimated to be significant. According to two surveys of publicly funded normal students in universities in central China in 2017 and 2018, the imbalance of male and female ratio of publicly funded normal students presents three high and three low characteristics, such as high professional recognition of teachers, low lifelong education intention, high professional interest, low education satisfaction, high requirement for further study, low willingness to renew, and the trend of urban employment. The shortage of PE teachers in China is about 30%, and the shortage of PE teachers in rural areas is more serious.

3.1. The problem of moral hazard in the training process of public funded normal college students in physical education

Some universities make use of their information advantages by hiding information and actions to make the training programs of public funded normal students meet the requirements of maximizing their own interests, resulting in the deviation in the implementation of the training goals of public funded normal students in physical education, and finally the problem of moral hazard. First of all, with the introduction of the policy of publicly-funded normal students, some colleges blindly equate the publicly-funded normal students of physical education major with the prestigious competition of colleges and universities, thus ignoring the subject construction that is compatible with the localization. As of 2023, all provinces (autonomous regions and municipalities) in China have promulgated measures for the implementation of the policy on publicly-funded normal students, such as Hunan Province issued a notice on the Implementation Measures of Publicly-funded Normal Education in Hunan Province (January 2021), Yunnan Province issued a Notice on the Implementation of the Administrative Rules for Publicly-funded Normal Students in Normal Universities directly under the Ministry of Education in Yunnan Province (December 2019). Although each province has developed a specific implementation plan, it can guarantee the implementation of the public-funded normal student policy. However, there is a phenomenon that colleges and universities often do not understand the policy of publicly-funded normal students and blindly implement it. For example, the training program
of government-funded normal college students in a certain province requires colleges and universities to strengthen the training of government-funded normal college students in accordance with the principles of both virtue and talent, one specialty and multiple abilities, and facing the countryside. However, some colleges and universities have not realized the principle of rural orientation. There is no difference between the courses of public funded normal students and non-public funded normal students in physical education, and the curriculum rarely fits the rural reality. Secondly, since the government’s training requirements for public-funded normal students are to build a team of high-quality rural teachers and there is no clear standard, colleges and universities do not distinguish education courses between public-funded normal students and non-public-funded normal students in an opportunistic way, and relatively ignore the innovation and reform of the management system for public-funded normal students.

3.2. The problem of adverse selection in the training process of public funded normal college students in physical education

Due to the lack of adequate understanding and effective supervision by the government on the training of state-funded normal students for physical education in colleges and universities, some universities take an opportunistic approach and blindly pursue various easily realized and quantified indicators, thus gaining more financial support and reputation from the government. Those universities that insist on completing easily quantified indicators and are based on local characteristics are likely to be eliminated. In the end, there will be a situation where "bad money drives out good money"[15]. After the promulgation of the Policy, the provinces successively issued policy programs and actively implemented various policy requirements of the government. According to relevant teacher policy texts, rules and experience of public funded normal college student training, historical experience and practical needs of rural teacher development, theories and experience of teacher education in the international community, etc., we all hope that future rural teachers should have a certain educational philosophy and insight into the world, and be able to accept taking root in the rural society[16]. In the absence of effective supervision by the principal, colleges and universities as agents will focus on improving clear indicators that are easy to achieve in order to maximize their own interests, which will result in the indicator phenomenon in the training process of public funded normal students in physical education. For example, under the target of partial decentralization by the government, the enrollment of colleges and universities is small, resulting in the number of publicly-funded normal students in each grade less than 10, and the situation of "cutting corners" in colleges and universities. Teachers' classroom evaluation of publicly-funded normal students in physical education Due to the stable nature of the job, classroom evaluation may be relaxed for the public funded normal students to meet the graduation requirements and thus meet the requirements of the employment units for the public funded normal students every year. In the process of implementing policies in colleges and universities, due to the influence of information asymmetry, the government takes a variety of easily measurable explicit indicators as a standard to evaluate the training level of public funded normal students in sports education without knowing the specific training of public funded normal students in colleges and universities. This makes the indicator itself evolve from a monitoring standard and management means into a goal to be pursued[10]. Some universities use some speculative methods and use "excellent" indicators to compete, so as to obtain government financial support, but some colleges and universities that truly train "four good" teachers have gradually lost their passion and enthusiasm. Adverse selection can easily lead to blindly following the trend and ignoring the localized characteristic education in the process of cultivating public funded normal students in physical education. In addition, adverse selection is also an important reason for the imbalance in the education of publicly-funded normal students.
information asymmetry in the principal-agent chain in the training process of publicly-funded normal students. Colleges and universities should focus on the overall strategic situation of the state to train publicly-funded normal students and develop rural education, and actively disclose the training programs and training information of publicly-funded normal students, rather than regard their own advantages as capital to compete with the interests of other colleges and universities. Secondly, there is a single transmission channel in the policy information transmission of publicly-funded normal students. As shown in Figure 2, the government can establish a monitoring system for the training process of publicly-funded normal students, and adopt information technology to realize the sharing of information resources between the government and universities, so as to achieve win-win cooperation.

4.2. The implementation goals of government policies and universities are inconsistent

The government is the supervisor and controller of the implementation of the public funded normal student policy. However, the government is not a professional educator. Therefore, it is necessary to give the university administrators certain power in the form of administrative authorization, so as to form the principal-agent relationship between the government and the university. The government should also control the development direction of the university organization to the maximum extent, and guide the government to match the goals of the government-funded normal college students in physical education, so as to achieve the government's education and training goals. But the preferences of each university are also different, such as the pursuit of economic benefits and self-spirit. Therefore, although colleges and universities are responsible for higher units, they have different interests from the government, and the confusion of goals may cause deviations from the government's goals. Although universities set teaching specifications and teaching objectives according to the policies of publicly-funded normal students promulgated by the government, they lack relevant training policies based on the local characteristics of the employers of publicly-funded normal students in sports education. The training quality of sports public funded normal university students is the core content of the education principal-agent chain, which is an important connection between the agent (university) and the principal (government), and an important aspect to ensure the quality of education in rural areas. At the same time, the training mode of public funded normal students in physical education can only be oriented to the needs of the client, so that the public funded normal students in physical education can become high-level, high-quality and high-quality good teachers in the eyes of the employment units of public funded normal students in physical education, and only in this way can the revitalization of rural education be implemented.

4.3. The government's supervision over the implementation of university policies is not perfect

The lack of restraint mechanism is one of the basic conditions for the principal-agent problem in the training process of public funded normal college students, the most prominent is the weak supervision mechanism. In recent years, China's supervision system has been gradually improved, which has played an important role in improving the administrative efficiency of the government. However, the current supervision system of the government on colleges and universities is insufficient and the supervision method is unscientific. For example, with a single supervisory approach. The government's assessment of the teaching quality of colleges and universities is not comprehensive enough, which leads to the formalism of colleges and universities. Formalism refers to only looking at the appearance of things without exploring deeply the essence of things. Colleges and universities do not strictly supervise students, and some students lack solid academic foundation and practical experience in the process of training practice, resulting in low teaching quality. Public funded normal university students are not familiar with the content knowledge of sports subjects, difficult to flexibly use the knowledge of sports teaching strategies, and lack of experience in sports safety environment organization. Therefore, the government can obtain the training situation of the public funded normal students through the report of the employment unit of the public funded normal students, and thus obtain the specific training situation, professional quality and educational practical ability of the public funded normal students.

4.4. Incompatibility between government and university policy implementation incentives

Based on his theory in the market economy, American economist Hurwitz talked about the behavior of self-interested "rational brokers" to pursue personal interests, which is consistent with the value goal of the collective or society, and the arrangement of this system is "incentive compatible." In contrast, "incentive incompatibility" refers to the deviation between individual and collective interests. The principal-agent relationship also has a strong administrative color, and managers' performance
incentives are connected with their administrative levels [16]. From the perspective of colleges and universities to examine the training of public funded normal students, entrusting colleges and universities to train public funded normal students must have its own reasons. If the government's incentives do not meet the needs of colleges and universities, then colleges and universities will lose enthusiasm for the training of public funded normal students.

5. Path optimization of the principal-agent problem in the implementation of the policy of public funded normal students in physical education

Cooperation and win-win refers to the mutual participation, mutual improvement, mutual benefit and win-win through the cooperation of two or more parties [21]. The principal-agent tripartite cooperation construction in the implementation of the sports education public funded normal college student policy should take "mutual benefit, win-win and sharing" as the overall idea, deepen cooperation, and strive to build the tripartite cooperation into a win-win mechanism of "standardized management, resource sharing, open and efficient". From the perspective of principal-agent, Cooperation and win-win mechanism is the best way to solve the principal-agent problem in the implementation of the sports education policy for publicly-funded normal students, and finding a win-win path is the only way to achieve long-term stability [22].

![Figure 2. Win-win cooperation model of government universities](image)

5.1. Promote the sharing of information resources between the government and universities

Under the guidance of the government, universities and the government should realize effective docking, and take various measures to promote the information asymmetry between the government and universities in sports education. First of all, to promote the information disclosure of the training plan of public funded normal students in sports education, universities actively disclose information is the first condition to solve the problem of information asymmetry in the principal-agent chain in the training process of public funded normal students in sports education. Colleges and universities should attach importance to the strategic overall situation of developing rural education by training public funded normal students, and actively disclose the training programs and training information of public funded normal students in physical education, rather than regard their own advantages as the capital of competing with other colleges and universities. Secondly, there is a single transmission channel in the information transmission of sports education public funded normal university students. The government can establish a monitoring system for the training process of public funded normal students in physical education, and adopt information technology to realize the sharing of information resources between the government and universities, so as to achieve win-win cooperation.

5.2. Promote the integration of interests between the government and universities

The cooperation mode between the government and universities should ensure the basic interests of
each member, and the universities and governments must focus on the idea of "win-win cooperation" and innovative thinking. Both the government and the university must build on the basis of mutual benefit to maximize the interests of both sides. In order to achieve the goal of win-win cooperation and innovation between the government and universities, it is necessary to optimize and integrate the resources of the three organizations. The root cause of the principal-agent problem faced by the public funded normal college students in the training process is the interest game behavior caused by the inconsistency between the goals of the government and universities, but this game phenomenon can be reconciled by various measures. First of all, the fundamental goal of cultivating public funded normal students of physical education should be clearly defined, and the government can issue specific documents according to public funded normal students of physical education. The blind training of public funded normal students is related to the fundamental goal of colleges and universities, and the understanding of the training of public funded normal students is insufficient. Some colleges and universities have a one-sided understanding of the policy content without deep thinking, confuse the training of public funded normal students in physical education with that of non-public funded normal students, and only pursue the improvement of explicit indicators, without considering whether it meets the needs of teachers employed by the employers of public funded normal students, which is the reason for the deviation of the training objectives of public funded normal students in physical education. Therefore, what kind of teachers the government needs, the school will produce what kind of teachers. Strengthen the communication and interaction among the government, colleges and universities, and the employers of public funded normal students in sports education, so as to make colleges and universities clearly understand the fundamental goal of training public funded normal students in sports education, so as to realize the integration of the interests of the three.

5.3. Improve the way the government supervises universities

The asymmetry of interests and information in colleges and universities causes the subordinates to deviate from the goals assigned by their superiors. It is a traditional and necessary restraint method to strengthen the supervision of agents. Evaluation is a means to provide feedback, judgment and guidance information, which can provide the necessary basis for the principal to understand the work of the agent. The training of public funded normal students in sports education is a systematic process involving many factors. Therefore, it is necessary to strengthen the system supervision system reform of the principal-agent relationship chain in colleges and universities in order to coordinate and promote the optimization of the principal-agent relationship chain. First of all, the supervision and management of school teaching evaluation and teaching management is carried out through the supervision of efficiency, standards, quantification and other explicit indicators. Secondly, the evaluation model for the quality of student training. In practice, the government also needs to conduct spot checks on the quality of publicity-funded sports education normal students to check whether their teaching ability, professional skills and comprehensive quality meet the standards of a qualified physical education teacher and whether they are capable of being a teacher.

5.4. Optimize the government's incentive mechanism for colleges and universities

Agent incentive refers to the process in which the principal creates conditions to meet various needs of the agent, stimulates his working motivation, and makes him produce specific behaviors to realize the principal's wishes [20]. In the traditional sense, agent incentive includes value satisfaction incentive and economic welfare incentive, which can be motivated according to the nature and characteristics of public funded normal students in sports education in the principal-agent chain. In terms of incentive methods, the government can stimulate the work motivation of colleges and universities through value satisfaction incentive and economic welfare incentive. Value satisfaction incentive is mainly to create a good cultural atmosphere, is a kind of disguised spiritual incentive, is based on mutual respect and mutual trust. The purpose of the existence of colleges and universities is to cultivate talents, implement the concept of education as the first in the value satisfaction and incentive, and realize the value enhancement. Economic welfare incentive is simply material incentive, through the salary, welfare benefits and wages to play an incentive role. In the economic welfare incentive, if the reward is not measured by the hard condition of performance completely, it will not have an effective incentive effect on colleges and universities, but will increase the pressure on colleges and universities, and can not guide the agency behavior of colleges and universities correctly. The incentive for young teachers in colleges and universities lies in the improvement of professional skills and the satisfaction of life, and the honorable incentive is adopted for experienced old teachers.
6. Conclusions

All in all, looking at the public funded normal students of physical education from the perspective of principal-agent can not only promote the tripartite cooperation between the government, universities and employers of public funded normal students, but also help optimize the training path of public funded normal students. It can be seen that clarifying the tripartite cooperation between the government, universities and employers of public funded normal students of physical education is crucial to improving the quality of public funded normal students of physical education. The training of public funded normal students in sports education also needs the supervision of the government, the implementation of colleges and universities, and the cooperation of public funded normal students' employment units. By promoting the sharing of information resources between the government and colleges and universities, promoting the integration of interests between the government and colleges and universities, optimizing the way the government supervises the implementation of policies in colleges and universities, and perfecting the government's incentive mechanism for colleges and universities, the development mode of public funded normal students in sports education has been promoted to greatly improve the training quality of public funded normal students in sports education.

References


