



## A Study on the Innovative Design of Dragon and Lion Dance in School Physical Education Curriculum under the Protection of Intangible Cultural Heritage

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**SUMMARY:** *Dragon and lion dance carries the profound Chinese traditional culture, which is the most vivid and vivid historical resources and cultural heritage that the Chinese people have contributed to the human society. Based on the protection of intangible cultural heritage and the dragon and lion dance physical education program, the article innovatively proposes a “four-dimensional integration” model for the dragon and lion dance physical education program. In order to verify the effectiveness of the model, 80 students from a provincial sports institute were selected to design a comparative teaching experiment, and the data were analyzed in terms of physical health, mental health and cooperative awareness. It was found that the “four-dimensional integration” model of dragon and lion dance physical education curriculum could significantly improve students' physical and mental health ( $P < 0.05$ ), and students' cooperation awareness and skills scores increased from 68.54 before the experiment to 88.85 after the experiment, and students' motivation was clearer. The effective integration of dragon and lion dance and school physical education curriculum needs to strengthen the publicity and popularization efforts, combined with curriculum content innovation and talent training efforts, to provide a platform to support the inheritance and development of the traditional culture of dragon and lion dance.*

**KEYWORDS:** *dragon and lion dance; physical education curriculum; “four-dimensional integration” model; non-heritage conservation*

### 1 Introduction

Dragon and lion dance is a traditional intangible cultural heritage of China with a history of thousands of years [1, 2]. Whenever there is a Spring Festival, a temple fair or other major festivals, the dragon and lion dance becomes the most anticipated and enthusiastic folk event [3, 4]. This unique and characteristic art form not only demonstrates the profound heritage of Chinese culture, but also becomes the carrier of Chinese people's love for traditional culture and expression of joyful and festive emotions [5-7]. In the context of the protection of intangible cultural heritage, the integration of dragon and lion dance with school physical education curriculum has become an important form of inheritance and protection [8].

Dragon and lion dance belongs to an important content of Chinese traditional culture, and to a certain extent, it also belongs to the content of physical education teaching [9, 10]. The most important thing in dragon dance and lion dance is to keep students' body in balance, and

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the methods and strategies of teaching are especially important when teachers teach the content of dragon dance [11, 12]. The combination of teaching and practice is an important teaching method of dragon dance and lion dance sports, and this teaching method allows students to practice in person, to understand the skills related to dragon dance and lion dance in practice, to master the ways and methods of dragon dance and lion dance, and to savor the true meaning and fun of it [13-16]. However, due to the late start of dragon and lion dance sports, the weak work of building teachers' strength, and the lack of related teaching materials, it is difficult to fully develop its sports value [17, 18]. Therefore, university physical education teachers should actively study the potential value of dragon and lion dance and analyze how it can be vigorously developed in universities [19, 20]. Thus, this traditional sport with strong cultural heritage and distinctive national characteristics can be better inherited and carried forward [21, 22]. In addition, to promote the overall development of dragon and lion dance sports, is conducive to improving the physical and psychological quality of college students, so that the physical and mental health of college students can be effectively protected [23, 24].

As an excellent traditional sports culture, dragon and lion dance and school is an important position for physical education, so it is urgent to seek countermeasures to promote dragon and lion dance and realize the innovative integration of dragon and lion dance and physical education curriculum. The article is oriented to the protection of intangible cultural heritage, puts forward the “four-dimensional integration” education model of dragon and lion dance physical education curriculum, and designs the triple synergistic development mechanism of school-school collaboration, school-local collaboration, and school-enterprise collaboration. With regard to the effectiveness of the “four-dimensional integration” model of dragon and lion dance physical education, this paper designed a comparative teaching experiment to analyze the differences in students' physical and mental health under the model, and explored the impact on students' sense of cooperation and skills. Based on the results of the data analysis, specific strategies for the effective integration of dragon and lion dance and physical education curriculum are proposed from the three dimensions of publicity and popularization, curriculum innovation and talent cultivation.

## **2 Dragon and lion dance “four-dimensional integration” education model**

Dragon and lion dance is a part of national traditional sports, with strong folklore, entertainment, culture, with beautiful posture and professional skills, can be equipped with drums, percussion, with a strong rhythm and artistic charm, with unique traditional cultural characteristics and is loved by people all over the world. It is not only a sport, but also a culture rich in national art. Under the perspective of intangible cultural heritage protection, combining dragon and lion dance with school physical education curriculum is an inevitable path to realize the innovative development of dragon and lion dance.

### **2.1 Definition of relevant concepts**

#### **2.1.1 Safeguarding of intangible cultural heritage**

In the Convention for the Safeguarding of the Intangible Cultural Heritage, UNESCO states that the intangible cultural heritage refers to the practices, performances, expressions, knowledge and skills, as well as the instruments, objects and artifacts related thereto, which are recognized by communities, groups and, in some cases, individuals as part of their cultural heritage [25]. Intangible cultural heritage can be categorized according to different criteria and

definitions, and according to UNESCO's definition in the Convention for the Safeguarding of the Intangible Cultural Heritage, intangible cultural heritage consists of five main categories. Namely, oral traditions and expressions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe, and traditional crafts. The intangible cultural heritage is uniquely fascinating, characterized mainly by its living, inherited, regional and ethnic nature, and the safeguarding and transmission of the intangible cultural heritage requires full respect for its characteristics to ensure that its distinctive features and unique values are maintained in the transmission.

Intangible cultural heritage created by the people is the crystallization of folk wisdom. The safeguarding of intangible cultural heritage must be carried out in the context of the “living” life process of the people, and must not be divorced from the actual production and life of the people. So far, China has made the following explorations on the way of safeguarding intangible cultural heritage [26].

(1) Rescue protection refers to the protection of representative items of endangered intangible cultural heritage as well as old and frail representative inheritors to urgently take measures such as investigation, recording, archiving, data collection and preservation, and teaching with apprentices to maximize the vitality of intangible cultural heritage. Rescue protection is the first and foremost task for the protection of intangible cultural heritage, and it is the prerequisite for all inheritance, protection and utilization of intangible cultural heritage.

(2) Productive safeguarding refers to transforming intangible cultural heritage into marketable cultural products through production and sales, realizing economic benefits through circulation, and promoting the development of related cultural industries, so that it can be effectively safeguarded in the process of production practice.

(3) Holistic safeguarding emphasizes that safeguarding practices should be carried out in the cultural environment in which they are located, and that it is a multi-angle, all-round and three-dimensional safeguarding rather than a fixed, one-sided and single selective safeguarding.

### **2.1.2 Dragon and Lion Dance Physical Education Programs**

Dragon and lion dance is a traditional Chinese folk custom [27]. Dragon dance is a traditional sport that shows the charm of the dragon through the dancers' pace changes and posture changes to imitate the parade of the dragon. As one of the Han folk dances, the dragon dance is a precious historical tradition of teamwork, modeling changes and movement routines to show the image of the dragon, reflecting the unity and cooperation of the Chinese people and the spirit of the nation, which is extremely valuable. Lion dance is one of the excellent folk dance arts of the Chinese nation. Because of its tall and powerful image, the lion has been regarded as an “auspicious beast”, symbolizing good luck and good fortune in the inheritance of the Chinese nation for thousands of years. Whenever the annual festival celebrations, folk gatherings and other festive activities, folk more lion dance performance, hoping to borrow the “king of beasts” in the name of intimidation of evil, eliminating disasters, in order to protect the health of friends and family peace and prosperity.

The Dragon and Lion Dance Physical Education Program not only teaches students the techniques and movements of dragon and lion dance, but also spreads traditional culture to students, and should not only focus on the teaching of dragon and lion dance techniques. At the same time, dragon and lion dance technique and dragon and lion dance culture theory are not separate. Therefore, teachers should pay attention to the combination of theory and practice in the teaching of dragon and lion dance courses, carry forward democracy, respect teachers, teach each other and learn from each other, and treat each other differently. They should use teaching combined with games, classroom teaching combined with extracurricular counseling and observation, and constantly improve teaching methods to ensure that students can understand

the profound connotation of Chinese dragon and lion dance culture on the basis of mastering dragon and lion dance techniques. In addition, the school dragon dance and lion dance physical education class teachers in the teaching of the movement technology at the same time, should pay attention to cultivate the students of the sport of beauty, the pursuit of beauty, beauty and the comprehensive ability to show. When appropriate, the learned skills of dragon and lion dance can be applied to social life, so that the learning interest aroused by students in the classroom can continue to extend and develop outside the classroom [28].

## 2.2 Construction of the “four-dimensional integrated” model of human development

### 2.2.1 The “four dimensions” model of human development

Figure 1 shows the “Four-dimensional Integration” education model of dragon and lion dance physical education courses, which is to protect intangible cultural heritage from four dimensions: dragon and lion dance competition culture, fitness culture, performance culture and international dissemination through the dragon and lion dance physical education courses as a carrier. The “four-dimensional integration” education model of dragon and lion dance physical education course mainly uses classroom teaching, special training and extracurricular practice to strengthen the knowledge of physical education students about the value of Chinese excellent traditional culture, enhance their cultural confidence, and enable them to become referees and coaches who understand the culture of dragon and lion dance. Cultivate the inheritors of dragon and lion culture, pass on and promote dragon and lion culture, and enhance students' sense of teamwork in competitive and performance practice. To promote community harmony and national unity in the practice of promoting excellent dragon and lion culture on campus, in the community and in enterprises, thus realizing the overall goal of the curriculum to educate people.

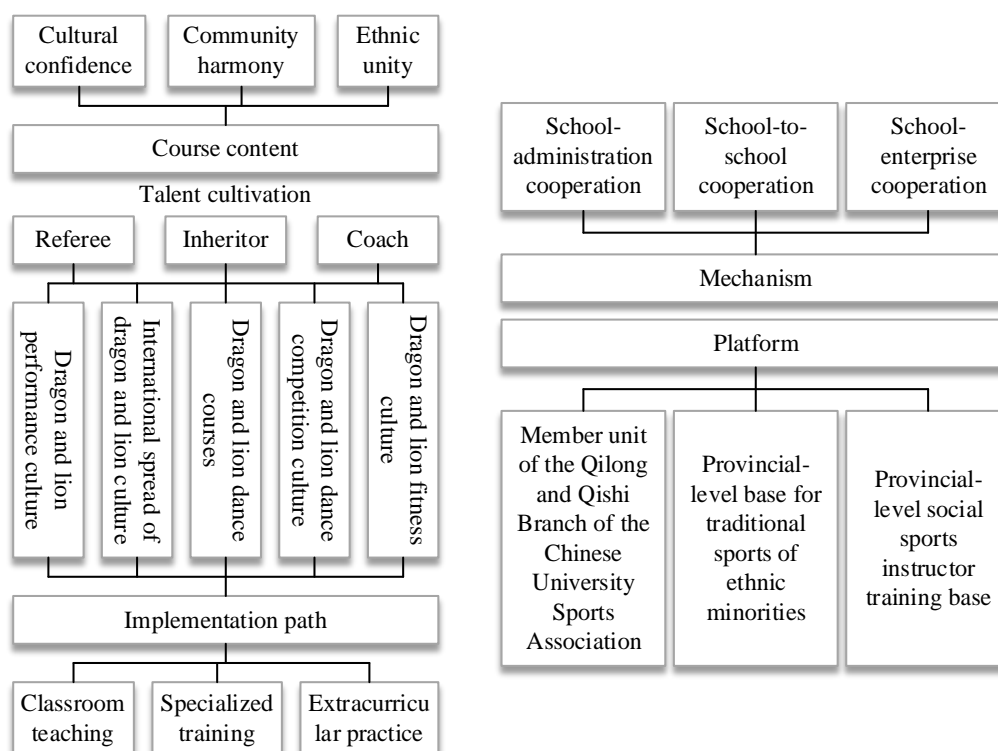


Figure 1: The “Four-Dimensional Integration” education model

Dragon and lion dance sports classroom teaching adhere to the three integration, the first is to adhere to the integration of independent discussion and watching the competition video case, using flipped classroom, case study, collaborative seminars and other methods, so that students can participate in the teacher-student interaction, learning content interaction, peer interaction, to cultivate students' interest in the excellent traditional Chinese culture, enhance students' cultural self-confidence. Secondly, we insist on the integration of learning evaluation and teaching exhibition activities to form a diversified evaluation mechanism and cultivate students' team spirit and innovation. Thirdly, we insist on the integration of establishing oneself with virtue and teaching behavior and etiquette, cultivating students' good behavioral habits and communication etiquette, so that students can inherit Chinese virtues in the process of training, competitions and performances.

### 2.2.2 Triple synergistic development mechanisms

Relying on the practice teaching platform base, in order to form a relatively stable triple synergistic development mechanism of school-school collaboration, school-land collaboration and school-enterprise collaboration, the multi-dimensional interaction of teachers and students' roles is realized through multiple scenario transformations such as teaching, training, competitions, performances, etc. as shown in Figure 2. In the process of multi-dimensional interaction of teacher and student roles, teachers play the roles of coach, director and judge. During the competition, students play the roles of athletes, coaches and judges. In the exhibition process, students play the roles of director, actor and audience. In fitness instruction, students play the roles of instructors and teachers. In international communication, students play the roles of coaches and friends. In work and life, students play the role of inheritors.

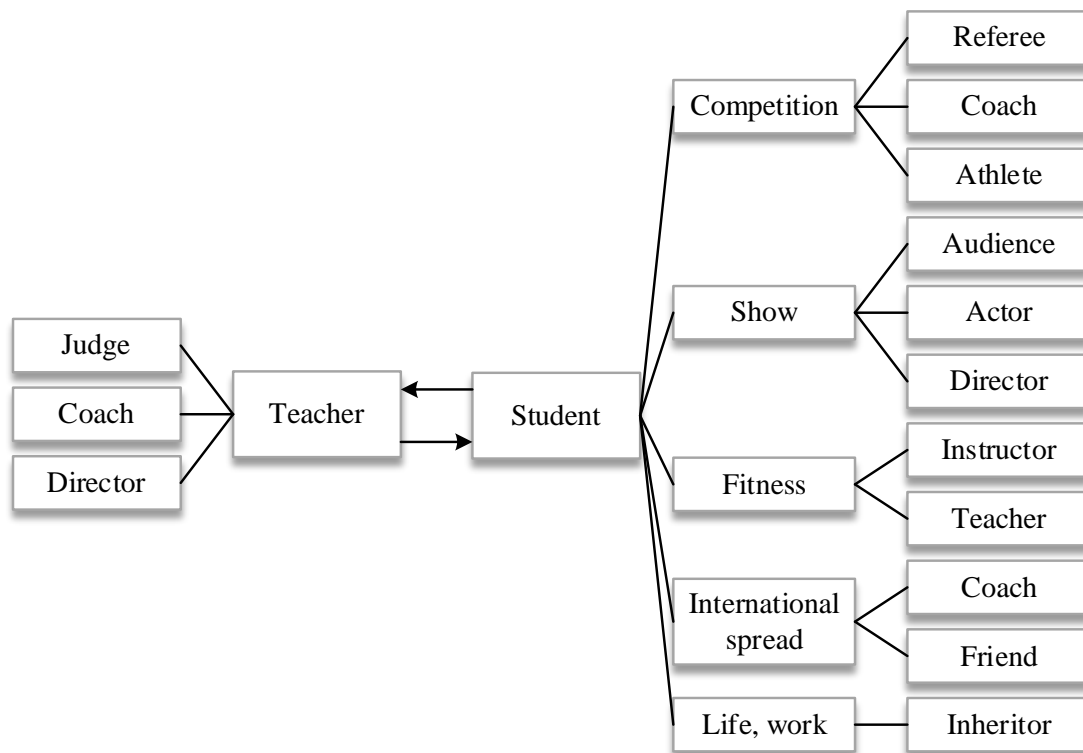


Figure 2: Multi-dimensional interaction diagram of teacher-student roles

### **3 Teaching Practice of Dragon and Lion Dance Physical Education Course**

China is the birthplace of dragon and lion dance sports, dragon and lion dance as a treasure trove of traditional culture rich in national characteristics, historical imprints, festivals and other cultural unity of the outstanding representatives of China in the new era and gave its discipline construction, competition to win the standard, cultural heritage and other new missions. Relative to the mature competitive sports projects, dragon and lion dance has just started, but the momentum of the day, the grand image. From the perspective of “cultural self-confidence”, heritage and development of dragon and lion dance is inevitable, and the school is an important inheritance of dragon and lion dance sports field. School dragon and lion dance sports program teaching practice research, with the development of dragon and lion culture dissemination pathway, enrich the campus sports culture, promote the construction of disciplines, enhance the exchange of teaching experience, theory and practice of guidance and other research significance.

#### **3.1 Subjects and experimental design**

##### **3.1.1 Selection of research subjects**

This paper takes the “four-dimensional integration” model of dragon and lion dance physical education course as a teaching method, and verifies the interventions on students' physical fitness, mental health, cooperative awareness and skills through teaching practice. Taking the physiological and psychological characteristics of the student group as the main focus, and the specific teaching objectives of the Dragon and Lion Dance Physical Education Program as the main basis for the current stage, we designed a specific lesson plan for the teaching experiment of the Dragon and Lion Dance Physical Education Program. A 20-week comparative teaching experiment was conducted with 80 students randomly selected from the School of Physical Education of University Y in a certain province. Random sampling method was used to divide all 80 students into two groups, one set as the experimental group and the remaining 40 students as the control group. The experimental group utilized the “four-dimensional integration” model of the dragon and lion dance physical education program established in the previous section to carry out the teaching of the dragon and lion dance physical education program, while the control group adopted the traditional teaching of the dragon and lion dance physical education program.

The physical fitness test indicators were selected from the National Physical Fitness Standard for Students, including body shape (height, weight, BMI), physical function (lung capacity), and physical fitness (50m run, standing long jump, pull-ups, 1-minute sit-up, 1000m run, and seated bent-over).

##### **3.1.2 Questionnaire design**

The psychometric method of this paper is to use the Mental Health Diagnostic Test (MHT) scale developed by existing researchers adapted to the standards of students, this questionnaire has been recognized by many scholars and has a high rate of use, the use of the results of the reliability of the results is high, and has been unanimously praised. The scale is divided into eight content scales (learning anxiety, anxiety about people, loneliness tendency, self-blame tendency, allergy tendency, physical symptoms, fear symptoms, impulsivity tendency) and a validity scale, first through the results of the eight content scales, analyze the degree of student anxiety and analyze which part of the weight of the personal anxiety accounted for a greater

proportion. The psychological results were measured and analyzed before and after the experiment, and the questionnaire was mainly used for the students who participated in the teaching comparison experiment.

In addition, this paper also investigates and analyzes the changes in students' cooperative consciousness and skills under the teaching comparison experiment. The changes in students' cooperative awareness and skills in sports are mainly quantified in five dimensions: cooperative awareness, participation ability, communication ability, collaboration ability, and conflict resolution ability, and the scale is extracted from existing related studies. Therefore, the scale has good reliability and validity, and the obtained data can truly show the students' mastery of dragon and lion dance sports courses under different teaching modes.

For both questionnaires, 80 questionnaires were distributed before and after the beginning of the teaching experiment, and 80 questionnaires were valid, with a validity rate of 100%.

### **3.1.3 Design of teaching experiments**

#### **(1) Experimental content**

The teaching experiment time is 20 weeks, randomly divided into two small classes for teaching, which are the experimental group and the control group, with four lessons per week and 45 minutes per lesson. Through the trial teaching of dragon dance and lion dance physical education courses before the teaching experiment, to understand the learning efficiency and state of the students. At the same time, through the interview method, the school leaders and teachers in other areas who have already conducted the teaching content of dragon and lion dance physical education courses were interviewed to understand the teaching progress and teaching content of the students' dragon and lion dance physical education courses, to establish the teaching objectives as well as the teaching syllabus, and to modify and improve the original teaching experiment design syllabus. Finally, the content of the teaching experiment course and the main teaching content were determined, and the teaching goal was that the students in the experimental group could complete the dragon and lion dance performance in a complete and orderly manner.

#### **(2) Teaching Intervention**

In this paper, the design, experiment, test, comparison and discussion are mainly centered on two variables. The independent variable is the teaching of dragon and lion dance physical education program, and the dependent variable is the change of students' physical fitness. Through the experiment of teaching dragon and lion dance physical education program, the physical fitness of students was improved. Students in the control group and the experimental group will participate in the same Dragon and Lion Dance Physical Education Program, with a fixed number of students, fixed teaching content, unchanged teaching curriculum, and only the teaching mode changed.

#### **(3) Experimental control**

All tests in this study are conducted in strict accordance with the standards of physical education measurement and evaluation to ensure the consistency and completeness of the data of students in the experimental and control groups of the dragon and lion dance physical education program. Each test was conducted with nationally designated equipment, using the National Physical Fitness Test Standard computer application system, and pre-test checking to avoid data errors before the experiment. Meanwhile, the testers were operated by postgraduate students specializing in sports human body science throughout the test to ensure the professionalism of the test.

### 3.2 Curriculum design and classroom interaction

#### 3.2.1 Instructional design of courses

For the innovative design of the dragon and lion dance physical education program, relying on the “four-dimensional integration” model can better help students master the basic knowledge and techniques of the dragon and lion dance, and overall improve the students' athletic ability, personal ability, and further enhance the students' athletic qualities and modern qualities. On this basis, the “four-dimensional integration” model creates a dragon and lion dance sports training program that is different from traditional teaching methods.

Figure 3 shows the design framework of the training program for the experimental group of students under the support of the “four-dimensional integration” model. The development of a dragon and lion dance physical education training plan not only further crystallizes the training goals, but also provides teachers with a scientific training model to monitor the achievement of the goals in each training process, which is conducive to the achievement of the final training goals. The development of the Dragon and Lion Dance Physical Education Training Program can improve the ability of teachers to master and control the training process, and is conducive to the scientific and objective evaluation of teachers' training work.

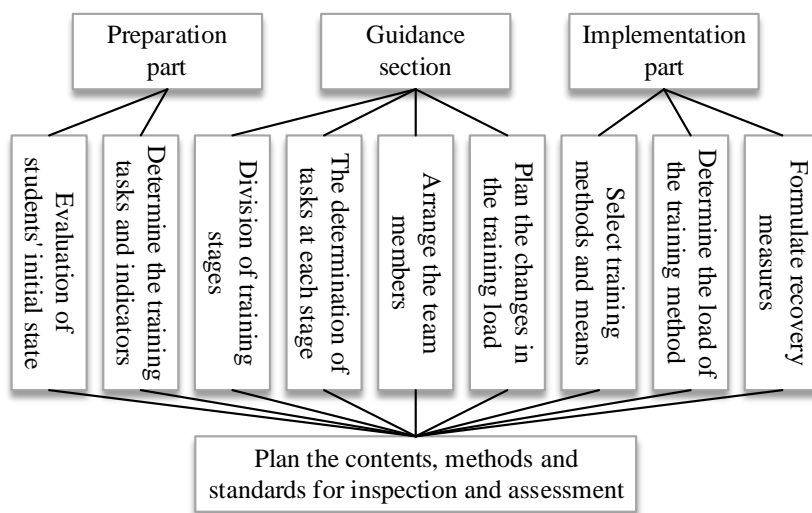


Figure 3: Course Teaching Design

#### 3.2.2 Classroom Interaction Process

Well-designed classroom interactions, such as formation assembly before class, regulate students' behavior, emphasize the concept of time and collective consciousness, and greet teachers and students with dragon and lion etiquette to cultivate students' quality of respecting teachers. At the same time, specialization warm-up sessions are carried out to guide students to develop a lifelong exercise view of sports.

In the course of teaching, teachers should integrate the teaching training program into the content of dragon and lion dance physical education courses. Teachers need to explain and demonstrate the technical movements of dragon and lion dance, so that students can develop the habit of active thinking and comprehend the technical points while learning the techniques. By repeating the movements in small groups, students can cultivate their hard-working spirit and the collectivist quality of helping each other. The action show helps to cultivate students' ability to try and show themselves, and enhance their self-confidence and team cohesion.

In addition, the action error correction link is conducive to students to develop the habit of

scientific truth-seeking and diligent reflection. In the classroom review session, teachers should encourage and praise students, mobilize students' enthusiasm to participate in the classroom, and cultivate their lifelong sports awareness of being aggressive and daring to try.

The setting of questions after class aims to fully stimulate students' enthusiasm for learning, guide students to use their spare time to actively collect and deeply understand relevant knowledge, explore the essence of the problem, and dig out the deeper meaning behind the problem. This approach not only contributes to the inheritance and promotion of the excellent traditional Chinese culture, but also can further carry out patriotic education, maximize the nurturing value of the Dragon and Lion Dance course, and achieve better educational results.

## 4 Effectiveness of the teaching of dragon and lion dance physical education program

As a traditional sport that has been passed down since ancient times, dragon and lion dance has a history of several thousand years. As a cultural carrier, dragon and lion dance carries the emotions and memories of generations of people. However, under the development of today's social environment and cultural disconnection, the Dragon and Lion Dance is facing the danger of being lost. As the traditional cultural proof of our country's history, the Dragon and Lion Dance must be inherited and developed, and it is imperative to protect the Dragon and Lion Dance program.

### 4.1 Analysis of the effectiveness of curriculum implementation

#### 4.1.1 Variability in students' physical health

For the students' physical health, this paper mainly tests the three dimensions of physical form, physical function and physical fitness, and before the beginning of the teaching experiment, the physical health of the students in the experimental group (EXP) and the control group (CON) is tested, and their data are collected and then carried out an independent samples t-test. Table 1 shows the comparative results of students' physical fitness before the experiment.  $P < 0.05$  in the table indicates that the difference is statistically significant.

As can be seen from the table, before the start of the teaching experiment, the P-value of the three indicators of physical form, physical function and physical fitness of the students in the experimental group and the control group were all greater than 0.05, and there was no significant difference. It can provide an effective sample for the comparative teaching experiment, and visualize the teaching effect of the “four-dimensional integration” education model of the dragon and lion dance physical education course.

*Table 1: The physical health of the students before the experiment*

	Index	EXP	CON	<i>t</i>	<i>P</i>
Physical form	Height	171.52±2.78	172.03±2.95	-0.935	0.416
	Weight	59.46±5.27	58.75±5.31	-0.318	0.543
	BMI index	20.21±1.35	19.88±1.47	0.194	0.882
Body function	Lung capacity	3214.58±614.7	3238.35±643.7	-0.491	0.651
Physical quality	Pull-ups	5.24±2.21	5.29±2.13	-0.663	0.528
	Sit forward bend	1.36±5.37	2.12±3.18	-0.314	0.742
	Stand long jump	225.17±20.18	222.43±21.17	0.256	0.715
	50m run	7.51±0.63	8.23±0.85	-1.331	0.083
	1000m run	271.45±17.33	272.35±18.31	0.867	0.392

At the end of the teaching experiment, the physical form, physical function and physical fitness of the students in the experimental group and the control group were measured, and the obtained data were entered into SPSS software for statistical analysis. Table 2 shows the results of the independent samples t-test comparison of the physical health of the two groups of students after the teaching experiment.

Based on the results in the table, it can be seen that at the end of the teaching experiment, there is no significant difference between the experimental group and the control group of students in the three indicators of physical form ( $P>0.05$ ), which indicates that both teaching methods can effectively maintain the physical form of students. As for the physical function (lung capacity) of the students, there is a significant difference between the experimental group and the control group ( $t=2.167$ ,  $P=0.043<0.05$ ). The “four-dimensional integration” model of dragon and lion dance physical education program helps the students to better master the dragon and lion dance skills and to improve their endurance through a variety of forms of teaching content. The “four-dimensional integration” model of the dragon and lion dance physical education program helped students to better master the relevant dragon and lion dance skills through various forms of teaching content, improved their endurance to adapt to the higher intensity of the dragon and lion dance training, and then strengthened the lung capacity of the students. In terms of students' physical fitness indicators, there was a highly significant difference between the experimental group and the control group in pull-ups after the teaching experiment ( $t=3.417$ ,  $P=0.009<0.01$ ), while the P-value of seated forward bending was 0.338, which was greater than 0.05, and there was no significant difference. In the three indexes of standing long jump, 50m run and 1000m run, their P-values are less than 0.05, indicating that there is a significant difference between the students of the experimental group and the control group after the teaching experiment.

Table 2: The physical health of the students after the experiment

	Index	EXP	CON	<i>t</i>	<i>P</i>
Physical form	Height	171.45±5.12	172.88±3.74	0.514	0.394
	Weight	59.37±6.06	59.93±4.12	-0.379	0.706
	BMI index	20.16±1.34	20.08±1.26	-0.213	0.918
Body function	Lung capacity	3842.63±445.2	3352.74±325.8	2.167	0.043
Physical quality	Pull-ups	9.46±1.85	6.03±2.06	3.417	0.009
	Sit forward bend	4.12±4.43	5.83±3.12	-0.928	0.338
	Stand long jump	235.91±8.72	221.51±12.61	2.664	0.042
	50m run	7.43±0.51	7.81±0.42	2.716	0.011
	1000m run	251.15±19.38	263.95±11.43	-3.118	0.027

Comprehensive results of the above experiments show that the “four-dimensional integration” model of Dragon and Lion Dance Physical Education Program can effectively enhance students' physical fitness, and also improve students' physical fitness to a certain extent, so that they can better face the Dragon and Lion Dance Physical Education Program, and also provide support for expanding the heritage of the Dragon and Lion Dance.

#### 4.1.2 Differences in student mental health

Mental health is very important for a person, and it is a health factor necessary to achieve a state of life in which physiology, psychology and society live in harmony. The “four-dimensional integration” model of Dragon and Lion Dance Physical Education Course can better help students to effectively combine knowledge, behavior, will, emotion and mental

health education, and play the role of effective regulation and control of emotions. Before the start of the teaching experiment, through the questionnaire to obtain the mental health performance of the experimental group and the control group of students, and carry out an independent sample t-test, Table 3 shows the score of students' mental health factors before the experiment.

It can be seen that the p-value of the mental health scores of the students in the experimental class and the control class before the experiment is greater than 0.05, there is no significant type of difference, indicating that the scores of the factors of the mental health scale of the two classes before the experiment are at the same level, which suggests that the experiment can be carried out. However, from the data in the table, it is found that the students in the experimental and control groups have higher scores in the factors of anxiety about people, tendency to loneliness, tendency to self-blame, and tendency to allergy, which indicates that the psychological level of these students is fragile in general.

*Table 3: The scores of students' mental health before the experiment*

Index	EXP	CON	<i>t</i>	<i>P</i>
Learning anxiety	2.41±2.31	2.35±2.16	0.516	0.661
Be anxious about people	2.52±2.16	2.43±1.84	0.928	0.327
Tendency towards loneliness	2.63±2.27	2.57±2.15	0.293	0.518
Self-blame tendency	2.54±2.39	2.62±2.21	0.565	0.654
Allergic tendency	2.68±2.31	2.71±1.98	0.432	0.092
Physical symptoms	1.85±1.62	1.86±1.57	0.557	0.126
Fear symptoms	1.47±1.27	1.52±1.32	0.719	0.505
Impulsive tendency	2.34±2.28	2.33±2.25	-0.836	0.083

At the end of the teaching experiment, the mental health scores of students in the experimental group and the control group were tested again and independent sample t-tests were carried out, and Table 4 shows the results of the comparison of the mental health scores of students in the two classes after the experiment.

It can be seen that the experimental group is better than the control group in enhancing students' psychological symptoms teaching effect. After the experiment, there is a significant difference between the experimental group and the control group in the five factors of learning anxiety, anxiety about people, loneliness tendency, self-blame tendency, allergy tendency ( $P < 0.05$ ), and the other three indexes do not show differences. This shows that sports have more or less promotion effect on students' mental health, and the “four-dimensional integration” model of dragon and lion dance physical education program has a greater effect on students' psychological stimulation and promotion. Because the training content of Dragon and Lion Dance Physical Education Program is novel, diversified, systematic and versatile, it not only reflects the fashion of physical education, but also meets the physical and mental needs of students. It not only improves students' learning enthusiasm, initiative and creativity, but also creates the conditions for students' overall physical and mental development, so it has a more prominent effect on the five factors of learning anxiety, anxiety about people, loneliness tendency, self-blame tendency and allergic tendency. Analyze the reasons, mainly related to the following points:

(1) The influence of dragon and lion dance training on students' correct self-perception. The positive, morale-boosting and passionate slogans unique to dragon and lion dance training can make students participating in this sport eliminate their low self-esteem, release pressure and develop self-confidence. It helps students to look at their own strengths and weaknesses objectively, appreciate themselves and learn to appreciate others, and vice versa, and the correct

view of self-perception is constantly improved and enhanced in the training.

(2) The influence of Dragon and Lion Dance training on students' good interpersonal relationships. In the training process, Dragon Dance and Lion Dance pays special attention to the communication and cooperation among team members, so that students can understand that mutual understanding, communication, mutual cooperation and positive evaluation in the team are conducive to better and faster learning results. Fully appreciate the collaborative power and spirit of the team, enhance their ability to carry out interpersonal communication, expand their interpersonal relationship circle, have the ability to love and be loved, and satisfy spiritual needs.

(3) Dragon and Lion Dance training has a positive impact on students' emotional optimism and life balance. In the process of dragon and lion dance training, rhythmic music can help students relieve the pressure generated by learning and life, which is conducive to students' relaxation, temporarily put down their psychological baggage and readjust their psychological emotions. Eliminate psychological fatigue, so that the state of depression can be released, positive and excited to face a variety of learning tasks, can be a calm mind to actively meet the battle, learn to live, and enjoy the fun of life brings a variety of challenges.

*Table 4: The scores of students' mental health after the experiment*

Index	EXP	CON	<i>t</i>	<i>P</i>
Learning anxiety	1.08±0.42	1.69±1.35	-3.128	0.037
Be anxious about people	1.05±0.51	1.92±1.34	-1.816	0.029
Tendency towards loneliness	1.72±1.14	2.26±1.14	-3.114	0.018
Self-blame tendency	1.39±1.03	2.51±2.28	-3.128	0.034
Allergic tendency	1.27±0.93	2.11±1.42	2.265	0.023
Physical symptoms	0.95±0.42	1.06±0.93	-0.429	0.648
Fear symptoms	0.99±0.37	1.21±1.04	-0.367	0.412
Impulsive tendency	1.51±1.42	1.25±1.06	2.193	0.157

## 4.2 Analysis of cooperation awareness and perception

### 4.2.1 Cooperative Awareness and Skill Change

For the changes in students' cooperative awareness and skills, this paper collects data through questionnaires. Before the beginning of the teaching experiment, the data related to the cooperative consciousness and skills of the students in the experimental group and the control group were obtained, and the paired-samples t-test was carried out on them. Table 5 shows the results of cooperation awareness and skills test of students in the two groups before the experiment. From the experimental results, there is no significant difference between the six indicators of cooperative consciousness and skills of the students in the experimental group and the control group before the teaching experiment ( $P>0.05$ ), which is fully consistent with the premise that the sample conditions of the two groups are basically the same before the experiment.

Table 5: Cooperative awareness and skills before the experiment

Item	Group	Means	STD	<i>t</i>	<i>P</i>
Cooperative awareness	EXP	13.41	4.41	-0.814	0.417
	CON	13.85	2.18		
Participation ability	EXP	12.89	3.16	-0.492	0.138
	CON	13.01	1.54		
Communication ability	EXP	13.72	2.16	0.935	0.354
	CON	13.54	1.69		
Collaboration ability	EXP	14.36	2.94	0.274	0.792
	CON	14.28	2.57		
Resolve conflict's ability	EXP	14.16	3.28	-0.415	0.856
	CON	13.95	2.34		
Total score	EXP	68.54	6.51	0.838	0.472
	CON	68.63	7.46		

After the experiment, the paired-sample t-test was conducted on the data of each of the indicators of students' cooperative awareness and skills under the two groups, and Table 6 shows the results of the comparison of the data of students' cooperative awareness and skills after the experiment. The results show that there is a significant difference between the experimental group and the control group in cooperative consciousness, participation ability, communication ability, collaboration ability and total score ( $P < 0.01$ ), while there is no significant difference in conflict resolution ability index ( $P > 0.05$ ). It shows that after using the “four-dimensional integration” model of Dragon and Lion Dance Physical Education Program to carry out the Dragon and Lion Dance Physical Education Program teaching, the experimental group of students, except for the conflict resolution ability, had a significant improvement in all the indicators compared with the control group. The reasons for this were analyzed:

First, students learn independently, exploratively and cooperatively, promoting cooperative awareness and skills. The “four-dimensional integration” model of human development starts from the characteristics of the students' subjective understanding, and skillfully utilizes the mechanisms of intra-group cooperation and inter-group competition to enable students to fully interact with each other. At the same time, the “guide” and “performance” for separation and division of labor, leaving a lot of classroom time for students, so that they have the opportunity to interact with each other, learn from each other and improve together. Students learn independently, in cooperative learning to fully demonstrate a strong “I want to learn” motivation and desire, and no longer “pass - accept” type “you have to learn”. The “four-dimensional integration” model of parenting has also led to a major shift in the role of the teacher, who is no longer a mere transmitter of knowledge, but has become a learning guide, manager, counselor, advisor, role model and other multiple identities.

Second, role rotation and sharing of leadership. In the cooperative learning group, the most important role change in the mutual teaching and learning session to act as a small teacher, the original teacher to teach, students are subject to learning, and now students both learning and teaching. This not only improves the students' interest in learning, but also enables them to find their own technical deficiencies, so that teaching and learning. At the same time, it also improves their sense of cooperation and cooperation skills, students in the process of explaining how to teach and how to learn to continuously improve their own expression and thinking skills. Meanwhile, in the process of sharing leadership within the group, each person has jurisdiction over a certain aspect of the group's work, which invariably increases the pressure on the students. So that they not only have to control themselves, at the same time to lead and coordinate the other people in the group to comply with the rules and regulations, in this process simply rely

on the manager of the tube is far from enough, and more need to be actively cooperated with the collective personnel and participation. Therefore, in this environment of managing and being managed, not only the cooperative skills of the managers are improved, but also the cooperative consciousness of the managed is improved.

*Table 6: Cooperative awareness and skills after the experiment*

Item	Group	Means	STD	<i>t</i>	<i>P</i>
Cooperative awareness	EXP	18.65	0.91	3.724	0.004
	CON	14.28	1.58		
Participation ability	EXP	18.45	0.86	3.346	0.000
	CON	15.27	1.72		
Communication ability	EXP	17.76	1.24	2.963	0.001
	CON	15.18	2.35		
Collaboration ability	EXP	18.42	2.28	3.517	0.000
	CON	15.36	2.76		
Resolve conflict's ability	EXP	15.57	2.15	0.814	0.273
	CON	15.48	2.04		
Total score	EXP	88.85	2.83	5.793	0.005
	CON	75.57	4.79		

#### 4.2.2 Analysis of students' motivation to participate

Understanding students' motivation to participate in the dragon and lion dance physical education program will help teachers accurately grasp the teaching aspects of the dragon and lion dance physical education program and carry out the dragon and lion dance physical education program in a targeted manner. For this reason, after the teaching experiment was completed, the scope of the survey was further expanded by selecting schools that offer dragon and lion dance physical education courses in a certain province to carry out the survey. The survey questionnaire was mainly based on students' motivations for participating in dragon and lion dance physical education courses, which mainly included strengthening the body, improving professional skills, improving moral character, repairing credits, honing the will, hobbies, learning traditional culture, film and television influences, and others, totaling nine items (O1~O9). A total of 742 questionnaires were distributed, 718 questionnaires were obtained after invalid questionnaires were proposed, and the effective recovery rate of the questionnaires was 96.77%. The number of students with different participation motives was counted, and the students' participation motives were obtained as shown in Figure 4.

The results of the survey on students' motives for learning dragon and lion dance show that the main motives for students to learn dragon and lion dance are to strengthen their bodies, improve their professional skills, improve their moral character, and learn traditional culture, which accounted for 62.95%, 68.66%, 59.47%, and 66.99% of the total number of students surveyed, respectively. From the above, it can be seen that the main motives for students to learn dragon and lion dance are to strengthen their bodies, to improve their professional skills and to learn traditional culture, which account for more than 65% of the total number of students. Students' learning of dragon and lion dance is an effective paradigm for the in-depth integration of intangible cultural heritage and school physical education curriculum, which provides a new development direction for expanding the protection, inheritance and development of dragon and lion dance. In addition, by learning dragon and lion dance for credits, honing awareness, hobbies, film and television influences and other factors are less, reflecting that the current students' cognitive awareness of dragon and lion dance physical education courses is relatively

weak, and on the other hand, the motivation of hobbies and interests is higher, which is conducive to the effective development of dragon and lion dance physical education courses.

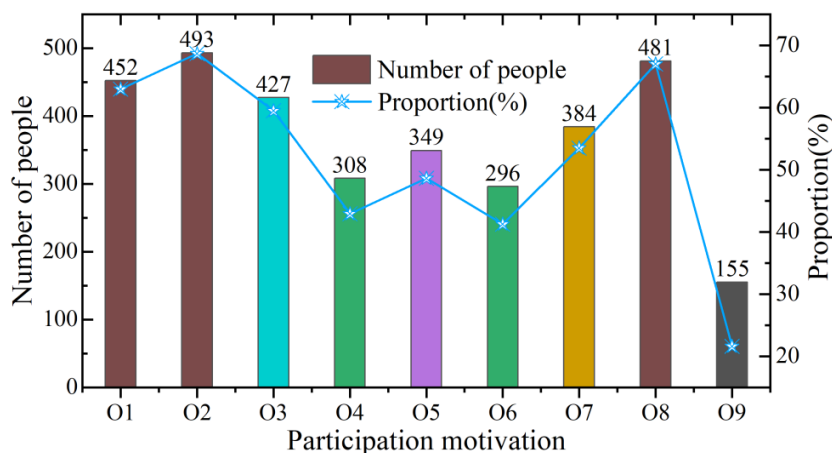


Figure 4: Student participation motivation

### 4.3 Optimization of the Dragon and Lion Dance Physical Education Curriculum

#### 4.3.1 Strengthening of awareness-raising and popularization

Excellent sports need public recognition, and its promotion and publicity is the most effective way to promote the public recognition of activities. Dragon dance and lion dance sports have a certain mass base in China, but when looking at the international arena, the influence of dragon dance and lion dance sports is relatively small. Colleges and universities need to expand the publicity of dragon and lion dance to create a publicity atmosphere, and can cooperate with relevant government departments to organize relevant social activities, and carry out large-scale promotion in the community, streets, activities and other places. Let the dragon and lion dance movement appear in the vision of more people, let more people feel the charm of dragon and lion up close, understand the function and value brought by the dragon and lion dance movement, so that more people and students participate in the dragon and lion dance movement.

In addition to traditional publicity methods, a variety of new media channels can also be used for publicity, such as the use of major social media, WeChat public number, etc. to push. Various related activities are carried out in colleges and universities, and they are publicized to the major platforms and radio and television media in the university to improve the cognition and understanding of teachers and students about the dragon and lion dance movement. At the same time, colleges and universities can invite experts in related fields to hold lectures or have interactive exchanges with students to further promote and publicize the Dragon and Lion Dance and enhance its visibility and influence. Not only can the dragon and lion dance sport get the attention of the general public in the civil society, but also can make the students on campus to understand more about the dragon and lion dance sport, to promote the dragon and lion dance sport is not only the responsibility of the students, the social groups, enterprises should also participate in it, as the excellent traditional sports and culture of the dragon and lion dance sport should be promoted by all the people of the country.

#### 4.3.2 Promoting innovation in curriculum content

In the current educational environment, innovation as a driving force is an important strategy to promote teaching content close to the masses. Traditional education methods are often

limited by established teaching models and teaching materials, making it difficult to truly meet the diverse needs of a wide range of learners. Specifically as follows:

(1) Integration of modern elements. In the choreography of dragon and lion dance movements into the rhythm of popular music modern choreography, to enhance the sense of movement and visual effects. Thus attracting the attention of students, increasing the enthusiasm of participation in the course, but also able to make the traditional culture of dragon and lion dance closer to modern life.

(2) Simplification and innovation of technical movements. Simplify the dragon and lion dance movements, remove some difficult movements, and keep the basic and interesting elements, such as waving the dragon head, swinging the lion tail and so on. The simplified movements are easy for participants to get started quickly and enjoy the fun of dragon and lion dance. Designing different sets of difficulty for different groups of people and realizing hierarchical teaching can ensure that each learner can find a way to participate that suits him/her and gradually improve his/her skills.

(3) Interdisciplinary integration and development. Interdisciplinary integration is an important trend in modern education, the integration of dragon and lion dance sports courses with other disciplines not only enriches the content of the curriculum, but also broadens the knowledge of students and promotes the overall development of students.

### **4.3.3 Enhancement of human resources training**

At present, there is still a big gap between the number of instructors and the amount of training in dragon and lion dance and the development needs of the club, and the role of dragon and lion dance cannot be well utilized. Therefore, it is necessary to transfer some political counselors and class teachers who have relevant educational background in dragon and lion dance and who are engaged in ideological education to be in charge of the construction and management of dragon and lion dance courses.

At the same time, the Dragon and Lion Dance Physical Education Program should employ professional teachers as business instructors to guide the clubs to carry out high-quality activities and improve their professionalism around the local characteristics, school-running characteristics, and professional characteristics of the college. The Dragon and Lion Dance Club should also be equipped with at least one full-time ideological, political and club management teacher and one part-time professional instructor. In order to maintain the continuity and accuracy of guidance, the assessment of the relevant work of the instructors of the clubs can also be included in the appraisal of the relevant staff of the school, and to a certain extent to give policy support, the workload of the instructors of the clubs is included in the quantitative assessment of the teachers, and is reflected in the salary treatment and the promotion of titles, and at the same time, it is also possible to encourage the young or professional teachers to actively participate in the management and guidance work of the school's relevant students' clubs. It can also encourage young teachers or professional teachers to actively participate in the management and guidance of school-related student associations.

## **5 Conclusion**

This paper proposes a “four-dimensional integration” model for dragon and lion dance physical education courses under the protection of intangible cultural heritage, and selects students of a provincial sports college as the research object to carry out a comparative teaching experiment to analyze the effectiveness of this model on the innovative development of dragon and lion dance physical education courses. Based on the experimental data, it can be seen that the “four-dimensional integration” parenting model of dragon and lion dance physical education program

established in this paper can significantly improve the physical function and physical quality of the students ( $P<0.05$ ), and can effectively enhance the mental health level and the sense of cooperation of the students. The in-depth integration of dragon and lion dance and physical education curriculum under the protection of intangible cultural heritage needs to further strengthen the publicity and popularization efforts, and timely innovation of teaching curriculum content and talent cultivation, so as to promote the living heritage and protection of the traditional culture of dragon and lion dance.

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