



Development of Colleges Basketball Skills and Refereeing Curriculum to Enhance  
Student's Learning Outcome

Yanfeng Su

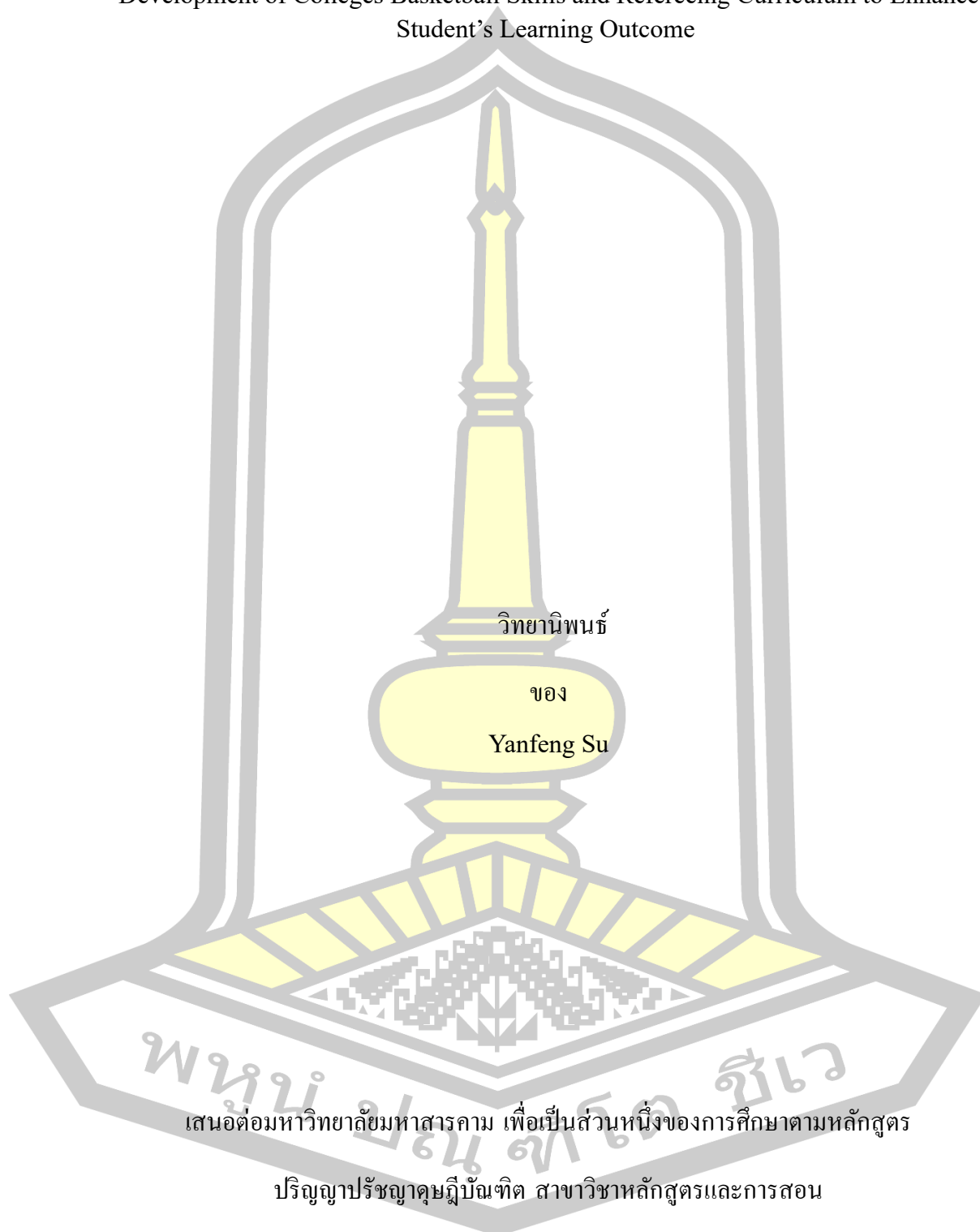
พหุบัณฑิต ชีเว

A Thesis Submitted in Partial Fulfillment of Requirements for  
degree of Doctor of Philosophy in Curriculum and Instruction

August 2024

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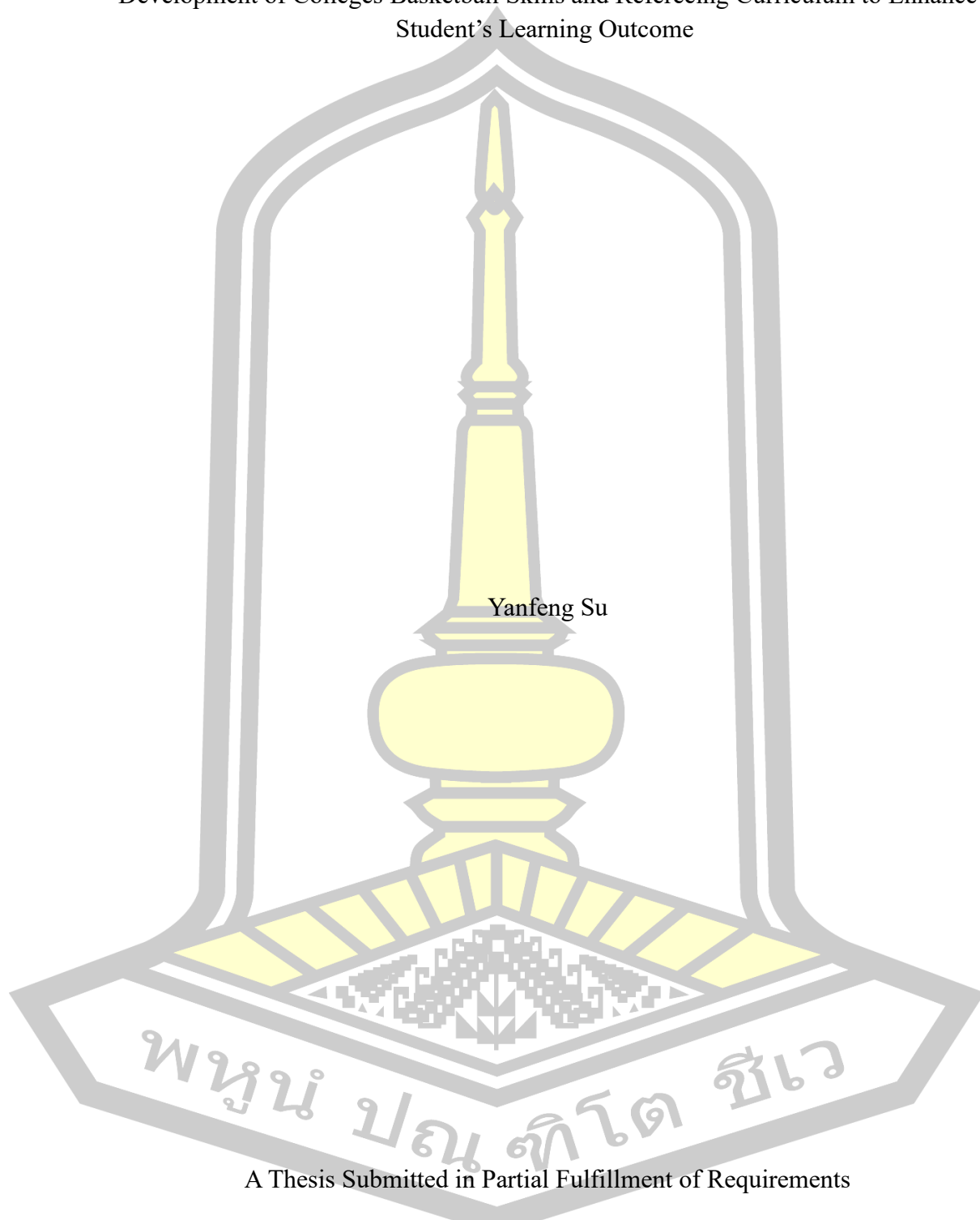


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submitted by Mr. Yanfeng Su , as a partial fulfillment of the requirements for the  
Doctor of Philosophy Curriculum and Instruction at Mahasarakham University

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### ABSTRACT

This research aim of on the learning effectiveness of offering basketball skills and referee curriculum for college students. aiming to improve their basic basketball skills and referee knowledge. Through the study of basketball rules, it helps students practice standardized technical movements and understand the characteristics of basketball technology. while also assisting in the improvement of referee ability. Research to meet the needs of university physical education curriculum reform, emphasizing updating concepts, enriching content, and improving basketball teaching methods. The research is divided into three stages, including studying the main information, designing curriculum content, and implementing curriculum. Applying basketball skills and referee curriculum to the teaching of elective curriculum in college physical education. Through purposeful sampling, reference materials, interviews, data collection, experimental design, on-site teaching, and result analysis, the research subjects are students of the 2022 basketball curriculum at Xinxiang Medical University in China. A total of 60 students were selected from 2 classes through purposive convenience sampling. Tools used include questionnaires, interviews and tests. Statistics used include percentages, mean, standard deviation, paired samples t-test, etc. Experimental pretest, posttest, statistical mean, standard deviation, percentage and T-test were performed. The results show that the new basketball curriculum is feasible, beneficial and significant. Improved students' technical and officiating ability. And there were significant differences between pre-test and post-test.

We come to the following conclusions:

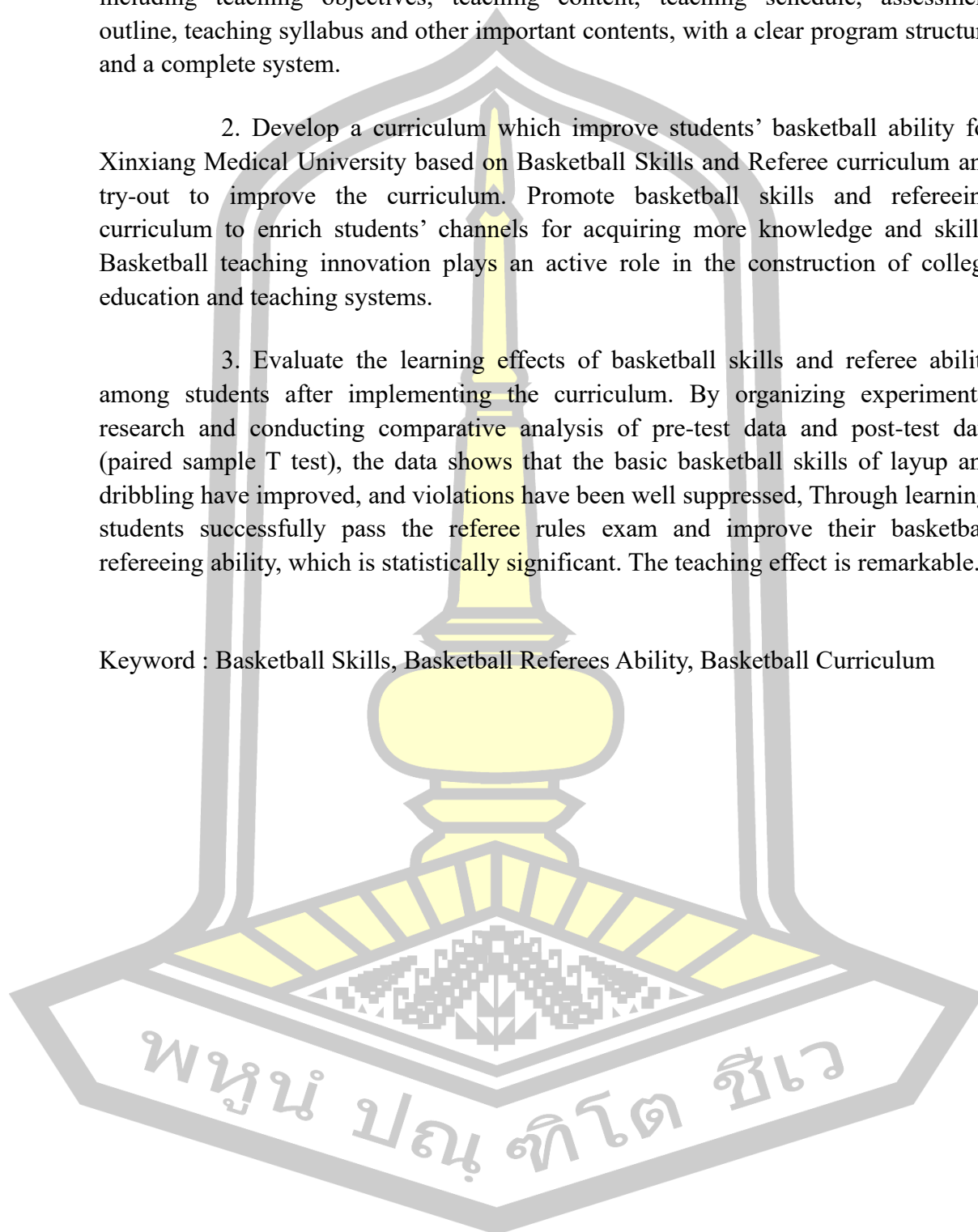
1. Investigate fundamental data and information in developing a curriculum to improve students basketball skills and referee ability. According to the

actual situation of the school, this study makes the basketball instruction program, including teaching objectives, teaching content, teaching schedule, assessment outline, teaching syllabus and other important contents, with a clear program structure and a complete system.

2. Develop a curriculum which improve students' basketball ability for Xinxiang Medical University based on Basketball Skills and Referee curriculum and try-out to improve the curriculum. Promote basketball skills and refereeing curriculum to enrich students' channels for acquiring more knowledge and skills. Basketball teaching innovation plays an active role in the construction of college education and teaching systems.

3. Evaluate the learning effects of basketball skills and referee ability among students after implementing the curriculum. By organizing experimental research and conducting comparative analysis of pre-test data and post-test data (paired sample T test), the data shows that the basic basketball skills of layup and dribbling have improved, and violations have been well suppressed, Through learning, students successfully pass the referee rules exam and improve their basketball refereeing ability, which is statistically significant. The teaching effect is remarkable.

Keyword : Basketball Skills, Basketball Referees Ability, Basketball Curriculum



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Yanfeng Su

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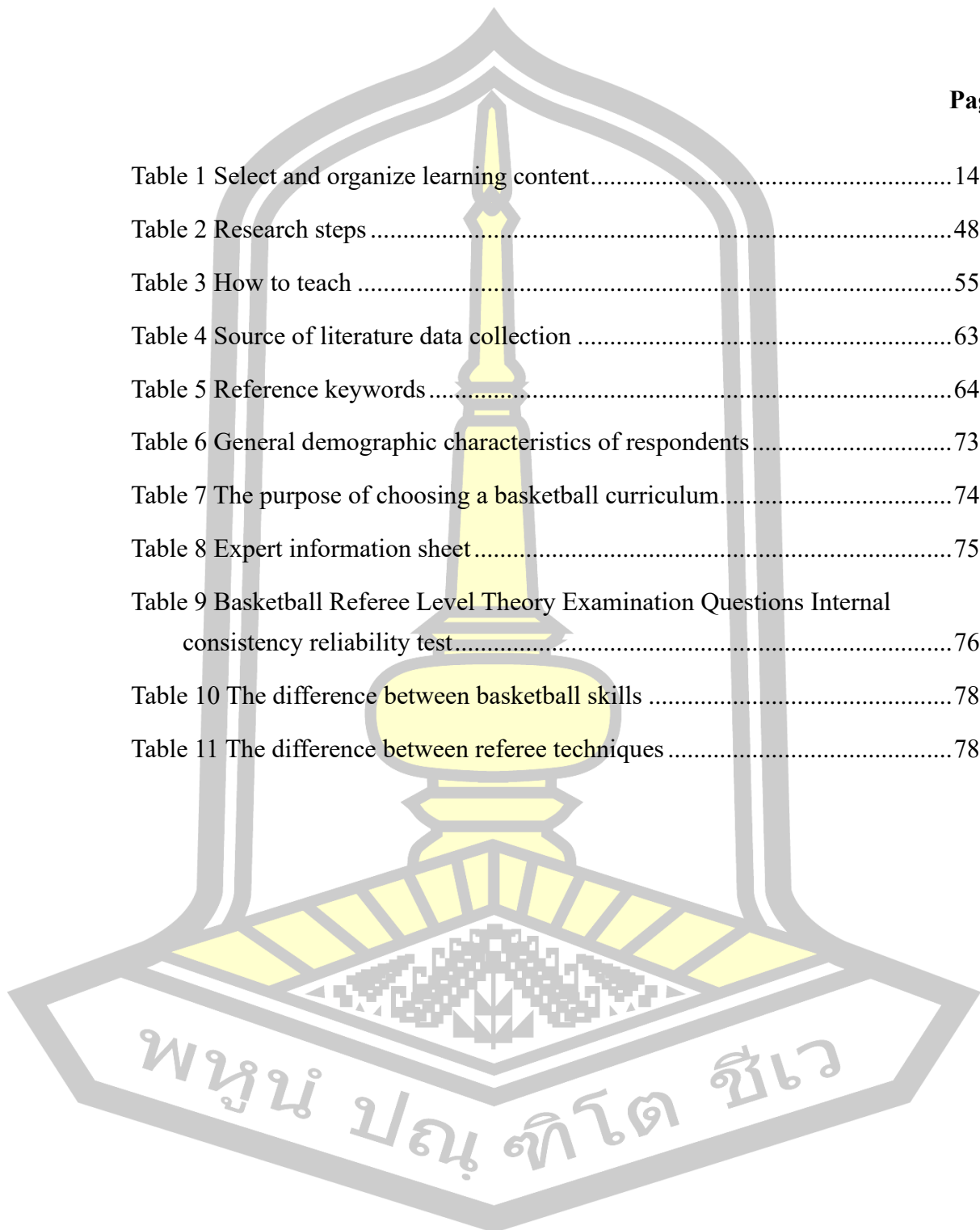
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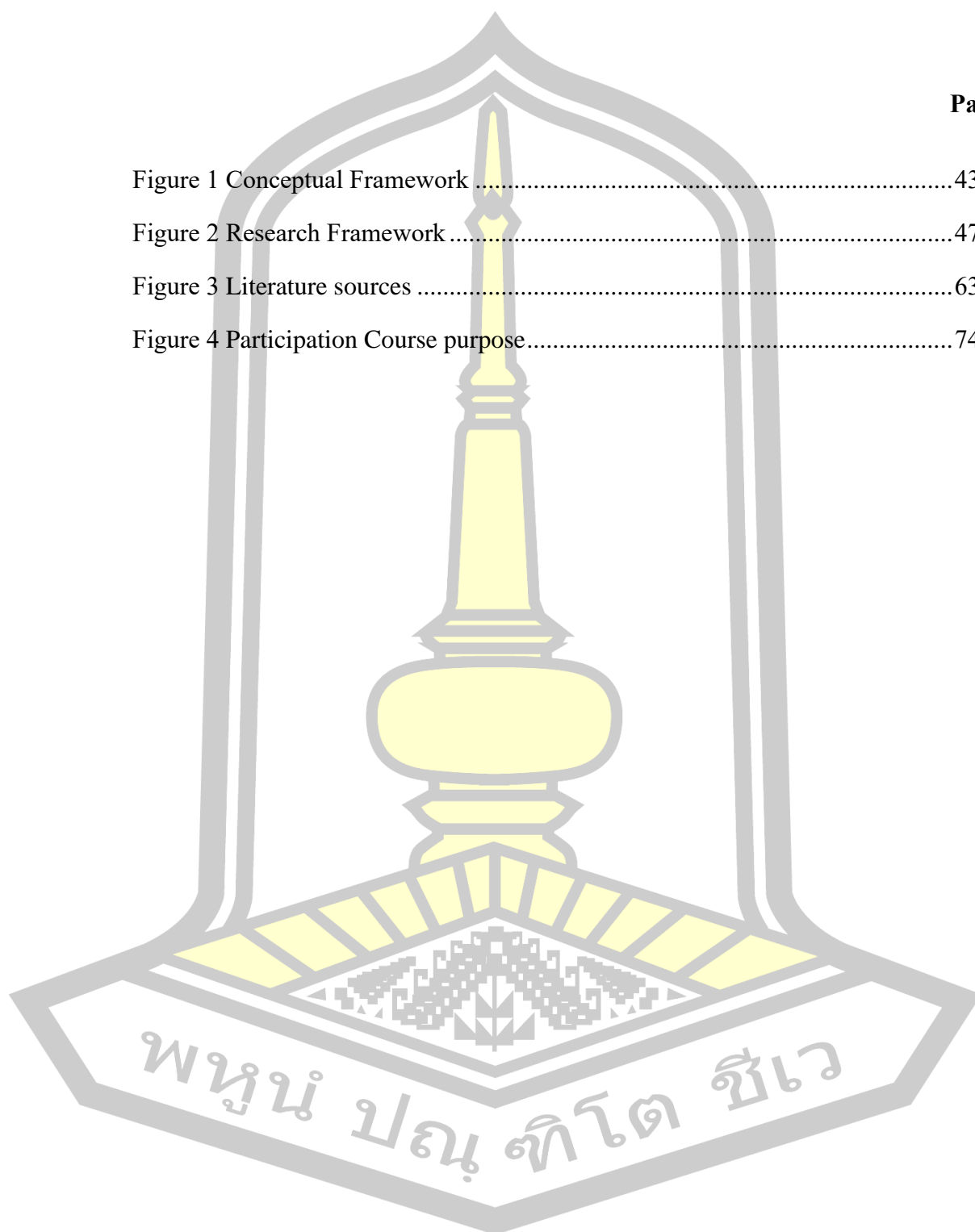
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## CHAPTER I

### INTRODUCTION

#### 1. Background

As one of the favorite sports of college students, basketball has been well developed in colleges and universities in our country, and occupies a high position in entertainment and competition. Among the many public curriculum in domestic colleges and universities, basketball public curriculum have played a great role in the physical and mental health of students. It not only makes students healthier, but also effectively promotes the overall development of students. As far as the current teaching is concerned, due to the boring content of basketball curriculum, the vast majority of students lack enthusiasm for participating in basketball. Basketball curriculum in domestic colleges and universities often only teach the basic knowledge of basketball, such as the most basic passing and catching skills, shooting methods and dribbling skills in basketball. It does not capture the charm of basketball as a competitive sport, nor does it emphasize teamwork. Lack of understanding of basketball theory, basketball video viewing, and basic operations of basketball referees. The lack of basketball knowledge and the boring and monotonous teaching content make it difficult for college students to satisfy their thirst for knowledge and participation in basketball, which inhibits students' enthusiasm for participating in basketball.

University basketball public curriculum should take students' learning basketball theory and practice as the main teaching task, and master knowledge and skills as the main purpose. It mainly cultivates students' understanding of basketball related knowledge and skills, as well as their mastery of competition rules. Through the immediate grasp of the spirit of basketball competition rules and the essence of referee methods, students' practice and judgment ability are trained (he Zhibin, 2018).

The development of basketball referee curriculum has a huge promoting effect on the knowledge and ability of basketball referee rules and referee law, on-site execution ability, professional ethics, and the improvement of English proficiency related to basketball referees for college students (Gao Yong, 2015). At present, there are still some problems and deficiencies in the development of basketball referee curriculum in universities, such as relatively low requirements for the cultivation of referee knowledge and skills in teaching objectives, relatively few curriculum hours arranged, and low attention from university teachers (Liang Xiao, 2013). Hua Yi (2014) pointed out that today's basketball referees combine basketball skills with referee rules to achieve integrated teaching. This not only exercises students' basketball skills, but also improves their referee rules. (Fox, Stanton, and Scanlan 2018) provided a detailed explanation of the needs for competition and referees in basketball, indirectly proving the necessity of offering basketball competition referee curriculum in universities for comprehensive teaching. The combination of college basketball technology teaching and referee teaching can not only make basketball teaching develop more smoothly, but also make basketball play a greater role in Colleges and universities. Without referees, there will be no sense of justice in basketball games. Colleges and universities attach importance to the cultivation of amateur basketball referees, which plays a positive role in mobilizing students. Basketball referees need to be able to undertake the important tasks of on-site referees. They need to have good physical quality to meet the needs of the whole game. Basketball referees need to understand their theoretical knowledge and skills. They need to integrate into the competition environment, have a good attitude and are not affected by the competition. These are the basic conditions that basketball referees need to have. Real knowledge is acquired from practice. Referees with good psychological quality can maintain their emotional fluctuations in complex and difficult competitions, devote themselves to the competition, have firm will and are not affected by the outside world. Good self-regulation ability. In the competition, you can not only give play to

your referee level, but also often exceed your daily level. In order to ensure that basketball referees can successfully complete the on-site tasks, it is necessary to pay more attention to their indicators in the training of student referees. This is the core of Basketball Referees' perfect display of their professional knowledge and skills.

This paper intends to study the effect of "basketball skills and referee" curriculum. According to its unique function and the perspective of cultivating students, this curriculum integrates skills, collectivity, comprehensiveness and knowledge, makes up for the shortcomings of traditional basketball teaching, aims to solve the disadvantages of less teaching hours and less teaching weeks, and turn the state of students' passive learning technology into the leader of participating in basketball competition, Use the accumulation of referee rules and on-the-spot experience to understand basketball and basketball skills and tactics from the perspective of referee, and can better learn basketball skills and tactics.

At the same time, the curriculum is a targeted comprehensive physical education curriculum to show self, cultivate sentiment and train ability. It integrates theory and practice to realize the unity of knowledge and interest. In practice, students can not only learn basketball technology, but also understand the more complex rules in the game, master skills and basketball tactics, clarify the current development of basketball, improve knowledge, update ideas, constantly cultivate referee ability, and create more referee elites in basketball to serve basketball competitions inside and outside the school. On the basis of realizing the basic objectives of the curriculum, aim at the development objectives of the curriculum and show students with innovative ideas and brand-new teaching modes. Improve the physical quality of students and the calm attitude of basketball referees in the way of teaching, from players to mastering the skills of referees to independently organizing and implementing basketball competitions, and cultivate students' skills and unique ability to face the pressure of today's life and employment. The opening of the new curriculum not only enriches the teaching content of basketball curriculum, but also

trains more college students' basketball referees, and solves the serious shortage of student referees in basketball competition. At the same time, through the curriculum teaching, the feasibility and effect of College Students' overall ability cultivation are deeply discussed and studied, and the primary purpose is to find their strengths into weaknesses, so as to provide reference for teaching innovation.

In the campus culture of Xinxiang Medical University, which is more useful in the classroom. It plays an important role in skills training, physical training, and skill training, which makes basketball show different charms. However, conventional basketball teaching also has some drawbacks. How to better spread the basketball project and its culture, this study intends to integrate competition and refereeing into a curriculum. For curriculum that integrate basketball technique teaching and refereeing teaching, the "Basketball Competition and Refereeing" curriculum integrates skill, collectiveness, comprehensiveness, and knowledge. It subverts traditional basketball teaching and learns as a passive student. Technicians have become the dominant players in basketball competitions, using referee rules and accumulation of on-the-spot experience to understand basketball and basketball techniques and tactics from the referee's perspective, and can better learn basketball techniques and tactics. At the same time, the curriculum is a comprehensive physical education curriculum that shows oneself, cultivates sentiment, and cultivates ability. It not only allows students to learn basketball skills but also understand the rules of the game. On the other hand, setting up basketball competition referee integration curriculum can help colleges and universities create more elite basketball referees to serve basketball competitions inside and outside the school. On the basis of realizing the basic goals of the curriculum, aiming at the development goals of the curriculum, and presenting it in front of students with innovative ideas and brand-new teaching models. After the teaching, the students' judgment, decision-making, communication, collaboration and other ability can be improved. For the educational purpose of physical education, the fusion curriculum of basketball refereeing and technology not only improves skills

but also increases a lot of external educational ability, achieving the educational goal of achieving multi-ability improvement through one kind of teaching.

## **2. Research Question**

1. What is the impact of basic information on the development of basketball curriculum that improve the skills and referee ability of ordinary college students?
2. What does the components of the curriculum effect on enhancing students' learning outcome university?
3. What does the results effect by implementing the curriculum to enhance students' learning outcome university?

## **3. Research Purpose**

1. To investigate fundamental data and information in developing a curriculum to improve students basketball skills and referee ability
2. To develop a curriculum which improve students 'basketball ability for Xinxiang Medical University based on Basketball Skills and Referee curriculum and try-out to improve the curriculum
3. To evaluate the learning effects of basketball skills and referee ability among students after implementing the curriculum.

## **4. Hypothesis of the Research**

There was a statistically significant difference between students before and after class. The Effect of Basketball Skills and Referee Ability on the Learning Effect of Basketball Lessons



## 5. Scope of the Research

This study is Research and Development (R&D)

This study aims to improve the basketball skills and referee ability of ordinary college students. As an elective basketball curriculum, it is divided into the following three stages:

### Phase 1 Basic information study

#### 1. Population and sampling

##### 1.1 Population

1.1.1 There are 10 classes of students in the second-year basketball elective curriculum of Xinxiang Medical University, 30 students in each class, 300 students in total

1.1.2 There are 100 students in the Xinxiang Medical University Student Basketball Association, 3 experts (professors) from the School of Physical Education, and 3 special teachers of ball games.

#### 2. Sampling

2.1 Purposive convenience sampling (cluster random sampling) of students from 2 classes in the second-year basketball elective class of Xinxiang Medical University, with 30 students in each class, a total of 60 students, was conducted to conduct a questionnaire on basketball referee rules and basketball skills.

2.2 Invite 5 basketball association students, 3 experts (professors), and 3 ball game curriculum teachers from Xinxiang Medical University to conduct interviews about basketball elective curriculum.

#### 3. Content

3.1 Understand the development status of "Basketball Skills and Referee curriculum" in colleges and universities, establish a path model of "Basketball Skills and Referee curriculum", analyze its influencing factors and paths,

and provide background reference for the design of "Basketball Skills and Referee curriculum".

3.2 Through preliminary discussions with basketball elective students, we mainly understood what major problems and contradictions students encountered during their physical education studies, what difficulties they faced, and what aspects of their ability needed to be improved but could not be resolved.

3.3 Visit and discuss with experts (professors) from the School of Physical Education, solicit experts' suggestions on the teaching reform of physical education curriculum, carry out feasibility optimization design of the "Basketball Skills and Referee Course", solicit guidance from experts, and study the reliability and practicality of program formulation significance.

#### 4. Variable to study

4.1. The independent variables are the quantity and quality of experts; the author's control over curriculum-related design

4.2. The dependent variable is the design of basketball skills and referee curriculum

#### 5. Instrument

The instrument used to collect information included a questionnaire regarding the issues and needs of the Basketball Skills and Officiating Course established by the researcher, which was established as follows:

5.1 Research literature and research related to learning based on basketball skills and officiating curriculum.

5.2 Discover existing problems and needs.

5.3 Create a questionnaire and then collect and check the questions.

5.4 Data Analysis Through questionnaire and interview content analysis, the problems and needs of students and teachers are explained.

## 6. Duration

This phase of research lasted 2 weeks to study basic information.

### Phase II Curriculum Development and Design

#### 1. Participant

At this stage, we selected two physical education college experts (professors) and three physical education teachers as target participants, using a selective sampling method. At the same time, a research group was established to review the consistency of the curriculum and curriculum content and to assess the suitability of the developed curriculum.

#### 2. Sampling

Analyze and compile statistics on the research team's findings

#### 3. Content

This part plans to carry out research on the "Basketball Skills and Refereeing" curriculum, aiming to deeply explore the scientificity and accuracy of curriculum goal setting, the rationality and applicability of curriculum content, and the feasibility and effectiveness of teaching methods and teaching forms. . At the same time, the rationality of teaching time in the curriculum will be reviewed with a view to improving the curriculum system. In addition, this study will also analyze the educational teaching results of this curriculum, that is, whether the basketball skills and referee curriculum can effectively improve the basketball-related skills and knowledge level of college students in Xinxiang Medical University.

#### 4. Variable to study

4.1 The independent variable is the scientificity and accuracy of setting the curriculum objectives to ensure that the rationality and applicability of the curriculum content are effectively verified.

4.2 The dependent variable is the construction of basketball skills and referee curriculum

## 5. Tools

### 5.1 College Basketball Teaching Tutorial

### 5.2 Basketball rules and refereeing methods

## 6. Duration Time

Based on the collection of questionnaire and interview information, it will take about one week to optimize the design of the curriculum syllabus.

## Phase III Curriculum Implementation and Results Research

### 1. Population and sample

#### 1.1 Population

There are 10 classes of students in the second-year basketball elective curriculum of Xinxiang Medical University, 30 students in each class, 300 students in total

#### 1.2 Sampling

Purposive convenience sampling (cluster random sampling) was conducted from 2 classes of students in the second-year basketball elective class of Xinxiang Medical University, with 30 students in each class, a total of 60 students using the basketball skills and referee curriculum for experimental teaching.

### 2. Research variables

2.1 The independent variable is basketball skills and referee curriculum learning

2.2 The dependent variables are basketball skills and refereeing ability

### 3. Duration

There are a total of 16 weeks in this phase of the research, with 2 credit hours scheduled per week, for a total of 32 credit hours, to conduct curriculum and summarize research results.

The research scope of this study is to understand whether students can improve their cognition, organization, and management of basketball through the study of the "Basketball Skills and Referee" curriculum. The research content mainly includes curriculum content (basketball skills and tactics knowledge, referee knowledge, etc.), curriculum teaching methods (theoretical teaching, practice, etc.), curriculum effect analysis, and curriculum satisfaction survey.

## 6. Definition

**Curriculum:** Broadly speaking, curriculum is a kind of educational experience, which is the sum of various factors such as positive influence on the subject. In a narrow sense, curriculum refers to the teaching factors existing and generated in the school field that are conducive to the positive and healthy development of students and the educational experience obtained by students. The word "Curriculum" first appeared in Spencer, a British educator, and is derived from the Latin word "currere".

**Basketball elective curriculum:** is a special curriculum in university (public) physical education curriculum in the form of electives. In recent years, with the continuous reform and deepening of physical education curriculum in colleges and universities in my country, the traditional teaching methods have been broken. Now college students can choose the sports they want to learn through physical education elective curriculum according to their hobbies and specialties. As a physical education curriculum in the last stage of college students' career, physical education elective curriculum play an important role in the mastery of college students' physical skills, the improvement of physical exercise ability, and the formation of lifelong sports awareness.

**Course objective:** The curriculum objectives is the purpose that the school staff want to achieve. It is the value judgment made by the person in charge of the

school after careful consideration and the object that people consciously pursue. Accurate and complete curriculum objectives are standards that include the selection of teaching materials, the outline of teaching content, the development of teaching steps, and the preparation of tests and assessments.

**Curriculum content:** Once the curriculum objective is determined, the next step is to consider how to achieve this objective. At present, Xinxiang Medical University's physical education elective curriculum mainly ignores the internal motivation of students' participation and adopts too many top-down one-way dominant ideas; "Curriculum should be designed by teachers, not issued by higher authorities." A learner- and teacher-centred, bottom-up approach were the main reasons for choosing Taba as the basis for the curriculum development process.

**Basketball skills and refereeing curriculum:** Basketball skills and referee curriculum not only allows students to learn basketball competition rules and referee methods, but also apply the spirit of rules and referee methods to the game. At the same time, understand basketball skills and tactics, understand the development trend of today's basketball, and constantly update basketball knowledge and concepts. On the basis of realizing the basic objectives of the curriculum, aim at the development objectives of the curriculum and show it to students with innovative ideas and new educational models.

**Learning outcome: Definition of skill learning results:** Broadly speaking, skill learning results refer to the skill level and ability status achieved by learners after learning specific skills through various channels and methods within a certain period of time. With the help of basketball skills and referee curriculum, students can improve their mastery of basic basketball skills, strengthen their understanding of basketball rules, and reduce or eliminate rule violations during activities, which is conducive to the full use of basketball skills. The skills test covers comprehensive skills such as full-court dribbling and layups, including fast dribbling, layups, shooting and physical fitness. The effectiveness of skill learning is evaluated through

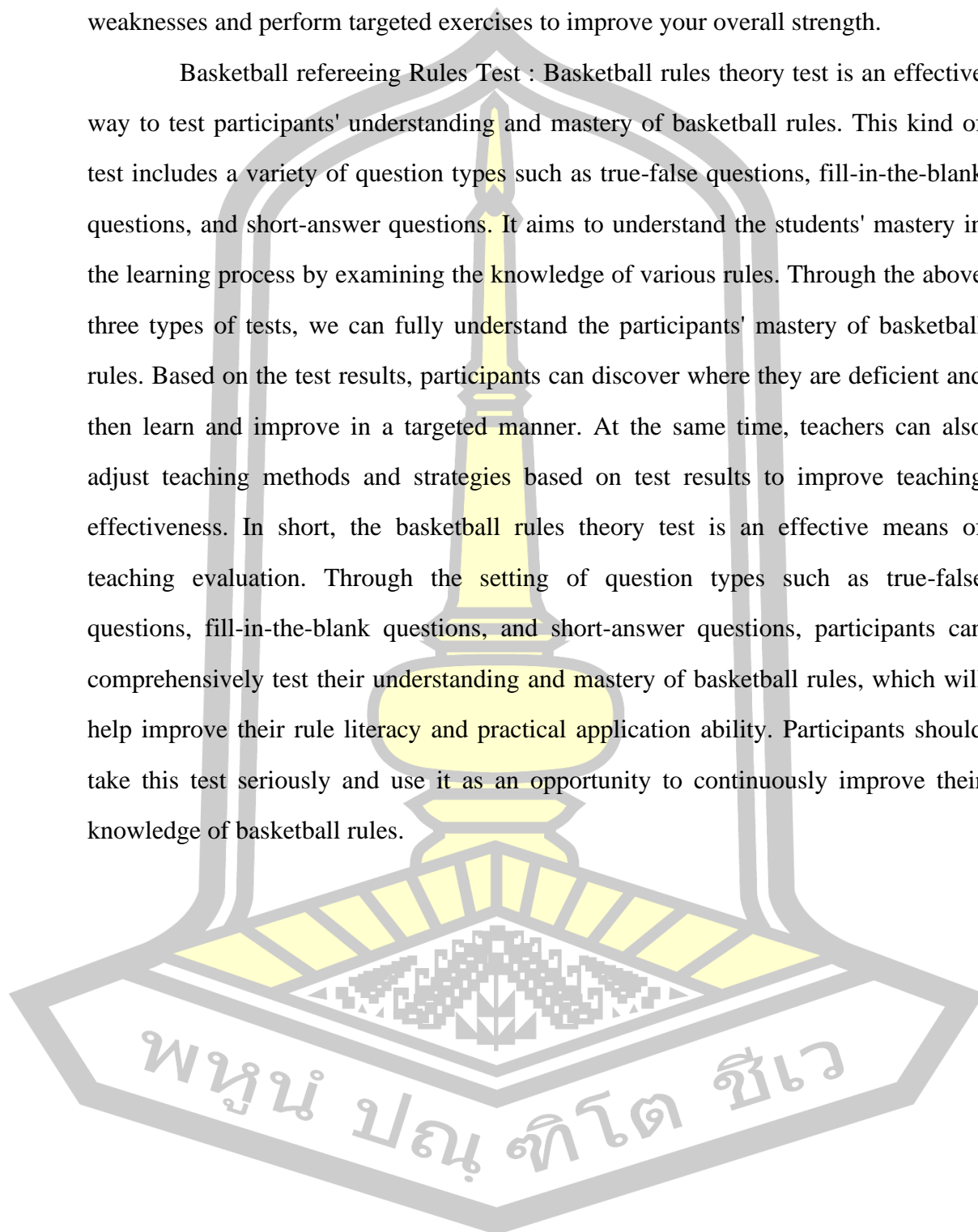
the test results. The basketball rules theory test includes true-false questions, fill-in-the-blank questions and short-answer questions to test students' understanding and application of the rules. After completing the curriculum study cycle, students are recommended to take the basketball referee qualification test organized by the Xinxiang Basketball Association to help them obtain the third-level basketball referee qualification and certificate.

**Basketball Skills Test :** The skill test is a 1-minute round-trip dribbling and layup, and the results are calculated based on the number of layups scored within a specific time and technical evaluation. This test is of great significance for testing students' skill learning effects. This project covers comprehensive skills such as fast dribbling, layups, shooting and physical fitness, and comprehensively evaluates the actual performance of athletes on the basketball court. The test results will intuitively reflect the level of various skills the athletes have mastered during the training process. First of all, quick dribbling is a crucial part of the basketball game. In fierce competitions, students need to have excellent dribbling ability to ensure stable control of the ball when encountering defenses. Through testing, we can understand whether students have solid basic skills in fast dribbling and whether they have deficiencies in this aspect. Secondly, layups and shooting are key means of scoring. During the game, students need to grasp the timing, adjust their posture and control their strength when making layups and shots to improve their shooting percentage. Through testing, we can understand the athletes' performance in layup movements, shooting stability, shooting percentage, etc., so as to find out areas that need improvement. Finally, physical fitness is also crucial for basketball players. In a high-intensity competition, athletes need sufficient physical fitness to cope with various challenges. The physical fitness component of the test will assess athletes' endurance, strength, and power, among other indicators, providing students with accurate information about their physical fitness. In summary, the full-court dribble and layup test evaluates students' skills in multiple aspects and provides valuable feedback to both teachers and



students. By analyzing the test results, you can find out your strengths and weaknesses and perform targeted exercises to improve your overall strength.

**Basketball refereeing Rules Test :** Basketball rules theory test is an effective way to test participants' understanding and mastery of basketball rules. This kind of test includes a variety of question types such as true-false questions, fill-in-the-blank questions, and short-answer questions. It aims to understand the students' mastery in the learning process by examining the knowledge of various rules. Through the above three types of tests, we can fully understand the participants' mastery of basketball rules. Based on the test results, participants can discover where they are deficient and then learn and improve in a targeted manner. At the same time, teachers can also adjust teaching methods and strategies based on test results to improve teaching effectiveness. In short, the basketball rules theory test is an effective means of teaching evaluation. Through the setting of question types such as true-false questions, fill-in-the-blank questions, and short-answer questions, participants can comprehensively test their understanding and mastery of basketball rules, which will help improve their rule literacy and practical application ability. Participants should take this test seriously and use it as an opportunity to continuously improve their knowledge of basketball rules.





## CHAPTER II

### LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

In this study, in order to develop the curriculum to enhance students' learning outcome in Chinese University, the relevant literature was studied according to the following main issues:

#### 1. Curriculum Development

##### 1.1 Meaning of Curriculum Development

In order to build a curriculum that "students like and benefit for life", it is necessary to accurately grasp the group characteristics of college students in the new era and accurately connect their cognitive characteristics and growth needs. On the one hand, college students in the new era are individual, love to share, are curious, and focus on experience. The one-way indoctrination method of traditional education can no longer meet their needs. On the other hand, in the context of interdisciplinary integration, more and more students are no longer satisfied with becoming talents in one major, but hope to become "all-rounders" and "all-rounders."

##### 1.2 Components of curriculum

Table 1 Select and organize learning content

Theoretical part	Practical part
Basketball rules	Learning skills and violations
Basketball refereeing methods	Learning about confrontation and fouls
Competition organization and arrangement methods	referee method movement

### 1.3 Importance of curriculum

First of all, mastering basketball skills is the basis for playing basketball well. Basketball consists of two major aspects: offense and defense, involving dribbling, passing, shooting, rebounding, defense and other aspects. Through systematic basketball skills training, students can fully understand the technical essentials of basketball and improve their actual combat ability. In addition, in basketball teaching, teachers can also develop targeted training plans based on students' actual conditions to ensure that each student can make significant progress in a short period of time. Secondly, the study of basketball referee curriculum is of great significance for improving students' comprehensive quality. Learn to understand the rules and requirements, and better apply referee rules to basketball skill practice. By studying the basketball referee curriculum, students can not only master the rules of the basketball game, but also develop their own sense of responsibility and fairness. During the learning process, students can also improve their refereeing skills by participating in refereeing practice activities and provide professional refereeing talents for future school basketball games. Basketball skills and referee curriculum are of great significance in basketball teaching. Only by mastering basketball skills proficiently and possessing certain knowledge of basketball referees can we perform our best in basketball activities, which will help improve students' overall quality. Therefore, basketball teaching should focus on the integration of basketball skills and referee curriculum to cultivate more outstanding talents for the development of sports activities in Xinxiang Medical University.

### 1.4 How to evaluate

The skill test is an important part of basketball teaching. The candidates will stand behind the end line for a 1-minute round-trip dribbling and layup, and the number of layups in the entire court within one minute will be counted. A shot must be made to proceed to the next layup. In case of violation, 5 points will be deducted from the total score. A score of 60 points is considered qualified. The test is designed

to test a student's ability to complete a round-trip dribble to the basket within a specified time. This test is of great practical significance for assessing students' skill learning effects. The test not only tests students' skills such as fast dribbling, layups, and shooting, but also includes comprehensive ability in physical fitness and other aspects. In this project, quick dribbling is considered a key part of the basketball game. It requires students to be able to control the ball flexibly and quickly during the game to achieve a balance between offense and defense. Dribbling quickly requires students not only to have a high sense of the ball, but also to have good coordination skills so that they can easily cope with fierce competitions. A layup is an offensive method after dribbling quickly. During the dribbling process, students need to choose the appropriate time to perform a layup based on the rhythm of the game and the opponent's defense. Students need to demonstrate good physical coordination, strength and speed when making layups. In addition, the shooting action during layup must also be standardized to ensure the probability of scoring a goal. Shooting is a key factor in ultimately winning a basketball game, and students need to maintain a high shooting percentage during the game. Shooting not only requires students to have good wrist and finger strength, but also requires them to maintain a stable mentality during the game. In tense games, students need to respond calmly and seize every shooting opportunity. Physical fitness is the basis for basketball students to fully utilize their technical skills in the game. In the round-trip dribbling and layup test, students need to complete as many layups as possible within 1 minute. This requires students to have good physical fitness to ensure that they maintain a high competitive state throughout the game. Through this test, we can comprehensively evaluate students' actual performance on the basketball court. The test results will intuitively reflect the skill levels that students have mastered during the curriculum teaching process. This provides a valuable reference for both students and teachers.

Basketball rules theory test is an important teaching evaluation method, which helps to test participants' ability to recognize and apply basketball rules. The

test paper must be completed within 90 minutes for 100 points, and a score of 60 is considered qualified. The test paper includes true-false questions, fill-in-the-blank questions and short-answer questions, etc., which are designed to deeply examine the students' mastery of basketball rules in order to provide them with targeted learning suggestions. First of all, true or false questions are an important type of questions in the test, which require participants to make correct or incorrect judgments about basketball rules. This type of question can help participants clarify whether their understanding of the rules is accurate, and identify and correct misconceptions in a timely manner. Secondly, fill-in-the-blank questions are another important type of questions in the test. This type of question tests participants' mastery of the details of basketball rules by filling in the blanks. The setting of fill-in-the-blank questions helps participants deepen their understanding of the rules and improve their rule literacy. Finally, short answer questions are the most challenging type of question on the test. It requires participants to provide in-depth explanation and analysis of basketball rules and demonstrate their understanding and application capabilities. The setting of short-answer questions helps participants combine the knowledge they have learned with practical applications and improve their practical ability. Through the above three types of tests, we can fully understand the participants' mastery of basketball rules. In addition, test results can also provide teachers with valuable teaching feedback to help them adjust teaching methods and strategies, thereby improving teaching effectiveness. In short, through special skills and theoretical testing, we can better understand students' mastery of curriculum learning and provide strong support for improving their basketball level. At the same time, this kind of test can also help stimulate students' interest and enthusiasm in learning, cultivate their fighting spirit, and improve students' comprehensive basketball quality.

### 1.5 Taba Model

Taba theory, also known as Taba thinking, originated in the Jewish academic circle in the early 20th century. It is a thinking method based on logic and analysis,

designed to help people explore problems in depth through the process of asking questions, answering and demonstrating, so as to find the best solution to the problem. The core idea of Taba's theory is that any problem can be solved through logical reasoning and analysis.

1.5.1 The main features of Taba's theory: 1. Structuring: Taba's theory emphasizes the hierarchical analysis of problems, thereby making the thinking process more organized. Through structured thinking, we can understand the full picture of the problem more clearly, find the key elements, and then formulate reasonable solutions; 2. Logic: Taba's theory emphasizes the importance of logical reasoning in the problem-solving process. Only by thinking in accordance with logical laws can we ensure that the conclusions we draw are correct; 3. Dynamicity: Taba's theory believes that problems are constantly changing and developing. Therefore, when we solve problems, we must have a dynamic way of thinking and adjust and improve plans at any time; 4. Innovation: Taba's theory encourages people to have the courage to propose new ideas and solutions. In the thinking process, we must dare to challenge traditional concepts and be brave in innovation.

1.5.2 How to use Taba's theory to promote success: 1. Ask questions: When encountering a problem, you must first clarify the specific content of the problem. The problem can be comprehensively sorted out through the five W and one H (what, why, where, when, who, how) method; 2. Analyze the problem: After clarifying the problem, conduct an in-depth analysis of the problem. It can be discussed from multiple angles such as the cause, impact, and current situation of the problem to find out the key points of the problem; 3. Establish logical relationships: After analyzing the problems, it is necessary to establish logical relationships between the problems. By sorting out the correlation between various factors, it can help us better understand the inherent laws of the problem; 4. Formulate solutions: After understanding the logical relationship of the problem, we can start to formulate solutions. It is necessary to fully consider various possible solutions and select the

best solution by comparing the advantages and disadvantages; 5. Implementation and adjustment: During the implementation of the solution, pay close attention to the effects so that problems can be discovered and adjusted in a timely manner. Ensure that problems are effectively solved by continuously optimizing solutions

## **2. Basketball Skills**

Basketball is a highly competitive and spectator sport that encompasses numerous skills and tactics. Basketball skills can be divided into two categories: offensive and defensive.

### **2.1 Meaning of Basketball Skills**

Basketball skills can not only improve personal physical fitness, but also cultivate team spirit, exercise psychological quality, and improve competitive levels. Basketball has become one of the most popular fitness projects on college campuses. Basketball can not only exercise and improve physical fitness, but more importantly, it can also cultivate team spirit and enhance the sense of collective honor. Basketball involves a variety of actions such as running, jumping, and shooting, and it places high demands on students' physical coordination, strength, speed, endurance, etc. By learning and mastering basketball skills, students can improve their athletic ability and comprehensively improve their physical fitness. This is of great significance for physical health and the prevention of sports diseases; basketball is a collective sport, and each player needs to work closely with his teammates to complete offensive and defensive tasks during the game. In this process, students need to build deep trust and cultivate tacit understanding. By learning basketball skills, students can better understand game tactics and improve teamwork skills. This is of great significance to the cultivation of personal social adaptability and team spirit; in basketball games, students face many challenges, such as shooting at critical moments, pressure on the defensive end, etc. In these situations, students need to stay calm, adjust their



mentality, and give full play to their technical skills. By participating in basketball games, students can exercise their psychological quality and improve their ability to cope with pressure. This is of great significance in dealing with challenges in daily life and study; in basketball activities, students need to show a high level of competitive strength in order to bring glory to the team and school. Learning and mastering basketball skills and continuously improving one's competitive level is the pursuit of every basketball player. By improving their skill level, students can play a greater role in competitions.

## 2.2 Components of Basketball Skills

### 2.2.1 Offensive skills

Offense is the core part of a basketball game. Players need to use various skills to break through the defense and score points. The following are some common offensive skills, dribbling: Dribbling is the basic means for players to control the ball on the court, including various changes of direction, acceleration, deceleration and other actions. Skilled dribbling skills can enable players to break through the defense more freely during the game and create offensive opportunities for teammates; shooting: shooting is the key to scoring, including jump shots, hook shots, layups, etc. Players need to master the correct shooting posture and rhythm, as well as shooting strategies that adapt to different game environments; Breakthrough: Breakthrough means that players use speed and change of direction ability to pass through the opponent's defense line, layup or pass to teammates. Breakthrough skills include acceleration, deceleration, change of direction, stepping, etc.; Passing: Passing is an important part of organizing the offense, including chest pass, ground pass, hand block pass, etc. Players need to have good passing awareness and vision in order to play the role of passing in the game; running without the ball: running without the ball means that players are constantly moving on the field, looking for offensive opportunities. Players need to have good tactical awareness and teamwork spirit to create scoring opportunities for their teammates.

### 2.2.2 Defensive skills

Defense is another important part of the basketball game. Players need to use various defensive skills to prevent the opponent from scoring. The following are some common defensive skills. Position: Defensive position is the basis for players on the defensive end. Players are required to stand in the correct position and be ready to meet the opponent's attack. Pace: defensive steps include sliding steps, crossover steps, and step back steps. Etc., players need to use various steps flexibly to quickly respond to the opponent's attack; two-hand defense: two-hand defense means that the player uses both hands to block the opponent's shot or breakthrough, which requires the player to have good physical fitness and coordination ability; assist defense: assist defense It refers to teammates cooperating with each other to jointly defend each other's offense. Players need to have a good teamwork spirit in order to play a defensive role on the defensive end; Pick-and-roll defense: Pick-and-roll defense refers to the strategy of players to deal with the opponent's pick-and-roll cooperation on the defensive end, including timely switching of defenses, squeezing through the pick-and-roll, etc.

### 2.2.3 Basketball tactics

Basketball tactics are the strategies adopted by the team during the game to achieve the game goals. The following are some common basketball tactics, pick-and-roll: The pick-and-roll refers to teammates cooperating with each other to create offensive opportunities. Players need to be proficient in pick-and-roll skills and strategies; fast break: Fast break refers to the team quickly launching an attack after stealing or rebounding on the defensive end. The fast break has a high success rate and can increase the opponent's defensive pressure. Passing attack: Passing attack refers to the team looking for the best offensive opportunities through continuous passing. Passing offense requires players to have good passing awareness and teamwork spirit; low post offense: low post offense refers to the team launching an attack in the basket area. Low-post offense requires players to have good physical



fitness and skills; three-point attack: Three-point offense refers to the team shooting from the outside. The three-point attack requires players to have stable shooting ability and shooting rhythm. By mastering the components of basketball skills, players can perform at their best during the game and improve their performance. At the same time, learning and applying basketball tactics will help improve the overall strength of the team. Continuously practice and improve basketball skills, and I believe that every basketball fan can show wonderful performance on the court.

### 2.3 How to evaluate Basketball Skills

2.3.1 Ball control ability: Ball control is one of the most important basic skills in basketball. When evaluating ball control, look for ball stability and ease of dribbling around the court. Ball control can be improved by practicing various dribbling techniques such as cross dribbling, behind the back dribbling and dribbling breakthroughs.

2.3.2 Shooting skills: Shooting is the key to scoring. When evaluating shooting technique, focus on accuracy, shooting form, and the arc of the ball. In order to improve your shooting skills, you can practice fixed-point shooting, mobile shooting and free throw shooting.

2.3.3 Rebounding ability: Rebounding is the key to obtaining a second offensive opportunity. When evaluating rebounding ability, pay attention to the timing of rebounding, jump movement and rebounding stability. You can improve your rebounding ability by practicing actions such as box jumps and weight-bearing squats.

2.3.4 Passing ability: Passing is an important part of organizing an offense. When evaluating passing ability, focus on passing speed, passing accuracy and vision. Methods to improve your passing ability include learning various passing techniques, such as chest passes, ground passes and hand passes, and participating in more practical training.

2.3.5 Defensive ability: Defense is the key to winning. When evaluating defensive ability, pay attention to positioning, movement speed, help

defense and shot blocking. Ways to improve your defensive ability include speed and agility drills and learning defensive techniques such as slides, cross-steps and double defenses.

### **3. Basketball Refereeing ability**

A person who serves as a referee in basketball games. They are responsible for judging fouls during the game and giving penalties for fouls according to the rules of the basketball game. Basketball referees are the core of the game, and their decisions directly affect the fairness and results of the game.

#### **3.1 Meaning of Basketball Refereeing**

The significance of basketball referees is to ensure the smooth progress of the game, promote sportsmanship, and spread basketball culture through fair, just and accurate judgments. Basketball referees play a vital role in the game. They need to have professional skills, rigorous attitudes and high professional ethics. First of all, basketball referees need to have professional skills. This includes an in-depth understanding and mastery of the rules of the game, as well as an understanding of the technical, tactical and movement essentials of basketball. In this way, they can accurately judge whether the player's actions comply with the rules and constitute a foul during the game. In addition, basketball referees also need to have good physical fitness and stamina to cope with the long hours of movement and high concentration during the game. Secondly, basketball referees should have a rigorous attitude. During the game, they need to consider every penalty carefully to ensure fairness. This means that referees must always remain calm and objective when facing pressure and controversy, without being influenced by either party. At the same time, they also need to constantly sum up experience in the game and improve their penalty level so that every penalty can stand the test. Finally, basketball referees need to have high professional ethics. They must always maintain the qualities of honesty, fairness and

professionalism, and adhere to the principle of fair competition. This means that when faced with conflicts of interest and temptations, referees must dare to say "no" and resolutely resist bad habits. In addition, basketball referees also need to focus on communication with players, coaches and game officials to establish a good game atmosphere and spread basketball culture. In short, the significance of basketball referees is that through their professional skills, rigorous attitude and noble professional ethics, they protect the fairness and justice of the game, spread basketball culture, and cultivate more basketball talents.

### 3.2 Components of Basketball Refereeing

In basketball games, referees play a vital role in maintaining fair play, ensuring rules are followed, and orderly management of the game. The job of a basketball referee may seem simple, but in fact it requires an in-depth understanding of game rules, officiating skills and player psychology.

#### 3.2.1 Responsibilities and Qualities of Basketball Referees

**Familiar with the rules of the game:** Basketball referees must first be familiar with the rules of the game, including regulations on game conduct, timeouts, substitutions, fouls, etc. During the competition, referees must ensure that players, coaches and spectators have a clear understanding of the rules and make correct judgments when disputes arise.

**3.2.1.1 Good physical fitness:** Basketball referees need to have good physical fitness because they need to stand, run and jump for a long time during the game. In addition, referees also need to have strong vision, hearing and reaction skills to ensure accurate judgment of athletes' actions in high-speed games.

**3.2.1.2 Referee skills:** Basketball referees should have certain referee skills, including observation, communication, judgment and decision-making ability. During the game, referees must be good at observing the movements of athletes, identifying foul behaviors, and establishing good communication with athletes, coaches and spectators to ensure the smooth progress of the game.

3.2.1.3 Good psychological quality: Basketball referees face great psychological pressure because they need to make fair and accurate judgments during the game. Referees should have strong psychological quality and be able to make decisions decisively without being influenced by athletes, coaches and spectators.

### 3.2.2 Basic components of a basketball referee

3.2.2.1 Gestures: Basketball referees use a series of gestures to express various situations in the game, such as scores, fouls, timeouts, etc. Clear and standardized hand gestures help athletes, coaches and spectators understand the game situation and ensure the smooth progress of the game.

3.2.2.2 Whistle: Basketball referees use whistles to indicate important moments in the game, such as fouls, goals, etc. The whistle should be clear and loud enough to be heard by everyone present.

3.2.2.3 Signal lights: Basketball referees are usually equipped with signal lights to indicate various situations during the game. For example, red light indicates timeout, green light indicates normal play, etc. Signal lights help improve the viewing pleasure and fairness of the game.

3.2.2.4 Recording table: Basketball referees need to work closely with the recording table to complete the recording and statistics of game data. The staff at the scoreboard is responsible for recording the basic data of the game, such as scores, fouls, substitutions, etc., and verifying the data with the referees to ensure the fairness of the game.

Basketball referees play an indispensable role in the game. Through their comprehensive performance in terms of responsibilities, physical fitness, refereeing skills, etc., they provide guarantee for the fairness and smooth progress of the game. As a basketball referee, he should have solid professional qualities and good professional ethics in order to play his important role in the game. At the same time, basketball referees also need to establish good communication with athletes, coaches and spectators to jointly create a fair and orderly competition environment.

### 3.3 How to evaluate Basketball Refereeing

In basketball games, referees play a vital role. They are responsible for ensuring that the competition is fair and just and for maintaining the smooth progress of the competition. Therefore, evaluating the performance of basketball referees is a crucial task.

#### 3.3.1 Understand the evaluation criteria

To evaluate the performance of basketball referees, you first need to understand the criteria for evaluation. These standards include: 1. Rule understanding: referees need to have an in-depth understanding of basketball game rules in order to correctly judge various situations during the game; 2. Penalty accuracy: referees must evaluate fouls, violations and other behaviors during the game. Make accurate judgments to ensure the fairness of the game; 3. Fair enforcement: referees must treat both teams fairly and avoid favoring any party; 4. Communication skills: Referees need to maintain good communication with players, coaches and game-related personnel to ensure that the game The smooth progress of the game; 5. On-the-spot adaptability: The situation in a basketball game changes rapidly, and referees must have strong adaptability and properly handle various emergencies; 6. Physical fitness and endurance: Basketball games are fast-paced, and referees need to have Good physical fitness and endurance ensure law enforcement throughout the field.

#### 3.3.2 Observe the game process

When evaluating the performance of basketball referees, we need to focus on their actual performance during the game. It can be observed through the following aspects: 1. Penalty accuracy: observe whether the referee's penalty during the game is accurate and whether he can correctly judge fouls, violations and other behaviors; 2. Law enforcement fairness: pay attention to whether the referee treats both teams fairly , whether it favors any party; 3. Communication ability: observe whether the communication between the referee and players, coaches and other game-related personnel is smooth, and whether it can resolve conflicts and disputes;

4. On-the-spot adaptability: pay attention to the referee when encountering emergencies during the game Whether the referee can quickly make correct judgments and handle the situation; 5. Physical fitness and endurance: Observe the referee's physical condition during the game and whether he can maintain efficient law enforcement throughout the process.

### 3.3.3 Post-match summary and feedback

After the game, we can summarize and give feedback on the performance of basketball referees through the following aspects: 1. Data analysis: count the referee's penalty data during the game and analyze the accuracy and fairness of the penalty; 2. Coach and Player feedback: Listen to the coaches and players' opinions on the referee's performance and understand their feelings during the game; 3. Video playback: Watch the game video and analyze whether the referee's penalty decisions were correct at key moments in the game; 4. Self-summary: The referees themselves must also conduct self-summaries of the game, identify shortcomings, and continuously improve the level of law enforcement.

Through the above three steps, we can comprehensively and objectively evaluate the performance of basketball referees. It should be noted that facts should be respected during the evaluation process and subjective assumptions should be avoided in order to provide a scientific basis for the training and selection of basketball referees. Evaluating the performance of basketball referees is a systematic process that requires comprehensive analysis from multiple dimensions. Only through objective and fair evaluation can we provide strong support for the growth of basketball referees and further promote the development of basketball.



## 4. Learning Outcome

### 4.1 Meaning of Learning Outcome

The most direct impact of learning outcomes is reflected in the realization of personal value. Through continuous learning, students can continuously improve their knowledge and skills to maintain an advantage in the fierce competition. At the same time, learning outcomes are also a key factor for individuals to realize the value of learning curriculum. With the help of learning results, the curriculum design is more optimized, and teachers can provide students with better education and lay a solid foundation for their future development. Students can also learn to better understand the help the curriculum brings to them, so as to develop greater ability in basketball activities. The significance of learning outcomes is to demonstrate individual efforts and achievements. Through learning, we can acquire knowledge and skills and improve our ability and levels. Learning outcomes can also help us achieve our goals and dreams and lay a solid foundation for future development. In addition, learning outcomes can also win respect and recognition for students, allowing them to gain more opportunities and resources in society. Therefore, learning outcomes are very important for personal growth and development.

### 4.2 Components of Learning Outcome

Components of the learning outcomes include basketball skills, officiating knowledge and participation in officiating level qualification examinations. Only by comprehensively developing these aspects can learning outcomes be truly maximized. During the learning process, we must pay attention to the needs of personal growth, combine with the development trend of basketball, and constantly adjust and improve curriculum learning strategies to achieve better results in basketball activities.

1. Basic skills: The first step in learning basketball skills is to master basic skills, including passing, ball control, shooting, rebounding, defense, etc. Through continuous practice, improve the standardization and proficiency of movements;
2. Action skills: On the

basis of mastering basic skills, further learn various action skills, such as cross steps, behind-the-back dribbling, jump shots, turns, etc. These action skills will make you more competitive in the game; 3. Teamwork: Basketball is a team sport, and it is important to learn to cooperate with your teammates tacitly. In the curriculum, you will learn how to conduct effective team tactics such as pick-and-rolls, air cuts, and fast breaks. Referee knowledge includes 1. Rule understanding: Mastering the rules of basketball is the basis for becoming a qualified referee. During the learning process, you will have an in-depth understanding of various fouls, violations and other penalty standards; 2. Referee skills: learn how to observe the game, judge fouls and violations and other phenomena, and improve the accuracy and fairness of penalties; 3. Referee signals and gestures: Be familiar with various referee signals and gestures in order to clearly and accurately convey penalty results to players and spectators during the game; 4. Game control: Learn to control the rhythm and maintain order during the game to ensure the smooth progress of the game. Through curriculum study, voluntarily participate in the referee level certification test organized by the Xinxiang Basketball Association, thereby obtaining the Level 3 basketball referee qualification.

#### 4.3 How to enhance Learning Outcome

Improving basketball skills and officiating curriculum learning outcomes is a task that requires a full range of strategies. The following steps can help students gradually improve their comprehensive ability during the learning process of basketball skills and referee curriculum.

##### 4.3.1 Develop a study plan

4.3.1.1 Determine learning goals: Clarify your specific goals in basketball skills and referee curriculum, such as improving shooting percentage, strengthening teamwork, improving refereeing skills, etc.

4.3.1.2 Set study time: Arrange study time reasonably to ensure sufficient practice time every week while avoiding overwork.



4.3.1.3 Formulate learning content: According to personal needs, select learning content in a targeted manner, such as basketball skills, tactics, referee rules, etc.

#### 4.3.2 Pay attention to basic skills training

4.3.2.1 Proficiency in basic movements: Both players and referees need to master basic basketball movements, such as dribbling, passing, shooting, defense, etc.

4.3.2.2 Strengthen physical training: Basketball requires high physical fitness. Improving physical fitness through long-distance running, strength training, etc. lays the foundation for improving basketball skills.

4.3.2.3 Learn basic tactics: Understand the basketball tactical system and improve teamwork capabilities.

#### 4.3.3 Learn refereeing knowledge and skills

4.3.3.1 Familiar with referee rules: Master the basic rules of basketball referees, including game time, scoring system, foul penalties, etc.

4.3.3.2 Learn referee signals and gestures: Be proficient in various referee signals and gestures to ensure the smooth progress of the game.

#### 4.4 Importance of Learning Outcome

4.4.1 Improve personal comprehensive quality: The learning results of basketball skills are of great significance to the improvement of personal comprehensive quality. In the process of learning basketball skills, students can exercise their physical fitness, enhance their physique, and cultivate team spirit and willpower. In addition, learning basketball skills can also improve one's social communication skills and broaden interpersonal relationships.

4.4.2 Promote the popularization and development of basketball: The improvement of basketball skills learning results will help the popularization and development of basketball in my country. Many basketball enthusiasts and athletes improve their competitive level by learning basketball skills and contributing to the

cause of basketball in our country. At the same time, this will also lead to the growth of basketball coaches, referees and other talented teams, providing talent guarantee for the sustainable development of basketball in our country.

#### 4.4.3 The importance of referee curriculum learning outcomes

4.4.3.1 Provide guarantee for skill learning: Basketball skills and referee curriculum provide guarantee for skill learning. When students have a clear understanding of basketball rules, the occurrence of violations and fouls in basketball skills practice will be reduced. , improving classroom learning efficiency.

4.4.3.2 Ensure the fairness of the game: During the learning process, students can master the rules and legal provisions of basketball games and improve their refereeing skills. In actual games, they have certain refereeing capabilities and can judge controversial events in the game to ensure the fairness and justice of the game.

4.4.3.3 Obtain a referee registration certificate: After studying basketball skills and referee curriculum, you will initially have the ability to become a level 3 basketball referee. It is recommended that willing students participate in the basketball referee test organized by the Xinxiang Basketball Association. Students who pass the test can obtain Level 3 basketball referee qualifications and certificates lay a good foundation for future basketball referee work.

#### 4.5 How to evaluate Learning Outcome

Basketball skills are completed through a comprehensive basketball skills test, which can comprehensively and objectively evaluate students' achievements in the process of learning basketball skills. In this test, students are required to demonstrate various skills they have learned in the curriculum. Through this comprehensive test, teachers can better understand students' learning status and formulate more targeted plans for future teaching. The referee theory test is an important means of evaluation. It is designed to test the theoretical knowledge students have learned in the curriculum. In the referee theory test, students need to

answer a series of questions related to the curriculum content, including regulations, standards, operating procedures, etc. . Through this testing method, students' mastery of theoretical knowledge of curriculum referees can be effectively assessed and provide a reference for subsequent teaching and curriculum setting.

## **5. Related research**

### **5.1 Domestic current status of college basketball skills and referee curriculum.**

#### **5.1.1 Curriculum setting and teaching content**

At present, basketball curriculum in colleges and universities in my country mainly include basic basketball skills, tactics, physical training, etc. In terms of basketball referee curriculum, the content covers basketball competition rules, referee methods, referee responsibilities, etc. However, some colleges and universities do not pay enough attention to basketball refereeing curriculum. The curriculum is relatively simple and the teaching content is not rich enough, resulting in students' limited mastery of basketball refereeing knowledge.

#### **5.1.2 Teaching staff**

In our country, the teaching staff of basketball referee curriculum are mainly part-time, with fewer full-time teachers. Although these teachers have some experience in basketball refereeing, they are limited by teaching time and energy, and it is difficult to systematically teach basketball refereeing knowledge. In addition, the stability of the teaching staff is also poor, which is not conducive to the long-term development of basketball referee curriculum.

#### **5.1.3 Practice opportunities**

College basketball games are an important platform for students to practice their refereeing skills. However, in actual games, student referees have limited opportunities to play, and it is difficult to test their refereeing skills in actual

operations. In addition, the level of organization and management of intramural basketball games is uneven, which sometimes affects the growth of student referees.

## 5.2 Problems in the development of college basketball skills and referee curriculum

### 5.2.1 Unreasonable curriculum setting

Currently, there are certain deficiencies in the basketball referee curriculum in some colleges and universities, such as single teaching content and insufficient practical links. These problems lead to a large gap between theoretical learning and practical operation, making it difficult for students to truly master basketball refereeing skills.

### 5.2.2 Shortage of teachers

The teaching staff of the basketball referee curriculum is mainly part-time, with fewer full-time teachers and poor stability. This makes it difficult to guarantee the teaching quality of basketball referee curriculum and is not conducive to the growth of students.

### 5.2.3 Insufficient practice opportunities

Students have limited opportunities to serve as referees in actual competitions, making it difficult to apply the knowledge they have learned into practice. In addition, the low level of organization and management of intramural basketball games will also affect the growth of student referees.

## 5.3 International

Basketball is one of the most popular competitive sports in the world, and the development of its skills and referee curriculum abroad has attracted much attention.

### 5.3.1 Development status of basketball curriculum in foreign universities

#### 5.3.1.1 United States: The United States is the birthplace of basketball,

and basketball culture is deeply rooted in the hearts of the people. In American colleges and universities, basketball curriculum are rich and diverse, including basic skills training, tactical drills, physical training, etc. In addition, many American

colleges and universities also have basketball teams. By participating in school team competitions, students can improve their basketball skills and cultivate team spirit.

5.3.1.2 Europe: In Europe, basketball also has widespread influence. European college basketball curriculum focus on skill development and sports ethics education, emphasizing teamwork. In addition, basketball exchanges and cooperation among European universities are becoming increasingly close, providing students with more opportunities to learn and compete.

5.3.1.3 Australia: Australian college basketball curriculum focus on cultivating students' sports ability and interests, focusing on individual differences. Australian university basketball teams are strong, and the student-athletes participating in domestic and international competitions are of high quality.

5.3.1.4 Asia: In Asia, basketball is gradually becoming more popular. Basketball curriculum in colleges and universities in Japan, South Korea and other Asian countries are relatively comprehensive, including basic skills training and special training for high-level athletes. In addition, Asian college basketball events are increasing year by year, providing students with a platform to exercise and showcase their talents.

5.3.2 Current Development Status of Basketball Referee curriculum Abroad

5.3.2.1 International Basketball Federation (FIBA): FIBA attaches great importance to the training of basketball referees and regularly holds world basketball referee training curriculum. Cultivate professional-level basketball referees through a combination of theoretical learning and practical operations. In addition, FIBA also promotes electronic referee systems to improve referees' performance.

5.3.2.2 National Basketball Association (NBA): The NBA has the world's top basketball referees, and its referee curriculum and selection system are exemplary. NBA referees must not only have superb officiating skills, but also have good physical fitness, psychological quality and communication skills. The NBA

selects and trains outstanding referees by holding regular referee training curriculum.

5.3.2.3 European Basketball Federation (Euroleague): Euroleague attaches great importance to the training of basketball referees and regularly holds training curriculum for European basketball referees. Through cooperation with the International Basketball Federation (FIBA), we cultivate basketball referees with international standards. In addition, Euroleague also implements a referee evaluation system to improve referees' performance.

5.2.3 Basketball skills and referee curriculum: development trends abroad.

5.3.3.1 The training system is becoming more scientific and systematic: foreign basketball powers have increased their investment in the basketball training system, pay attention to the use of modern science and technology, and improve the comprehensive quality of the players.

5.2.3.2 International cooperation and exchange: Through international cooperation and exchange, introduce foreign advanced basketball concepts, techniques and coaches to improve the domestic basketball level.

5.3.3.3 Attach importance to the training of referees: foreign basketball organizations attach great importance to the training of basketball referees, constantly improve the referee curriculum and selection system, and improve the level of referees.

5.3.3.4 Combination of popularization and improvement: while popularizing basketball, we should pay attention to the selection and training of excellent basketball talents to form a virtuous circle of development trend.

## **6. Conceptual framework**

### **6.1 Curriculum development**

The common usage of the word "curriculum" in modern Chinese generally refers to the general term for the teaching subjects in schools, or the progress of



students' homework. In foreign literature, "curriculum" evolved from Greek once, originally meaning "horse racing track", and later extended to academic process and teaching process. But its meaning is not very certain, and there is no unified viewpoint in the theoretical circle. Researchers have given it different definitions from different angles. In a broad sense, the curriculum refers to the sum of the educational content and process selected by the school to achieve the training goals. It includes the various subjects taught by the teachers and purposeful and planned educational activities. A narrow curriculum refers to a certain subject or a type of activity. Oliva (2009), for example, classified the definition of curriculum into two parts: narrow and broad. In the narrow view, curriculum is defined as subjects taught in schools. In the broad sense, curriculum is defined as "all the experiences of learners, both in school and out, directed by the school". Other authors, such as Eisner (2002), and Goodlad and Richter (1966) define it as a series of planned activities. Eisner (2002), however, further explains that these planned activities are expected to have an educational impact on one or more students. In Sowell's (2005) definition, the term curriculum is more comprehensive. Sowell defines a curriculum as what is taught to the learners, including the intended or unintended information, skills, and attitudes, which are communicated to the learners either inside or outside of schools during the teaching and learning processes.

The term "curriculum development" has been used in the Chinese education community as early as the 1920s, and it is one of the most frequently used terms in the curriculum field. The initial curriculum preparation originated from English curriculum making, curriculum construction and other similar words. These words originally meant the construction and production of curriculum. After Swell and Campbell published the book "curriculum development" in 1935, the term "curriculum development" has been widely used by researchers in the field of curriculum research. Because the word "development" means that curriculum development is a process of continuous improvement and development. In the field of



western curriculum research, although some researchers have used the term curriculum development, different researchers have different views on its understanding. Their differences are mainly in the confusion of the understanding of the concepts of "curriculum development" and "curriculum design". Through consulting related literature, it is found that "curriculum development" is equivalent to the determination of curriculum objectives, the selection and organization of curriculum content, curriculum implementation, and curriculum evaluation. However, some experts believe that "curriculum design" is the technology to deal with this part of the content. In 1949, "Father of Modern Curriculum Theory" Ralftai published "Basic Principles of Curriculum and Teaching". From his book, he put forward the four basic elements of curriculum design, namely goals, content selection, teaching activity organization and evaluation. W. H. Schubert and British curriculum expert John F. Kerr also put forward their views on the four elements of curriculum design.

From the concept of curriculum development, it can be seen that curriculum development is a complex project, which involves various links such as the subject of curriculum development, curriculum resolution, curriculum objectives, curriculum content, curriculum implementation, curriculum evaluation and subsequent revisions. different factors in order to coordinate and adapt to the needs and development of students and society alike. Therefore, a scientific and standardized curriculum development model becomes necessary, which can provide a basis for teachers and experts and scholars to develop curriculum. Based on Taylor's curriculum design principles and analysis of the research results of various researchers, this research defines the concept of curriculum development as the entire process of completing a curriculum design, which includes needs diagnosis, formation of specific goals, selection and organization of learning content, selection and Organize learning experience, determine the object and method of evaluation in five parts.

## 6.2 Taba Mode

Taba mode is a teaching mode that focuses on diverging students' thinking education and improves students' inductive thinking ability. It advocates that logical thinking is the ability of individuals to process information. In the teaching process, it emphasizes the view that the teacher is the leading and the student is the main body. The Taba model believes that the purpose of education is to teach students how to think, and what teachers mainly teach is the process of thinking. Education goal is an important direction of curriculum teaching, and education content is a tool used to achieve education goal. According to the teaching strategy of forming a concept proposed by Taba, it can be known that this strategy is to familiarize students with the relevant knowledge background and learn to process knowledge and summarize information.

The guiding ideology of the Taba model is based on pragmatism philosophy as the leading ideology and is deeply influenced by behaviorist psychology in curriculum design theory. Taba believes that the first thing we should consider when compiling curriculum is the needs of learners, and the design of curriculum should be undertaken by users. He believes that the "top-down" or "authoritative, professional" curriculum design model Not enough to ensure the realization of teaching goals. It insists that teachers should use induction in curriculum design, that is, individual to general design, rather than general to individual design mode. From the perspective of Taba model goals, it emphasizes specific and clear goals, and advocates that students' needs and curriculum content should be clearly corresponded, so that the statement of goals can truly explain both the content and the behavioral aspects of the goal. It emphasizes that the curriculum design goals should have a clear structure and level, through the clear goals to optimize the selection of teaching content and methods and become a standard of teaching evaluation.

Taba model contains within it a number of innovative aspects: specificity in determining objectives and content; learning experiences selected and organized in

accordance with specified criteria; teaching strategies that specify a variety of methods and technology; and an elaborate array of evaluative procedures and measures. Factors external to the model that may affect its internal components are also represented. Such factors include (a) the nature of the community in which the school is located—its pressures, values, and resources; (b) the policies of the school district; (c) the nature of a particular school—its goals, resources, and administrative strategies; (d) the personal style and characteristics of the teachers involved; and (e) the nature of the student population (Fred C. Lunenburg, 2011). Yi Hui (2020) believes that the Taba model is a teaching model that aims to spread students' thinking education and improve students' inductive thinking ability. Taba advocates that logical thinking is the ability of individuals to process information. In the process of teaching, emphasizes the view of teachers as the leading and students as the main body. This shows that Taba model consists of a series of rigorously structured stages. Each stage starts with a teacher's question. This question guides students to pay attention to a certain aspect of the material and requires them to deal with it in a special way. The type of question asked by the teacher determines the type of student activity. Students participate in the various processes of forming generalizations, explanations, and predictive reasoning in an orderly manner. Through these activities, they develop. Various processes are used in different stages of the model, and the type of process used is determined by the teacher's question. The Taba model uses questions as the form of teaching design. Teachers promote the teaching process with inductive questions at each stage, guiding students to identify materials, put forward key points, and summarize. The steps include: (1) Demand diagnosis. Course designers must understand the needs of students, their deficiencies, shortcomings, and differences in background. (2) Form specific goals. On the basis of determining the needs of students, establish the goals to be achieved by the curriculum. (3) Select content. According to the established goal, choose the subject and subject that should be studied. (4) Selection and organization of learning experience. (5) Determine the

object and method of evaluation. The various links are unfolded in turn, influencing each other, and relying on each other is a cyclical process.

In terms of evaluation, the Taba model believes that because the goal model advocates starting from a clear behavior goal, its evaluation is based on the behavior goal, which is a goal-referenced evaluation, which is a result evaluation. Since the evaluation has a clear target as a reference, it carries out a quantitative evaluation.

### 6.3 Current Situation and Problems of Basketball curriculum in Chinese Colleges and Universities:

Chinese scholars have also made a lot of efforts on the development of college basketball curriculum. Luo Junbo (2017) pointed out that college basketball curriculum mainly have problems such as insufficient teaching hardware facilities, neglect of theoretical knowledge learning, and lack of social practice. He Zhibin (2018) believes that college basketball curriculum should establish a sound sports skill improvement system, a sound sports health promotion system, and a sound personality shaping system. The characteristic development of colleges and universities is regarded as an important strategy of national higher education. Some scholars have proposed that the development of basketball curriculum should be integrated with referee knowledge, including basic theoretical knowledge, referee on-the-spot practice, professional ethics and psychological quality, physical quality, etc. (Li Jiangtao, 2015). To sum up, this study believes that the development of Chinese college basketball curriculum mainly has the following problems:

#### 6.3.1 Single teaching method

The most basic task of basketball teaching is to allow students to learn basic basketball knowledge and skills, and gradually guide students to form a lasting health consciousness and take exercise as a good habit. If you want to make basketball teaching more in place, you need to take advanced ideas as the first priority in teaching. However, there are obvious differences in China's cognition of basketball

teaching at this stage, which has also caused various problems for the vast majority of teachers in basketball teaching. On the whole, the teaching methods and content cannot keep up with the current situation of rapid development of basketball, which can be roughly divided into: strengthening students' physical fitness as the basic curriculum idea, creating excellent psychological quality of students as the basic curriculum idea, and strengthening the basketball level as the basic. There are three types of curriculum ideas. For a long time, the teaching of basketball curriculum has focused on the teaching and training of techniques and tactics, and insufficient attention has been paid to the training and training of referee skills. The teaching method and the single design have become the reasons why students cannot go deep into the basketball curriculum.

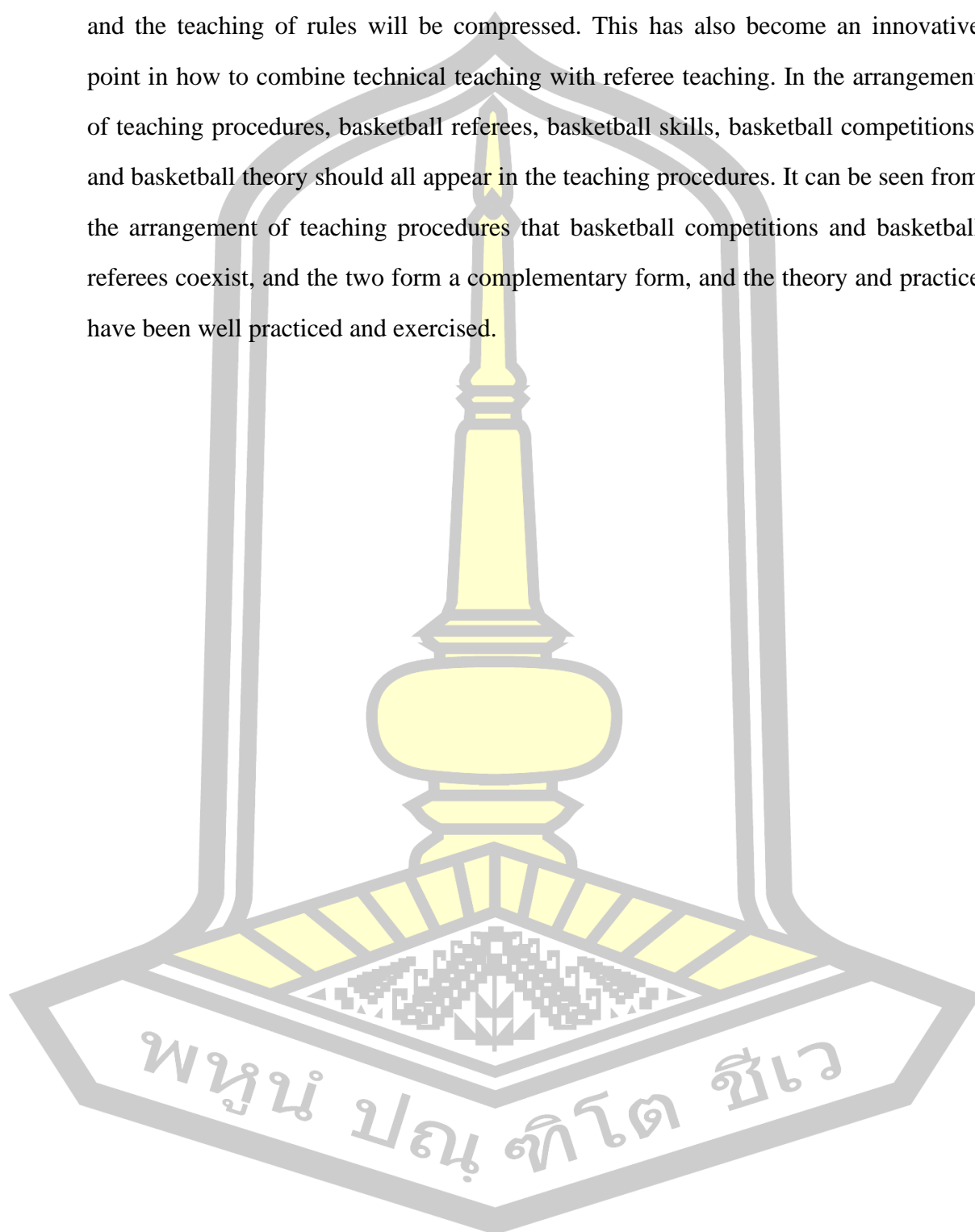
#### 6.3.2 Single teaching content

At the undergraduate level, students mainly like to learn basketball skills, but they are also keen on basketball competitions. The competition and technical requirements make progress together. This demand requires the enrichment of teaching content to be improved. But after all, the class time is limited and the number of teaching weeks is limited. The current syllabus and teaching content do not allow technology teaching and competition to be carried out at the same time. The teaching sequence of the classroom can't teach technology if the competition is arranged. It can also be seen from this point that students do not like the theory of basketball. They believe that basketball is a technical curriculum, and its teaching form is only technology, showing the unity of teaching content.

#### 6.3.3 Teaching density is too low

Prerequisites such as teaching week and teaching hours will appear in the teaching arrangement of each curriculum. Teaching hours limit the arrangement of teaching procedures. Teaching itself is a whole, and each type of teaching is a module in it. A good arrangement of teaching procedures will bring about different teaching effects. Traditional basketball technical teaching accounts for 60% of the total, and

rules teaching may only be 5%. Technical teaching occupies a lot of teaching practice, and the teaching of rules will be compressed. This has also become an innovative point in how to combine technical teaching with referee teaching. In the arrangement of teaching procedures, basketball referees, basketball skills, basketball competitions, and basketball theory should all appear in the teaching procedures. It can be seen from the arrangement of teaching procedures that basketball competitions and basketball referees coexist, and the two form a complementary form, and the theory and practice have been well practiced and exercised.



## CONCEPTUAL FRAMEWORK

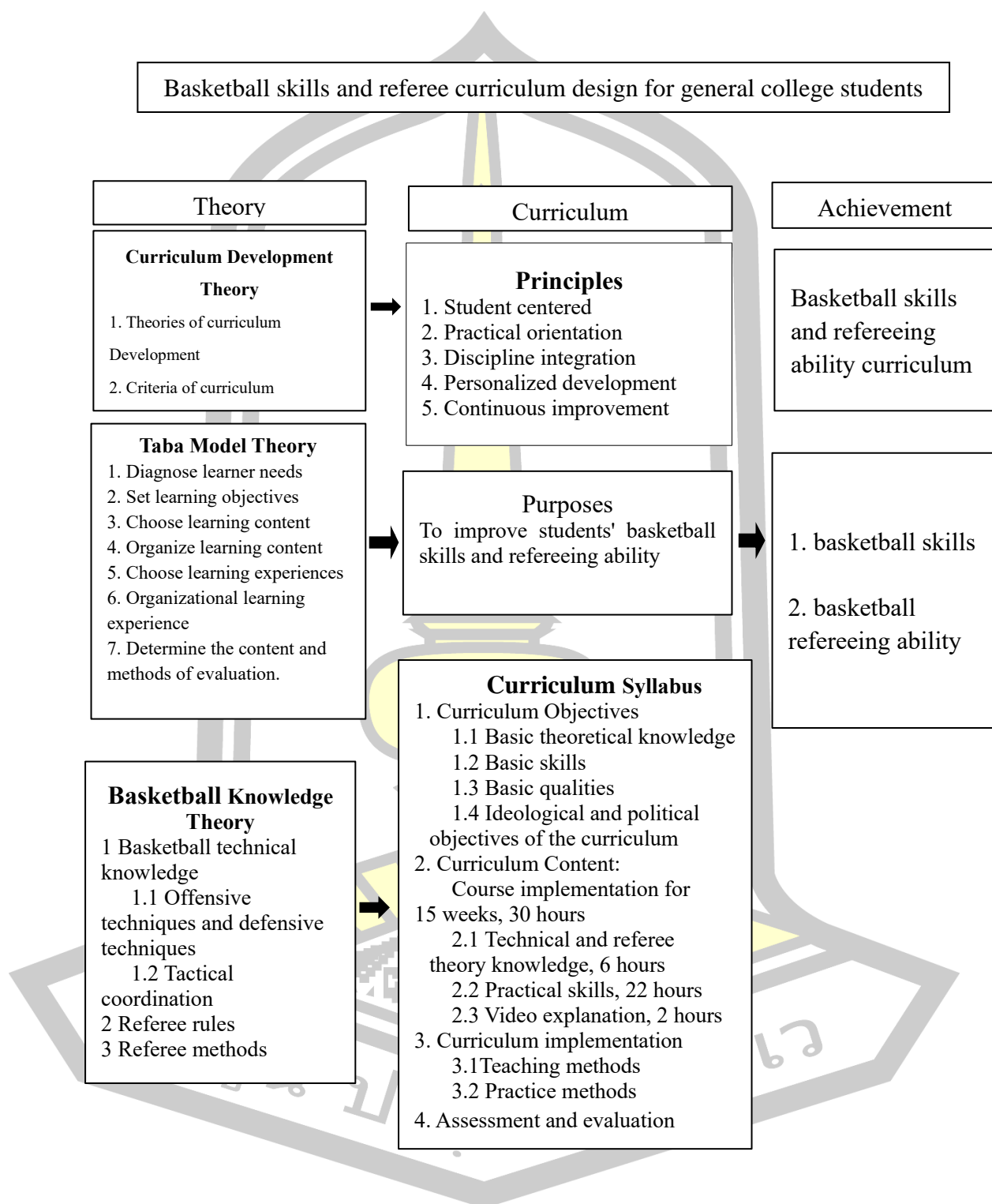


Figure 1 Conceptual Framework



### Conceptual Framework

Use curriculum development theory and Taba Model to develop Basketball Skills And Referee curriculum, and through taking Basketball Skills and Referee curriculum to improve students' basketball skills and referee ability. Utilize existing basketball tutorials and rules and interpretations established by FIBA to develop and implement Basketball Skills and Referee curriculum.



### CHAPTER III

### RESEARCH METHODS

The study consisted of 3 phases. (R&D)

The purpose of this study is to improve and develop the original curriculum system, correct imperfections, and improve teaching quality and efficiency through curriculum reform of basketball elective curriculum for Chinese college students. At the same time, it promotes the improvement of teachers' teaching ability and level, thereby improving students' learning ability, so that students' basketball ability and sports literacy can be further improved. Basketball curriculum must be improved and developed accordingly with the development of society and students to adapt to the needs of the times.

In this chapter, the researcher mainly describes the work carried out at various stages with the research purpose as the main clue. Specific steps are as follows:

#### **1. Phase 1: Search relevant literature and conduct expert interviews.**

Using the research purpose as a clue, determine a number of keywords and search for relevant references in Chinese domestic and international academic databases. Interviews with experts were conducted, mainly focusing on the problems existing in the basketball elective curriculum for Chinese college students at the current stage, to identify the main problems that need to be improved in the second stage of this study. The research mainly uses literature method and expert interview method.

1.1 Step1: Understand the development status of Basketball Skills and Referee curriculum in colleges and universities, establish a path model of Basketball Skills and Referee curriculum, analyze its influencing factors and paths, and provide background reference for the design of "Basketball Skills and Referee curriculum".

1.2 Step2: Through a questionnaire survey and preliminary discussions with basketball elective students, we mainly understood the main problems and contradictions that students encounter in the process of physical education learning, the difficulties they face, and the areas where their ability need to be improved but cannot be solved.

1.3 Step3: Visit and discuss with experts (professors) from the School of Physical Education, solicit experts' suggestions on the teaching reform of physical education curriculum, carry out feasibility optimization design of the Basketball Skills and Referee Course, solicit guidance from experts, and study the reliability and practicality of program formulation significance.

## **2. Phase 2: Construct the curriculum.**

In this stage, the main research focus is on how to improve, improve content, and improve methods. Based on the questions summarized through expert interviews in the first stage, propose a plan for improvement in teaching content, teaching methods, teaching methods, and evaluation standards. At the same time, determine the survey subjects and data analysis methods.

2.1 Step1 Develop a teaching outline and plan for basketball skills and referee curriculum.

2.2 Step2 Develop basketball skills and referee curriculum evaluation and standards.

2.3 Step3 Experts are invited to give presentations and evaluate the suitability of curriculum syllabuses, teaching plans and assessment criteria.

## **3. Phase 3: Conduct a one-semester (6-month) curriculum education for the research subjects, and collect basic data of the research subjects before undergoing the curriculum education.**

One semester later, the basic data of the research subjects were collected again, and the before and after data were compared to explore the differences in the before and after data to demonstrate the scientific nature of the curriculum reform.

3.1 Step1 Conduct a pre-test the basketball skills of 60 students in two classes and organize the data.

3.2 Step2 Curriculum implementation is carried out according to the established curriculum syllabus. The teaching experiment method is used to conduct curriculum teaching of 2 classes per week for 16 weeks.

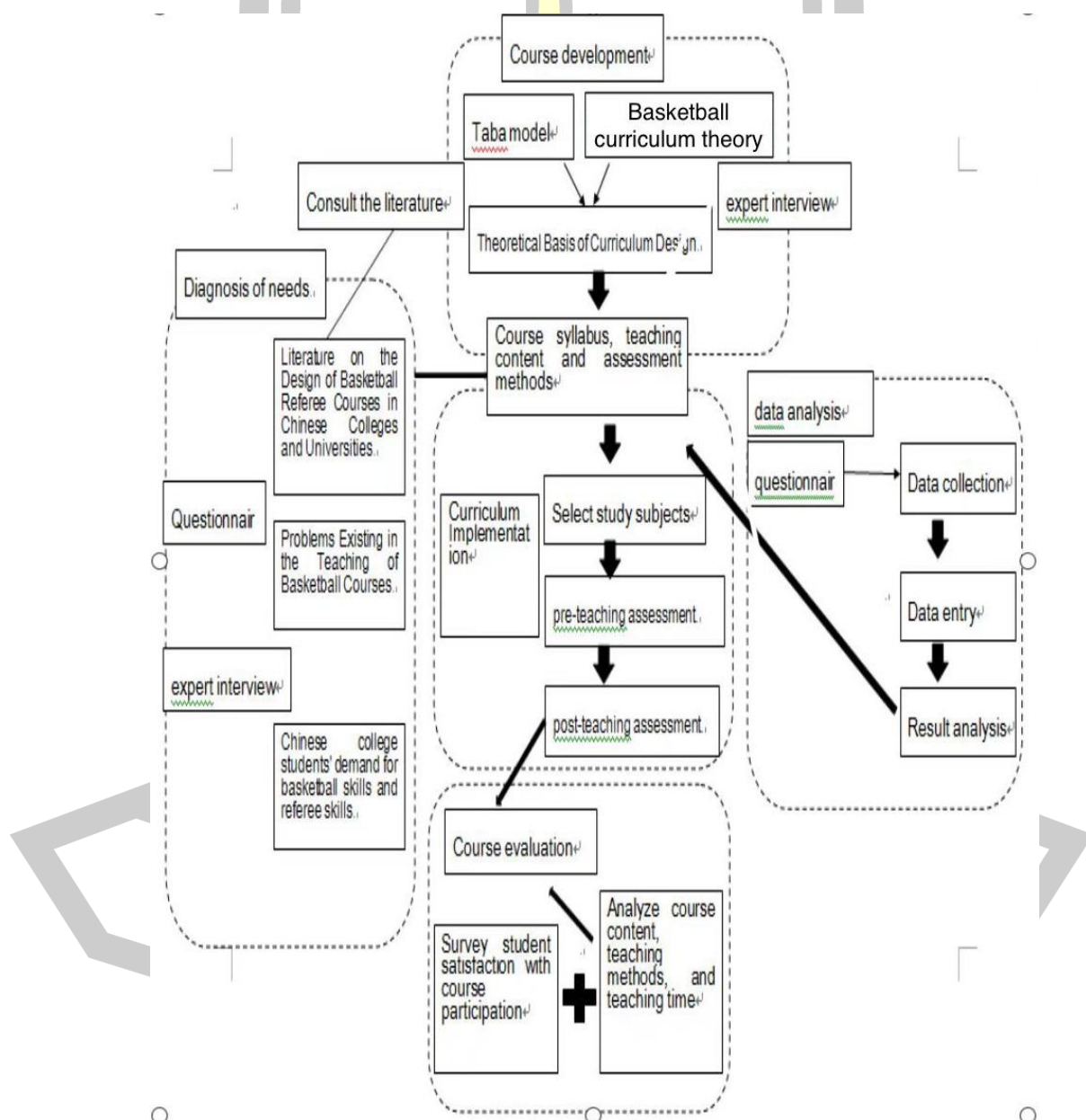


Figure 2 Research Framework

Table 2 Research steps

Phase		Step	Content	Method
Phase 1	Basic information study	Step 1	Research the relevant literature and materials of basketball referee curriculum design in Chinese colleges and universities, combine the related concepts and theories of curriculum development, and explore how to combine the content of basketball referee curriculum with basic basketball skills.	Literature method
		Step 2	Investigate the problems and needs of the "Basketball Skills and Refereeing" curriculum. The survey respondents select students, teachers and experts who have participated in ordinary basketball public curriculum to understand their attitudes and suggestions to the original curriculum.	Questionnaire survey method
Phase 2	Curriculum Development and Design	Step 1	According to the first stage of the needs diagnosis, the curriculum syllabus, teaching content and evaluation methods are established. Research how to develop the curriculum and evaluate the suitability and consistency of the various components within the curriculum.	Data analysis method, literature method

Table 2 (Continued)

Phase		Step	Content	Method
		Step 2	Evaluate the preliminary design of the curriculum, invite experts to guide and make changes.	Expert interview method
Phase 3	Curriculum Implementation and Results Research	Step 1	Select the research object, set the research object as the experimental class and the control class, and use the ordinary basketball curriculum teaching method and the newly designed curriculum teaching method to carry out the teaching task for one semester.	Practice method
		Step 2	Before carrying out teaching tasks, assess students' basic basketball ability, including basketball skills, basketball cognition, attitudes towards basketball curriculum, etc.	Questionnaire survey method, data analysis method
		Step 3 (One semester later)	After investigating again after different teaching methods, the ability data of the two classes of students include: basketball technical ability, referee knowledge ability, problem-solving ability, participation satisfaction.	Questionnaire survey method, data analysis method
		Step 4	Independent sample t test and paired sample t test were used to analyze the two data before and after the semester.	Data analysis method
		Step 5	Compare with the expected effect of curriculum design and analyze the shortcomings of curriculum design.	Analytical method, expert interview method

### 3.1 Phase 1 Contextual Study

#### Step 1 Research the related studies to program development

Starting from the content and purpose of the curriculum, to the teaching strategies, methods, and environment, it truly embodies the concept of putting people at the core and putting the reconstruction of learning cognition in the first place. This article intends to study the curriculum setting according to the steps of Taba model, including:

##### 1. Diagnosis of needs.

First, with the increase in grass-roots competitions in society, the demand for referees has increased, and the requirements for referees have become more and more stringent. In the selection of referees, it is necessary to select competent, but experienced and high-level referees. The number of referees is limited. Colleges and universities have good teachers, venues and selection conditions. Students can acquire a skill through systematic learning as one of the ability to participate in social activities. Second, with the rapid development of basketball, college students are becoming more and more interested in top-level leagues. These fierce and full of spectating games often affect the results due to referees' penalties. However, without understanding the rules or understanding the penalties, the viewing of the game will be greatly reduced. Third, the original intention of students learning basketball technology is to apply what they have learned to daily sports. From the perspective of a third-party referee, it can more clearly help students correct basketball actual combat skills and avoid controversial actions on the court. Fourth, improve students' awareness of self-exercise. The basic curriculum goal of public physical education is itself to learn a new sports skill on the premise of physical fitness. This curriculum hopes that students will have the awareness of autonomous exercise and active participation in sports activities while continuously learning and adapting to the development of sports.



## 2. Form specific goals

Comparison of learning objectives between ordinary basketball curriculum completion and "basketball skills and refereeing" curriculum				
Target	Basketball curriculum goal		Basketball Skills Referee Course Objectives	
1	physical quality	Improve students' speed, strength, agility, flexibility and other physical qualities, enhance cardiopulmonary system and exercise system functions, and enhance athletic ability.	Basketball knowledge	Have a certain understanding and application of basic techniques and simple tactics in basketball.
2	Sports knowledge	Master the basic skills and practice methods of basketball, develop students' basketball awareness, and cultivate students' expressiveness and creativity.	Referee knowledge	Ability to master basketball rules and refereeing methods, and effectively integrate theoretical knowledge into actual on-the-spot work.
3	problem analysis	Be able to use scientific methods, serious learning attitude, and actively participate in basketball curriculum to improve the understanding of basketball.	Participate and appreciate	Have the enthusiasm to participate in basketball activities and games, and have a certain ability to appreciate basketball games.

Comparison of learning objectives between ordinary basketball curriculum completion and "basketball skills and refereeing" curriculum				
Target	Basketball curriculum goal		Basketball Skills Referee Course Objectives	
4	Lifelong learning	Have the awareness of independent learning and lifelong learning, have the ability to continuously learn and adapt to development, develop the habit and awareness of physical exercise by means of basketball, and establish a correct view of sports ethics.	Referee and organization	Able to complete the on-the-spot judging of amateur basketball games, and have the ability to plan, arrange, and organize basketball games.
5	Practice and application	Master the specific knowledge of basketball curriculum and apply them in practice: improve the actual combat ability of basketball games, enhance the sense of competition and fighting spirit.	Individuals and teams	Be able to apply the referee's personal problem-solving ability and team cooperation spirit to his daily life and work.
6			Overcome psychological barriers	Have the ability to stay in danger, eliminate interference, and maintain peace of mind.
7			Lifelong sports	Have the awareness of independent learning and lifelong participation in sports activities, and the ability to continuously learn and adapt to the development of sports.

### 3. Choosing and organizing learning content

Choosing and organizing learning content	
Theoretical part	Practice part
Basketball rules	On-the-spot judging practice
Basketball refereeing	Record table work
The organization and arrangement of the competition	Professional moral quality and psychological quality
The professional ethics of referees	Competition organization and scheduling ability
Basic conversational skills	Fitness training
Basketball referee English terms	Certain basketball skills and tactics

### 4. Selection and organization of learning experience

#### Step 1 Select learning content based on curriculum standards

Generally speaking, the choice of learning content is to determine the scope of learning content, including the depth and breadth of the content. Generally speaking, increasing the breadth will reduce the depth, and increasing the depth will reduce the breadth. The way to solve this problem is to pay attention to the applicability and transferability of the content, and to pay attention to the things that are widely adaptable, essential, and need to be understood. Not all students have the same desires, enthusiasm, interests, or goals. When we select and organize learning experiences and implement teaching based on curriculum standards, we must try our best to consider the differences between students to help each student find their own learning content.

#### Step 2 Select learning activities based on curriculum standards

Standards-based curriculum design should be campaigning. In unit time, the less content, the more time spent on them. The less teachers teach, the more

students learn. This embodies the principle of "less teaching is more learning". If when choosing learning activities, we pay more attention to the quality of students rather than quantity, and make one or two selected activities in place, then students will better transfer these knowledges to learning activities with similar characteristics middle.

### Step 3 How to choose learning activities

A key to achieving curriculum standards is to provide students with the right to choose activities, and to give students this right requires a variety of activities as a guarantee. It should be noted that in the implementation of the curriculum, we must evaluate these activities, especially to see how much they can contribute to the overall development of students. When choosing learning activities, teachers must also respect the preferences of students to participate in activities and try to consider the differences between students. In addition, in order to achieve specific goals, learning activities should be designed around a theme. The diversified activities presented in thematic mode will increase students' choice opportunities, so as to achieve the curriculum standards to the greatest extent.

### 5. Determine the object and method of evaluation

Curriculum evaluation is based on and starting from the curriculum objectives, which is to evaluate to what extent the actual curriculum plan has achieved the curriculum objectives. In the process of evaluation, it is necessary to pay attention to the evaluation of students' learning effects as well as the evaluation of teachers' teaching quality. Both must be taken into account. Unilateral evaluation cannot be a good curriculum evaluation.

### 3.2 Phase 2 Program development

Visit Chinese basketball education experts, who will judge the content and teaching methods of the draft curriculum of "basketball skills and referees" and put forward modification suggestions. Experts should have the title of university professor or the qualification of national first-class basketball referee or above, and

have rich practical experience in basketball teaching.

Table 3 How to teach

Class hours	Course structure	Technical content	Referee content	Physical fitness content
1-2	theory	The origin, development and current situation of basketball. Describe the teaching objectives, examination contents, requirements, etc	Brief introduction of referee rules, including teaching objectives, examination contents, requirements, etc	
3-4		Basketball proficiency practice, basic basketball standing posture, dribbling posture, defensive sliding step technology	Explain the penalty skills and steps of violations in the competition	
5-6		Two-handed pass and catch, one-handed pass and catch	Explain the penalty skills and steps for fouls in the game	
7-8		Basketball moves the footsteps (speed run, change direction, sideways run, back run)	Referee Positions, Movements and Responsibilities	
9-10		Dribble in place (one handed spot dribble, one handed forward and backward dribble, one handed Change direction dribble)	Penalty for dribble violation	

Class hours	Course structure	Technical content	Referee content	Physical fitness content
11-12		One handed shoulder shot, two handed chest shot	Judgment and management of shooting and free throw situations	
13-14		Change direction dribble while moving, dribble emergency stop while moving	Gestures and procedures for declaring a foul	
15-16		Dribble low hand layup, dribble high layup	Penalty for technical foul and violation of sports ethics	
17-18	theory		Competition organization procedure, competition arrangement and recording desk division of labor	
19-20	practice	Cross step breakthrough with the ball and breakthrough on the same side with the ball	Practice of referee on-the-spot cooperation	5v5 half court game, 5v5 full court game
21-22		Pass and lay up between two people, pass and lay up between three people, cover cooperation, pass and cut cooperation	Practice of referee on-the-spot cooperation	

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Class hours	Course structure	Technical content	Referee content	Physical fitness content
23-24		Grab offensive rebounds, grab defensive rebounds	Practice of referee on-the-spot cooperation	
25-26		Coordinate, close door tactics and attack cooperation		
27-28	theory	Basketball tactics explanation, tactics classification and tactics consciousness	Referee's position, field of vision and cooperation	
29-30	appreciate	Watch the whole basketball game video and explain the key points	Explain the important key decisions.	
31-32		Physical fitness, competition	Referee knowledge test	

### 3.3 Phase 3 Curriculum Implementation and Results Research

#### 3.3.1 Research object

Sixty students were randomly selected from the second-year basketball elective students of Xinxiang Medical University in Henan Province, China, with 30 students in each group, a total of 2 experimental groups. The research subjects' basketball technical ability, cognition of basketball rules, and satisfaction of participating in the curriculum were investigated.



### 3.3.2 Research tools

The research tools are mainly divided into three parts:

#### 3.3.2.1 Part 1 : Basketball Skills Test

1) To test a full-court dribble layup, the candidates stand behind the end line and start, and count the number of layups in the audience within one minute.

2) Rules: Must make a hit to make the next layup. 5 points will be deducted from the total score for one violation. A score of 60 is qualified.

#### 3.3.2.2 Part 2 : Basketball Rules Test

The "Level 3 Referee Exam Paper" and scoring standards promulgated by the Chinese Basketball Association are adopted. A score of 60 is qualified.

#### 3.3.2.3 Part 3. Course Participation Satisfaction Questionnaire

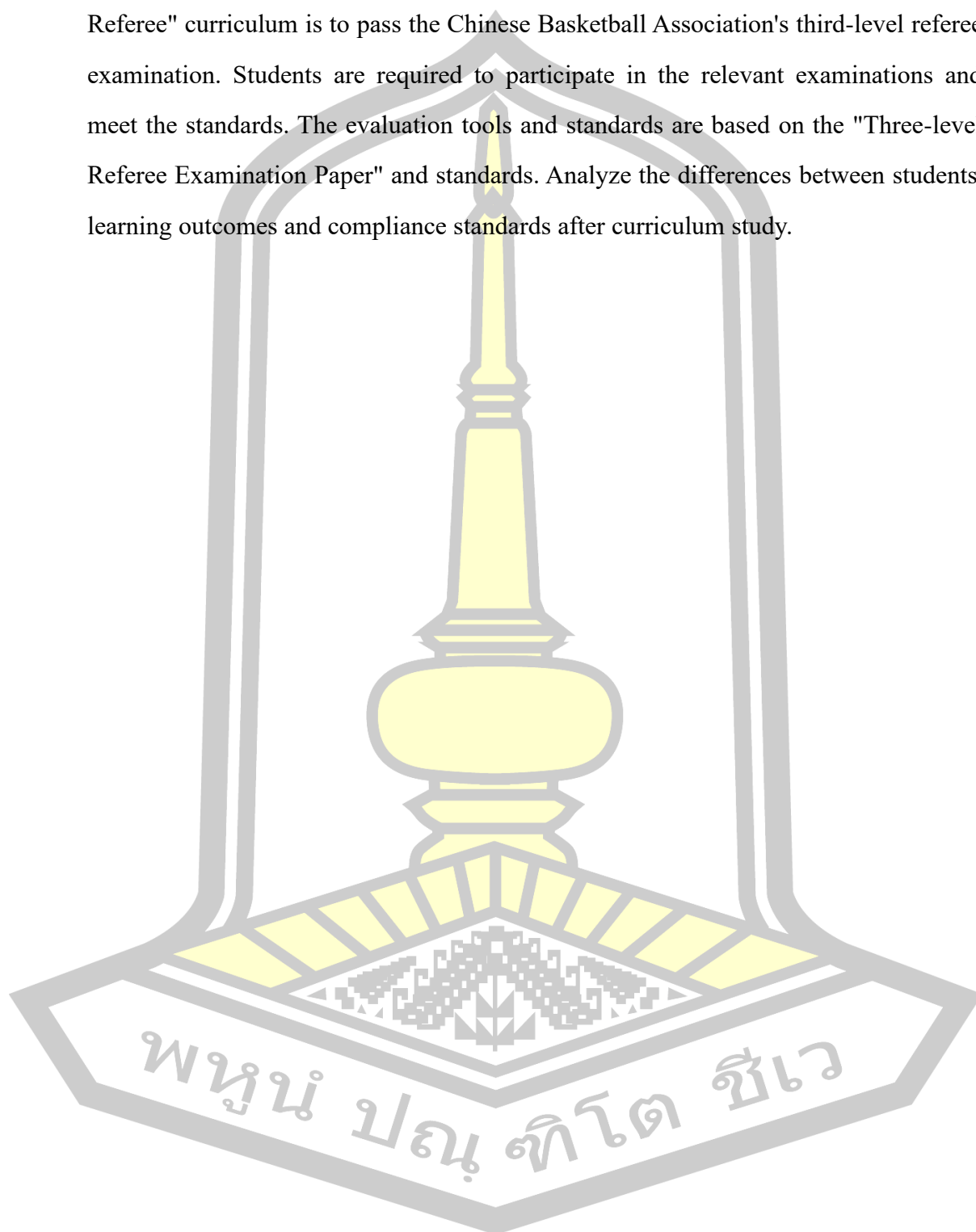
The researchers developed an evaluation questionnaire for this curriculum through questions they encountered during curriculum preparation and curriculum learning. The main contents include: curriculum content, teaching methods, teaching time, subjective evaluation, etc.

1. Comparing the differences between students' basketball skills and refereeing ability before and after the "Basketball Skills and Referee" curriculum (Paired t-test)

Before carrying out teaching tasks, assess students' basic basketball ability, including basketball skills, physical fitness, refereeing ability, etc. After a semester of teaching the new curriculum, the same group was evaluated again for basic basketball ability, and the differences in basic basketball ability before and after learning were compared.

2. Comparing the differences between students' learning outcomes and standards after the "Basketball Skills and Referee" curriculum (One sample t-test)

The ultimate goal of learning the "Basketball Skills and Referee" curriculum is to pass the Chinese Basketball Association's third-level referee examination. Students are required to participate in the relevant examinations and meet the standards. The evaluation tools and standards are based on the "Three-level Referee Examination Paper" and standards. Analyze the differences between students' learning outcomes and compliance standards after curriculum study.



## CHAPTER IV

### RESULTS

The aim of this study is to design a basketball skills and referee curriculum based on the elective basketball curriculum for Chinese college students. While learning skills, it also increases the relevant theoretical knowledge of basketball referees and referee skills, enabling students to understand basketball from the perspective of basketball referees, thereby improving their technical and tactical ability and referee skills in sports. This chapter will introduce the results of data analysis conducted by researchers during the research process. The order of data analysis results is as follows:

1. Symbols and formulas used to express data analysis results
2. The sequence of steps for data analysis results
3. Presentation of data analysis results

#### 1. Researchers use symbols in the data analysis below

n	stands for the number of samples
M	stands for the average score of the sample
S.D.	stands for the sample standard deviation
S.E.	stands for the sample standard error
df	stands for data independence
t	stands for t statistic
Sig (p)	stands for the probability of statistical significance

## 2. Steps in presenting data analysis results

Basketball Skills and Referee curriculum developed to improve the basketball learning Outcome of Chinese university students is the result of a three-stage research and development process. The data is analyzed in the following steps:

### **Phase I: Basic information about the student**

The survey results of basic data and information on the development of basketball skills and referee curriculum aimed at improving the basketball skills and referee ability of Chinese university students.

1. Research the relevant literature and materials of basketball referee curriculum design in Chinese colleges and universities, combine the related concepts and theories of curriculum development, and explore how to combine the content of basketball referee curriculum with basic basketball skills.

2. Investigate the problems and needs of the "Basketball Skills and Refereeing" curriculum. The survey respondents select students, teachers and experts who have participated in ordinary basketball public curriculum to understand their attitudes and suggestions to the original curriculum.

### **Phase II: Construction**

1. According to the first stage of the needs diagnosis, the curriculum syllabus, teaching content and evaluation methods are established. Research how to develop the curriculum and evaluate the suitability and consistency of the various components within the curriculum.

2. Evaluate the preliminary design of the curriculum, invite experts to guide and make changes.

### **Phase III: Implementation**

The results of evaluating Chinese university students' basketball skills and referee ability adaptability achievement after learning the developed Basketball Skills and Referee curriculum

1. Results of classroom observation of curriculum implementation
2. Results of Chinese college students' basketball skills and referee abilities before and after the implementation of develop Basketball Skills And Referee curriculum based on basketball skills combined with refereeing knowledge curriculum.

### **3. Data analysis results**

#### **3.1 Phase I literature Research**

In this stage, the researcher used the literature method to first conduct a theoretical and conceptual investigation of the relevant content of the basketball elective curriculum. Based on the investigation of basketball elective curriculum, the problems existing in the current basketball elective curriculum of Chinese college students were discovered. Then continue to use the literature method to search for relevant literature on keywords such as "curriculum teaching" and "pedagogy theory" to provide relevant theoretical support for the optimal design of basketball elective curriculum. The data comes from China CNKI, Wanfang, Wikipedia, VIP, Baidu Academic and other data retrieval databases.

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Table 4 Source of literature data collection

Type	Quantity	Percentage%
Journal	36	70.6
Master's and Doctoral Thesis	10	19.6
Books	2	3.9
Magazine	2	3.9
Newspaper	1	2.0
Total	51	100

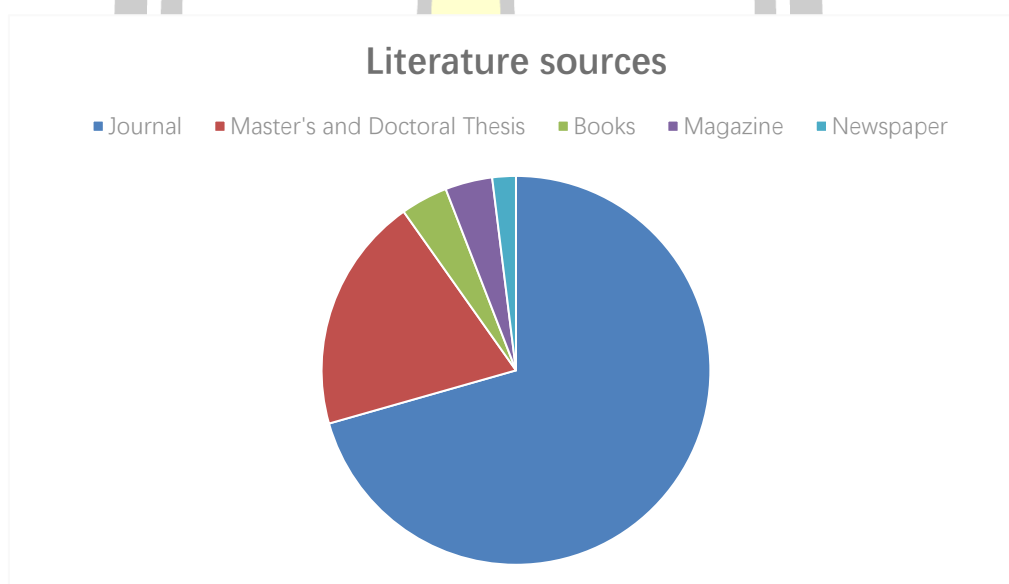


Figure 3 Literature sources



Table 5 Reference keywords

Key words	Quantity	Percentage%
Basketball elective	8	15.7
Physical education curriculum	21	41.2
Course Design	12	23.5
Basketball referee	10	19.6
Total	51	100

According to the results in Table 19.6% of the total proportion; other related materials are distributed in various books, magazines, newspapers, etc., accounting for 9.8% of the total proportion. It can be seen from this that during the period from 2010 to 2023, domestic articles on the optimization of basketball curriculum design have continued to increase. In order to meet the growing professional requirements of students, domestic academic circles have also been continuously exploring and improving related content.

According to the results in Table 23.5%. It can be seen that in these 51 articles, the authors have different starting points. The researchers continued to add 10 articles about "basketball referees" and found that they are also closely related to curriculum design.

To sum up, the study of physical education curriculum in China includes the existence of various projects. Basketball curriculum are only part of it, which reflects the status of basketball on college campuses and the importance that education circles attach to college basketball electives. From the perspective of research content, it is more about the design and optimization of the curriculum itself. With the development of the times, students are no longer satisfied with the original curriculum content. We can approach it from different perspectives and explore students'



interests. In addition, in terms of teaching form, 51 articles all mentioned their own opinions differently, which is worthy of researchers' consideration.

### **3.2 Phase II Developing curriculum**

#### **3.2.1 Curriculum Objectives**

The basketball skills and referee curriculum integrates relevant referee rules while learning basketball skills, enabling students to clearly understand skill requirements and behavioral norms, reduce the occurrence of unnecessary erroneous movements in activities, and improve practice efficiency. Through curriculum learning, students can enhance their technical ability, while also improving their knowledge and ability in basketball referees.

#### **3.2.2 program content**

Unit 1: Overview of the Development of Basketball and Basic Theoretical Knowledge of Basketball Technology

Target:

1. Master the characteristics and value of basketball, the concepts, functions, classification characteristics and structure of basketball techniques and rules.
2. Be familiar with the origin, evolution and development trend of basketball, as well as the technical characteristics and functions of basketball.
3. Understand the brief development of basketball in my country, the value and role of basketball, and the classification of basketball techniques.

Content:

1. Focus on the origin, evolution and development trend of basketball, as well as scientific practice methods guided by theoretical knowledge of basketball.
2. Explain in detail the development of basketball and refereeing in my country, the concepts and functions of basketball techniques and rules.

3. General introduction to the value and role of basketball, classification and structure of basketball technical classification rules.

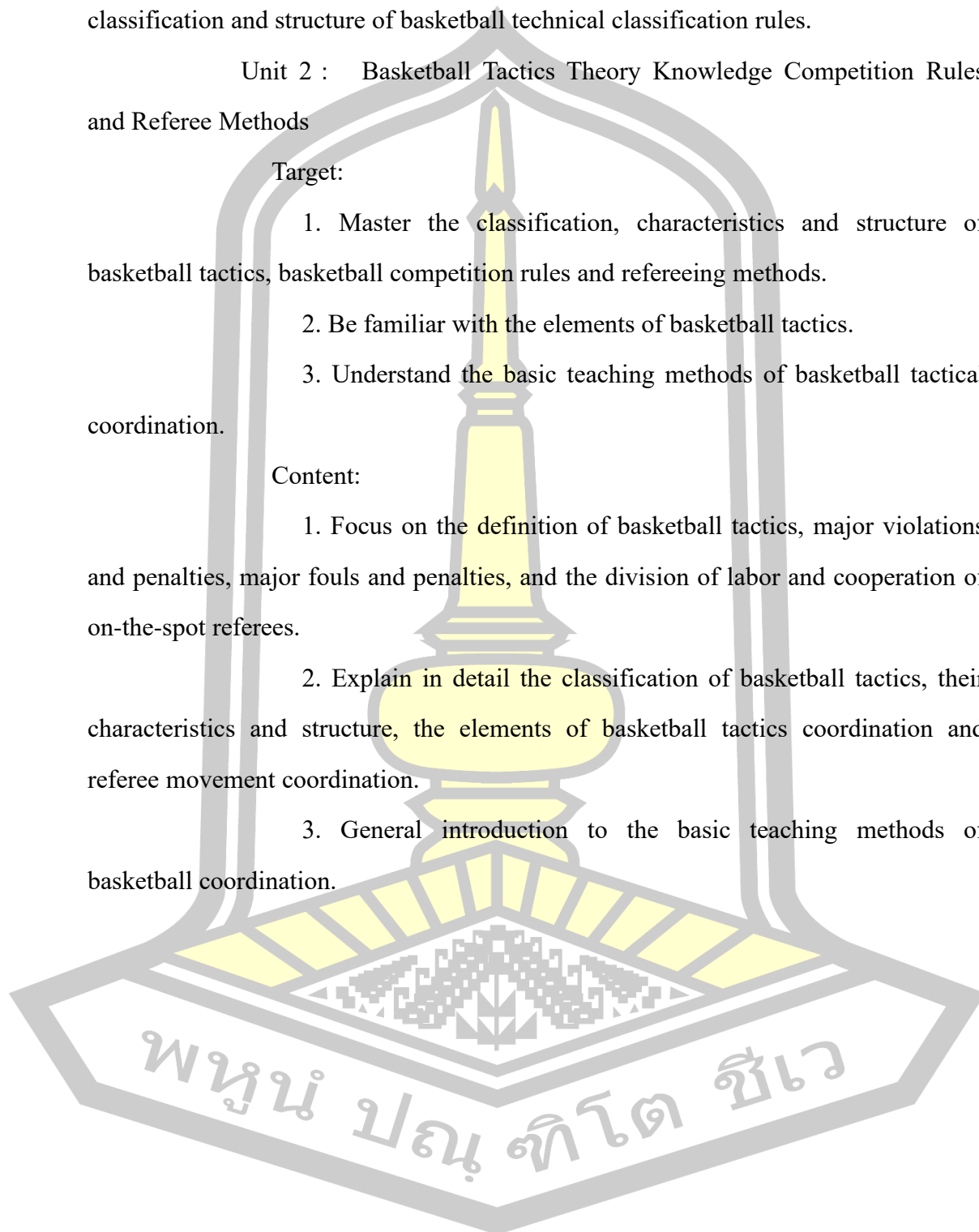
Unit 2 : Basketball Tactics Theory Knowledge Competition Rules and Referee Methods

Target:

1. Master the classification, characteristics and structure of basketball tactics, basketball competition rules and refereeing methods.
2. Be familiar with the elements of basketball tactics.
3. Understand the basic teaching methods of basketball tactical coordination.

Content:

1. Focus on the definition of basketball tactics, major violations and penalties, major fouls and penalties, and the division of labor and cooperation of on-the-spot referees.
2. Explain in detail the classification of basketball tactics, their characteristics and structure, the elements of basketball tactics coordination and referee movement coordination.
3. General introduction to the basic teaching methods of basketball coordination.



## **Basketball skills and referees Curriculum**

### **One. Introduction to the curriculum**

Basketball is a collective confrontation event that integrates running, jumping and throwing. Regularly engaging in basketball can effectively promote the overall development of physical fitness and is conducive to the improvement and improvement of cardiopulmonary function. Through learning and sports practice, you can experience bravery, The enterprising spirit of tenacity, competition and hard work cultivates a good team style.

This curriculum mainly focuses on learning the basic knowledge of basketball, basic techniques, refereeing knowledge, introducing tactics, and introducing basic principles. It focuses on the combination of basic techniques and rules, and combines practice with fun to fully appreciate the fun of basketball. Through general quality exercises and special physical fitness exercises such as strength, speed, endurance, agility, flexibility, etc., we promote the comprehensive development of students' physical fitness and achieve the purpose of strengthening their physical fitness and improving their health level.

### **Two. Course objectives**

#### **(1) Basic theoretical knowledge**

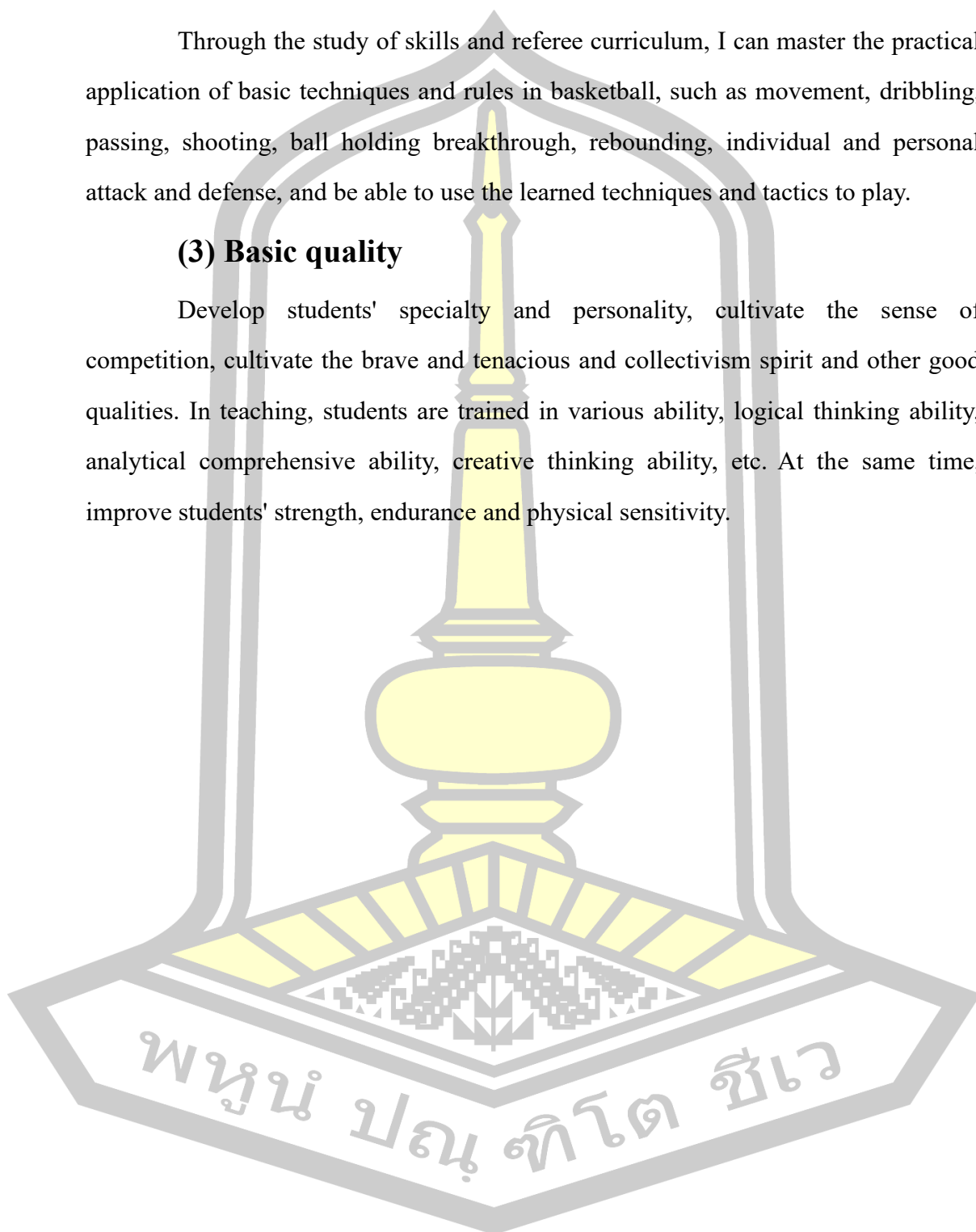
Understand commonly used nouns and terminology, master the development and origin of basketball, the development direction of world basketball, and the current situation of basketball development in my country; master the basic theoretical knowledge of basketball, as well as basketball competition rules and refereeing methods.

## **(2) Basic skill**

Through the study of skills and referee curriculum, I can master the practical application of basic techniques and rules in basketball, such as movement, dribbling, passing, shooting, ball holding breakthrough, rebounding, individual and personal attack and defense, and be able to use the learned techniques and tactics to play.

## **(3) Basic quality**

Develop students' specialty and personality, cultivate the sense of competition, cultivate the brave and tenacious and collectivism spirit and other good qualities. In teaching, students are trained in various ability, logical thinking ability, analytical comprehensive ability, creative thinking ability, etc. At the same time, improve students' strength, endurance and physical sensitivity.



### Three. Credit hours allocation

Cell	Name	Theoretical class hours	Practice hours
1	Brief introduction to the development of basketball sports	2	
2	Basketball rules and referee rules	2	
3	Basketball basic tactical theory	2	
4	Basic posture and movement		2
5	Swift ball, violation		4
6	Pass the ball, violation		2
7	Shooting, violation, and foul		4
8	Llayup, violation, foul		4
9	Breakthrough, violation, foul		4
10	Fast attack, referee method		4
11	Defensive, foul		2
12	Tactical coordination, referee method		4
13	Skills theory test		2
Amount to		6	32

### Four. Basketball teaching objectives and content

#### Unit 1: Overview of the Development of Basketball and Basic Theoretical Knowledge of Basketball Technology

##### Target

1. Master the characteristics and value of basketball, the concepts, functions, classification characteristics and structure of basketball techniques and rules.

2. Be familiar with the origin, evolution and development trend of basketball, as well as the technical characteristics and functions of basketball.

3. Understand the brief development of basketball in my country, the value and role of basketball, and the classification of basketball techniques.

### **Content**

1. Focus on the origin, evolution and development trend of basketball, as well as scientific practice methods guided by theoretical knowledge of basketball.

2. Explain in detail the development of basketball and refereeing in my country, the concepts and functions of basketball techniques and rules.

3. General introduction to the value and role of basketball, classification and structure of basketball technical classification rules.

## **Unit 2 : Basketball Tactics Theory Knowledge Competition Rules and Referee**

### **Methods**

#### **Target**

1. Master the classification, characteristics and structure of basketball tactics, basketball competition rules and refereeing methods.

2. Be familiar with the elements of basketball tactics.

3. Understand the basic teaching methods of basketball tactical coordination.

### **Content**

1. Focus on the definition of basketball tactics, major violations and penalties, major fouls and penalties, and the division of labor and cooperation of on-the-spot referees.

2. Explain in detail the classification of basketball tactics, their characteristics and structure, the elements of basketball tactics coordination and referee movement coordination.

3. General introduction to the basic teaching methods of basketball coordination.

## **Five. Practical teaching objectives and content**

### **Unit 1 Basic techniques and Rules of basketball**

#### **Target**

1. Master basic skills such as movement, shooting, breakthrough, passing and receiving, dribbling, defense, and rebounding.
2. Be familiar with the concepts of various violations and fouls combined with the practice methods of various techniques.
3. Understand and master the basic technology should have the physical quality.

#### **Content**

1. Focus on explaining the contents of basic skills (such as movement including starting, emergency stopping, turning, sliding, retreating, basic postures, changing directions, etc.). Contents of fouls and violations (violations: walking, dribbling twice, carrying the ball, kicking the ball, returning the ball to the backcourt, 5 seconds, 8 seconds, 24 seconds, etc.; fouls: hitting, pushing, blocking, pulling , technical foul, unsportsmanlike foul, etc.)
2. Explain in detail the skills and the corresponding rules of the practice method, teaching purpose.
3. Generally introduce the extension technology of various skills.

### **Unit 2 Basic basketball tactics and referee methods**

#### **Target**

1. Master the basic tactics of attack and defense of basketball and the practical application of referee method.



2. Be familiar with the importance and significance of tactical coordination in basketball and the workflow of the recording desk.

3. Understand the classification and teaching methods of basketball tactics and referee method.

### **Content**

1. Key points: Basic cooperation includes passing and cutting cooperation, support and cover cooperation, closing the door and flanking attack, fast break including initiating and responding, two attacks and one, refereeing, positional division, and regional cooperation.

2. Explain in detail the team's defensive tactics 2-1-2 area joint defense, the referee running division of labor.

3. Generally introduces the cultivation of tactical consciousness, with the ability to take targeted tactical measures according to the tactical intention of the other side in the game.

#### **3.2.3 Sampling data**

In this study, gender became one of the factors that affected students' basketball skills and tactics, and the differences between genders were also reflected in the final scores. Regarding the age factor, we selected research subjects with no significant differences in age and grade to ensure that age will not become one of the factors affecting the final results. In terms of education level, we should also try to unify the standards, because education level is not the main influencing factor we need to study. The general demographic characteristics of specific survey subjects are shown in Table 6:

Table 6 General demographic characteristics of respondents

Index	Class 1 ( <i>n</i> = 30)	Class 2 ( <i>n</i> = 30)	<i>F</i>	<i>P</i>
Age	20.16±1.32	20.54±1.74	0.372	0.739
Gender				
Male	18 (56.25)	15(50.00)	0.584	0.747
Female	12(43.75)	15(50.00)		
Grade	Grade 2			
Education level	Undergraduate			

As can be seen from Table In terms of gender factors, there is no significant difference in the number of men and women, which will not affect the final results. In terms of grade and education level, sophomore students are uniformly selected to ensure that they have participated in basketball elective curriculum, have certain experience and opinions on the curriculum, and are willing to participate in research on optimizing curriculum design.

#### 3.2.4 Influencing factors and demand analysis of the respondents' participation in the design of basketball curriculum

Motivation to participate refers to the special psychological state and willingness to meet various needs caused by specific needs. It is the internal motivation that directly drives the individual to carry out the activity, and the individual's activity, whether simple or complex, must be regulated and governed by the motivation. Table X provides statistics on the respondents' main intentions to participate in basketball curriculum, as follows:

Table 7 The purpose of choosing a basketball curriculum

Index	N = 60	%
Improve physical fitness	42	70.00
Improvement of Basketball Skills	27	45.00
Strong interest in basketball	36	60.00
Obtaining credits	48	80.00
Obtaining relevant professional certificates	11	18.33
Other	5	8.33



Figure 4 Participation Course purpose

As can be seen from Table 7, the main influencing factor for the respondents' participation in basketball classes is the acquisition of credits, accounting for 80% of the total. 70% of the respondents were dissatisfied with their physical fitness, and chose basketball to improve their physical fitness; 60% and 45% of the students have a strong interest in basketball and hope to improve their basketball skills through basketball electives. 18.33% of the students hope to participate in the

official examination and obtain the corresponding certificate to meet their employment needs.

### 3.2.5 Reliability, validity, and feasibility check of survey tools

In this study, the research tools we used were mainly based on the "Basketball Referee Level Theory Exam Questions" adopted by the Chinese Basketball Referees Association and the testing standards for college basketball elective curriculum. These research tools have been reviewed by experts, and the specific situation is as follows:

Table 8 Expert information sheet

Expert	Educational Qualifications	Job Title	Age
Mr.Yan	Doctor	Professor	61
Mr.Ruan	Doctor	Professor	57
Mr.Su	Doctor	Associate Professor	43
Mr.Su	Doctor	Associate Professor	41
Mr.Hua	Doctor	Associate Professor	41
Mr.Xu	Master	Associate Professor	52

Table 9 Basketball Referee Level Theory Examination Questions Internal consistency reliability test

Project	Cronbach's Alpha	Quantity
Total questionnaire	0.862	37
Violation penalty	0.837	12
Foul penalty	0.875	10
Special case	0.774	5
Referee gestures	0.796	7
Referee professional qualities	0.803	3

As shown in Table 8, The experts selected in this study have an average age of about 55 years and have over 25 years of experience in basketball teaching. They not only provided constructive suggestions for the research content, but also rigorously reviewed the survey tools to ensure the feasibility of the investigation. Table 9 used the test-retest method to test the reliability of the basketball referee level theory exam questions. The scale consists of 37 questions, including five dimensions: violation judgment, foul judgment, special circumstances of the court, referee gestures and actions, and referee professional ethics. Experts also tested the reliability of the retested Cronbach questionnaire and believe that it has certain practical value.

### 3.2.6 Evaluation standard

#### 1. Basketball Skills Test

##### 1.1 Test content: dribble layup

##### 1.2 Test method and scoring

1) To test a full-court dribble layup, the candidates stand behind the end line and start, and count the number of layups in the audience within one minute.

2) Rules: Must make a hit to make the next layup. 5 points will be deducted from the total score for one violation. A score of 60 is qualified.

3) Scoring criteria

score	100	90	80	70	60	50	40
boys	8	7	6	5	4	3	2
girl	7	6	5	4	3	2	1

## 2. Basketball Referee Rules Test

The "Level 3 Referee Exam Paper" and scoring standards promulgated by the Chinese Basketball Association are adopted. A score of 60 is qualified.

### 3.3 Phase III Analysis of the results of basketball skills and referee ability

In this stage, paired sample t-tests are mainly used to test whether there is a difference in basketball skills and basketball referee theoretical knowledge between the research subjects before and after teaching. Through statistical analysis using SPSS software, the two sets of data showed a normal distribution. The analysis and results are as follows:

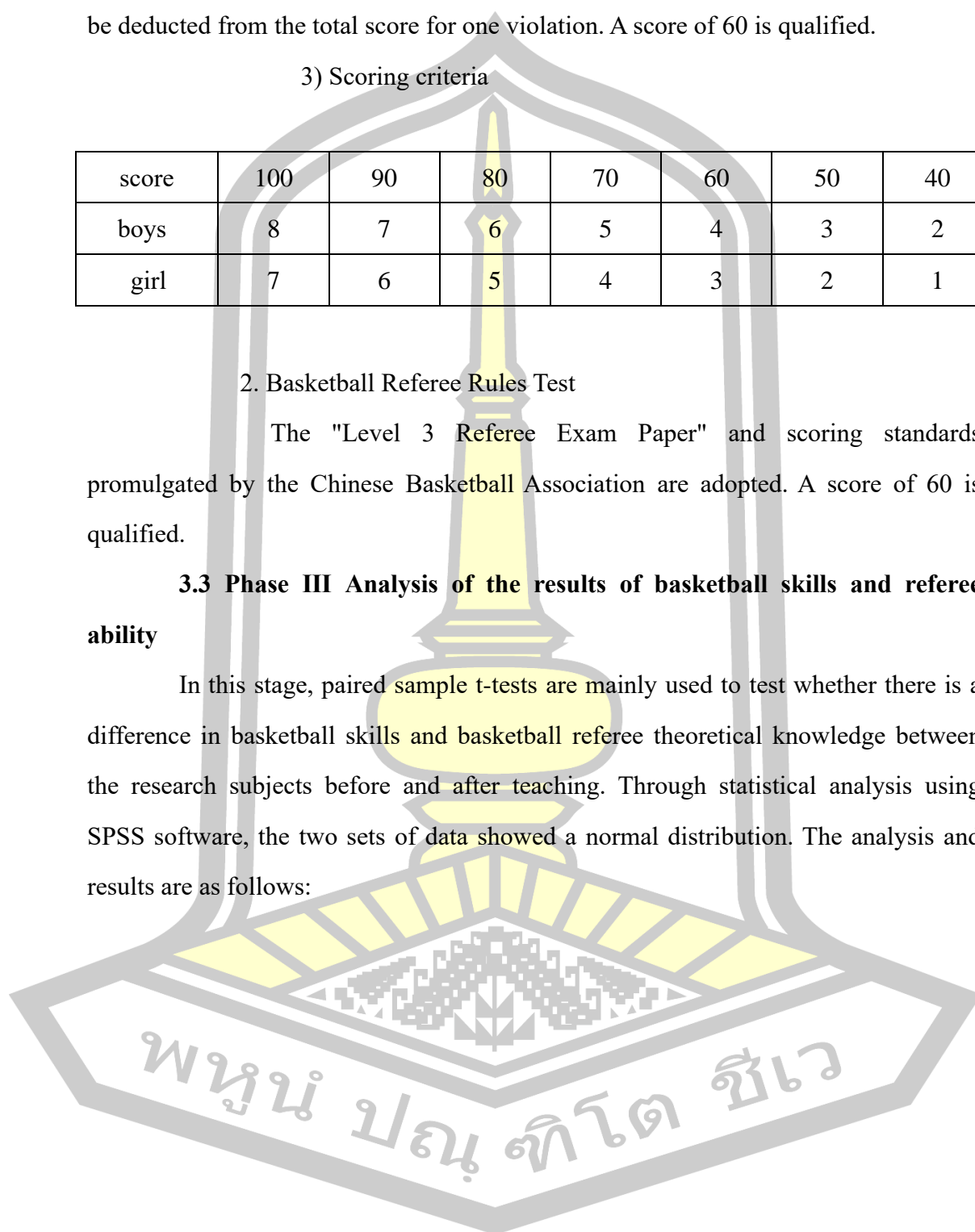


Table 10 The difference between basketball skills

Index		Class 1 (n=30)	Class 2 (n=30)	F	P
Basketball skills	Pre-test	70.74±4.32	71.65±4.48	13.426	<0.001
	Post-test	88.74±3.63 <sup>a</sup>	85.28±3.45 <sup>ab</sup>		
Violation penalty	Pre-test	12.52±3.43	11.76±4.38	8.024	0.011
	Post-test	27.18±7.28 <sup>a</sup>	24.34±10.53 <sup>ab</sup>		
Foul penalty	Pre-test	11.76±1.34	11.85±1.76	6.650	0.031
	Post-test	18.65±3.30 <sup>a</sup>	16.75±2.18 <sup>ab</sup>		
Special case	Pre-test	19.74±4.35	20.21±5.58	6.442	0.033
	Post-test	29.83±6.82 <sup>a</sup>	25.72±8.70 <sup>ab</sup>		

Comparing the results of the two classes before and after teaching, it was found that the evaluation criteria and indicators of the research subjects after teaching were significantly higher than before teaching ( $P < 0.05$ ).

Table 11 The difference between referee techniques

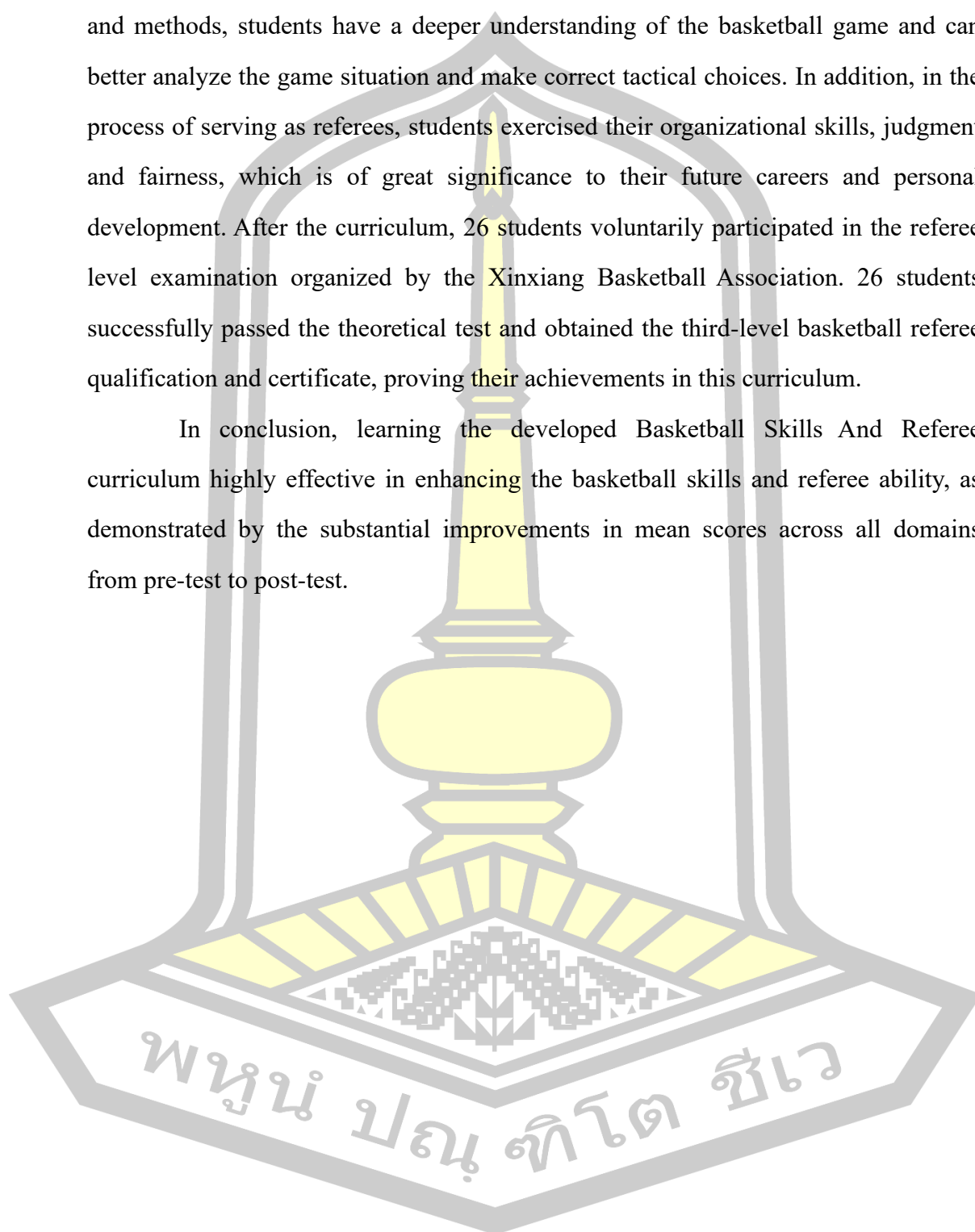
Index		Class 1 (n = 30)	Class 2 (n = 30)	F	P
Referee gestures	Pre-test	27.31±5.23	27.42±5.17	8.726	0.006
	Post-test	36.62±7.84 <sup>a</sup>	33.45±7.82 <sup>ab</sup>		
Referee professional qualities	Pre-test	4.35±1.76	4.38±1.27	7.953	0.012
	Post-test	7.50±2.17 <sup>a</sup>	6.15±2.52 <sup>ab</sup>		

The impact of basketball refereeing knowledge on students' learning effects:  
In the survey, students generally believed that learning basketball referee knowledge



has a positive impact on improving their learning results. By learning referee rules and methods, students have a deeper understanding of the basketball game and can better analyze the game situation and make correct tactical choices. In addition, in the process of serving as referees, students exercised their organizational skills, judgment and fairness, which is of great significance to their future careers and personal development. After the curriculum, 26 students voluntarily participated in the referee level examination organized by the Xinxiang Basketball Association. 26 students successfully passed the theoretical test and obtained the third-level basketball referee qualification and certificate, proving their achievements in this curriculum.

In conclusion, learning the developed Basketball Skills And Referee curriculum highly effective in enhancing the basketball skills and referee ability, as demonstrated by the substantial improvements in mean scores across all domains from pre-test to post-test.



## CHAPTER V

### CONCLUSION

This study proposes to improve and optimize the basketball elective curriculum for Chinese university students based on the existing problems, with the main goal of improving student learning outcomes. After conducting on-site investigations and expert interviews with students at Xinxiang Medical University, the main directions for improving and optimizing the curriculum have been identified. Finally, research was conducted on curriculum content, teaching methods, teaching methods, etc. The research results are presented in the following order:

1. Conclusion
2. Discussion
3. Suggestion for further research

#### 1. Research Purpose

In this research, three purposes are as follows:

1. To investigate fundamental data and information in developing a curriculum to improve students basketball skills and referee ability
2. To develop a curriculum which improve students 'basketball ability for Xinxiang Medical University based on Basketball Skills and Referee curriculum and try-out to improve the curriculum
3. To evaluate the learning effects of basketball skills and referee ability among students after implementing the curriculum.

## 2. Conclusion

### 2.1 Research basic information on basketball skills and referee curriculum development

The basketball curriculum of Xinxiang Medical University is an important part of the school's physical education curriculum. After on-site inspections and expert interviews, we understand the basic situation and can summarize it from the following aspects:

On the whole, the basketball curriculum of Xinxiang Medical College is relatively complete, divided into two levels: basic part and advanced part. The basic part is mainly for students with weak basketball foundation, focusing on teaching basic skills and rules, while the improvement part is for students who already have a certain foundation, focusing on skill improvement and tactical analysis. The teaching content covers basic basketball techniques, tactics, rules, etc., but does not include refereeing and other related content. The teaching focuses on the combination of theory and practice. In terms of teaching methods, various forms such as explanation, demonstration, practice, and competition are used to help students master basketball skills and improve their competitive level. In terms of curriculum evaluation, the basketball curriculum evaluation standards of Xinxiang Medical College are relatively general, including skill testing, practical skills, classroom performance, and attendance rate. Although this evaluation method can comprehensively evaluate students' learning outcomes, it does not motivate them to study harder. In terms of curriculum resources, the school provides sufficient basketball courts and facilities, and regularly maintains and updates them. At the same time, the school also has a professional teaching team with rich basketball teaching experience and profound professional knowledge, providing strong guarantees for teaching quality. Judging from student feedback, Xinxiang Medical University's basketball curriculum has been widely recognized. Students can not only improve their basketball skills during the

curriculum, but also develop teamwork and communication skills. However, many students have a certain basketball foundation and are no longer satisfied with traditional teaching content and teaching methods. To sum up, the basketball curriculum of Xinxiang Medical College is scientific, systematic and practical, but it cannot meet the needs of high-level students. On this basis, the researchers believe that the curriculum should be continuously optimized, the teaching quality should be improved, and the students should be provided with better basketball education.

## 2.2 Developing basketball skills and referee curriculum

In order to improve students' basketball skills and refereeing ability, researchers can develop the following basketball curriculum programs:

2.2.1 Course objectives: Master the basic skills and rules of basketball and improve practical ability. Develop teamwork, communication skills and self-confidence. Enhance students' physical fitness and promote physical and mental health. Use the refereeing knowledge acquired through curriculum study to obtain a professional certificate.

2.2.2 Course Content: Basic Basketball Skills: Teach basic skills such as dribbling, passing, and shooting, focusing on the standardization and skill of basic movements. Through repeated exercises and practical exercises, students are helped to master various basic skills. Basketball Tactics: Explain basketball offensive and defensive tactics, including pick-and-roll, cross-running, zone defense, etc. Through simulation games and case analysis, students are guided to understand tactical principles and improve their ability to respond in actual combat. Basketball rules and refereeing methods: Introduce basketball game rules and refereeing methods, allowing students to understand the game process and penalty standards. Help students master the rules and refereeing skills through simulated games and refereeing practice. Practical drills and competitions: Organize students to conduct confrontation exercises and competitions to simulate real competition scenarios and improve students' practical combat capabilities and teamwork capabilities. At the same time,

competitions allow students to experience victory and failure, and cultivate their self-confidence and tenacious fighting spirit. Physical fitness and physical training: Strengthen physical fitness and physical training to improve students' speed, strength, endurance and sensitivity. Through scientific training plans, we help students develop good exercise habits and improve their physical fitness.

2.2.3 Course schedule: One class per week, each class is 90 minutes. Depending on student needs and time arrangements, classes can be divided into classes or one-on-one tutoring.

2.2.4 Course Progress: Develop a personalized study plan based on the student's actual situation and level. In accordance with the principle of first easy and then difficult, and step by step, students' learning difficulty and requirements are gradually increased.

2.2.5 Course evaluation: Adopt diversified evaluation methods, including skill tests, actual performance, classroom performance, homework completion, etc. The results of the evaluation will be used as the basis for students' performance, and feedback and guidance will be provided for deficiencies.

2.2.6 Teaching methods and means: Explanation and demonstration: Through explanation and demonstration, the teacher helps students clarify the essentials of movements and tactical requirements. At the same time, guide students to observe, think, and imitate, deepening their understanding of basketball skills and tactics. Practice and feedback: Organize students to engage in targeted exercises, promptly correct incorrect actions and technical deficiencies. Through feedback from teachers and peers, students can understand their shortcomings and gradually improve and enhance themselves. Competition and Challenge: Organize students to engage in competitive competitions to stimulate their competitive awareness and fighting spirit. Through their performance in the competition, students are made aware of their strengths and weaknesses, further improving their practical and teamwork ability. Multimedia teaching: Utilize multimedia resources such as videos, images, etc. to

assist in teaching explanations and demonstrations. At the same time, organize students to watch high-level basketball game videos, analyze tactics and techniques, broaden their horizons and learning paths. Personalized guidance: Develop personalized teaching plans and learning plans based on the characteristics and needs of different students. Provide targeted guidance and suggestions based on students' learning progress and ability levels to help students achieve their learning goals.

2.2.7 Faculty and teaching resources: Professional teaching team: Xinxiang Medical University should have a professional basketball teaching team with rich basketball teaching experience and deep professional knowledge. Through regular training and learning exchanges, teachers' teaching level and professionalism are continuously improved. Teaching facilities and venues: Provide sufficient basketball venues and facilities to ensure teaching quality and student safety. The venue facilities are regularly maintained and updated to provide students with a good learning environment. Teaching materials and teaching materials: Select teaching materials and reference materials that meet the curriculum objectives and teaching requirements to assist teachers in teaching and students in self-study. At the same time, we actively develop localized teaching materials and teaching resources to improve the pertinence and practicality of teaching effects.

2.3 Study the learning effects of basketball skills and referee ability among students after implementing the curriculum.

This study used questionnaires and classroom tests to investigate students participating in basketball technology curriculum at Xinxiang Medical University. The questionnaire covered aspects such as curriculum setting, teaching content, and learning outcomes. At the same time, classroom observations and evaluations were conducted on the teaching process and effects of basketball referee knowledge. The researcher used the Pre-post test to compare the differences in the main performance of the respondents before and after receiving teaching.

The role of basketball skills curriculum in improving students' learning effects: Most students said that their basketball skills have improved significantly by participating in the curriculum. In the curriculum, students not only master the basic dribbling, passing and shooting skills, but also learn how to use these skills in a standardized way. In addition, students' teamwork and communication skills have also improved. The tactical use and teamwork in basketball games have allowed them to understand each other better and enhance mutual trust and tacit understanding.

### **3. Discussion**

Curriculum optimization is a continuous process that requires continuous evaluation and adjustment to meet the learning needs of students and improve learning outcomes. Analysis of areas that may need improvement and uncontrollable factors during the optimization process.

#### **3.1 Areas that need improvement:**

3.1.1 Further optimize the setting of basketball curriculum to ensure more comprehensive, systematic, and practical curriculum content. It is possible to consider adding curriculum on specialized skills training, tactical analysis, and other aspects to improve students' basketball skills and tactical literacy.

3.1.2 Explore more diverse teaching methods, such as a combination of online and offline, group discussions, practical exercises, etc., to improve students' learning interest and participation. At the same time, we pay attention to individual differences and provide personalized tutoring and guidance for students of different levels.

3.1.3 Strengthen the construction of teaching staff and improve teachers' professionalism and teaching ability. Teachers can be regularly organized for teaching exchanges, training and learning, sharing teaching experience and teaching methods, and promoting cooperation and common progress among teachers.



3.1.4 Further improve the evaluation mechanism of basketball curriculum and establish a diversified evaluation system. In addition to skill tests and actual performance, attention should also be paid to the evaluation of students' attitudes, teamwork, progress, etc., to fully reflect students' learning outcomes.

### 3.2 Factors less controllable:

3.2.1 Individual differences among students: There are differences in students' basketball foundation, learning motivation, interest and learning ability. These factors will have an impact on the teaching effect. In the teaching process, teachers should pay attention to the individual differences of students and try their best to meet the learning needs of different students.

3.2.2 Learning environment: The learning environment has a certain impact on students' learning results. The completeness of hardware facilities such as basketball courts, facilities, and equipment, as well as the soft environment such as teaching atmosphere and class size will also have an impact on the quality of teaching. Schools should provide a good learning environment to ensure the quality of teaching and students' learning effects.

3.2.3 External factors: Some external factors such as weather, venue maintenance and other uncontrollable factors may affect the normal progress of the curriculum. Teachers should fully consider these factors during the teaching process and reasonably arrange teaching plans and activities to ensure the smooth progress of teaching.

To sum up, basketball curriculum optimization needs to pay attention to all aspects of the process and results, continuously improve and overcome the constraints of controllable factors. At the same time, effective countermeasures should be taken for factors that are less controllable to ensure the quality and effectiveness of teaching. Through continuous evaluation and adjustment, the teaching effect of basketball curriculum can be improved to better meet students' learning needs.

#### 4. Suggestion for research

Basketball curriculum improvement to improve students' learning effects is a continuous process. With the continuous advancement of educational concepts, teaching methods and technology, we can make the following prospects for future basketball curriculum reform:

1. Deep integration of technology and education: Future basketball curriculum will pay more attention to the combination of technology and education, such as using virtual reality (VR) and augmented reality (AR) technology to allow students to learn and practice basketball skills in a simulated environment, which will greatly improve students' learning effectiveness and interest.

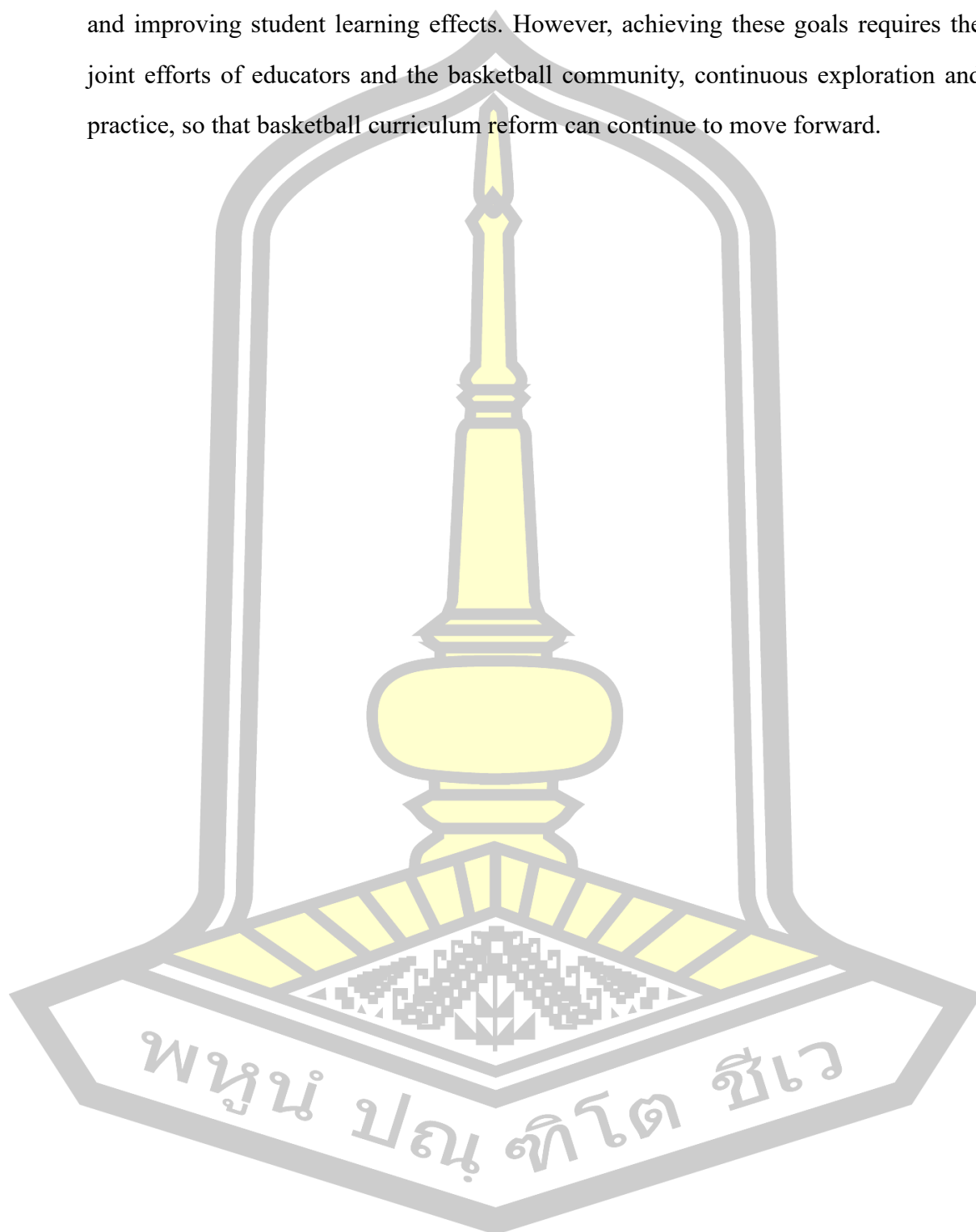
2. Personalized learning: With the development of big data and artificial intelligence technology, future basketball curriculum will be more personalized and can provide customized teaching according to each student's learning progress and characteristics to further improve learning effects.

3. Health education: Basketball curriculum in the future will pay more attention to health education, not only teaching students basketball skills, but also emphasizing healthy lifestyles, such as reasonable diet, appropriate exercise, etc., to promote the overall healthy development of students.

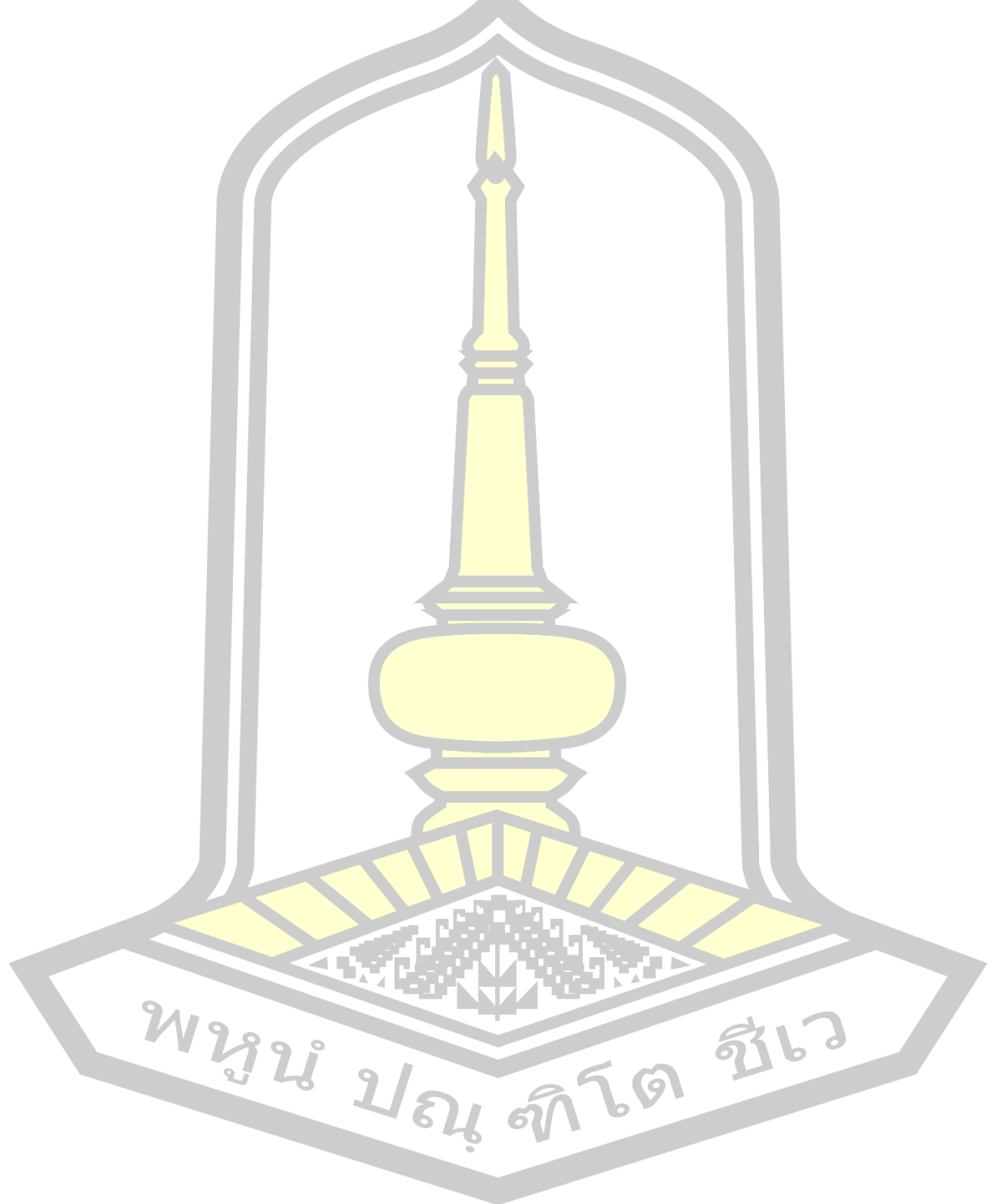
4. Community Involvement: Basketball is more than a sport, it's a culture. Future basketball curriculum will pay more attention to community participation, encouraging students to participate in basketball community activities and share the joy of basketball with others.

5. Sustainable development: Basketball curriculum in the future will pay more attention to sustainable development. They will not only continue to innovate in teaching content and methods, but also focus on cultivating students' environmental awareness and social responsibility to promote the sustainable development of society.

In summary, these are some prospects for improving basketball curriculum and improving student learning effects. However, achieving these goals requires the joint efforts of educators and the basketball community, continuous exploration and practice, so that basketball curriculum reform can continue to move forward.



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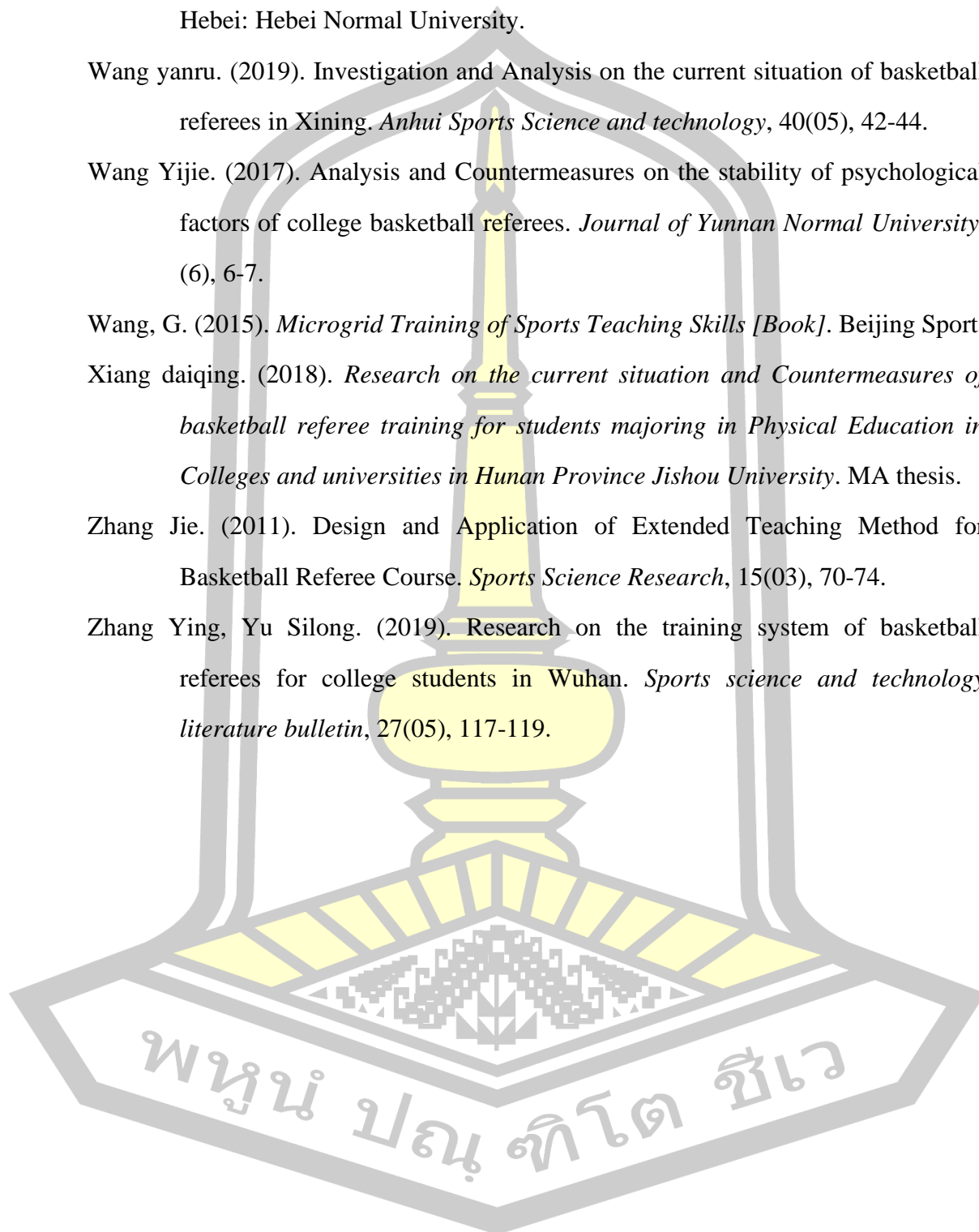
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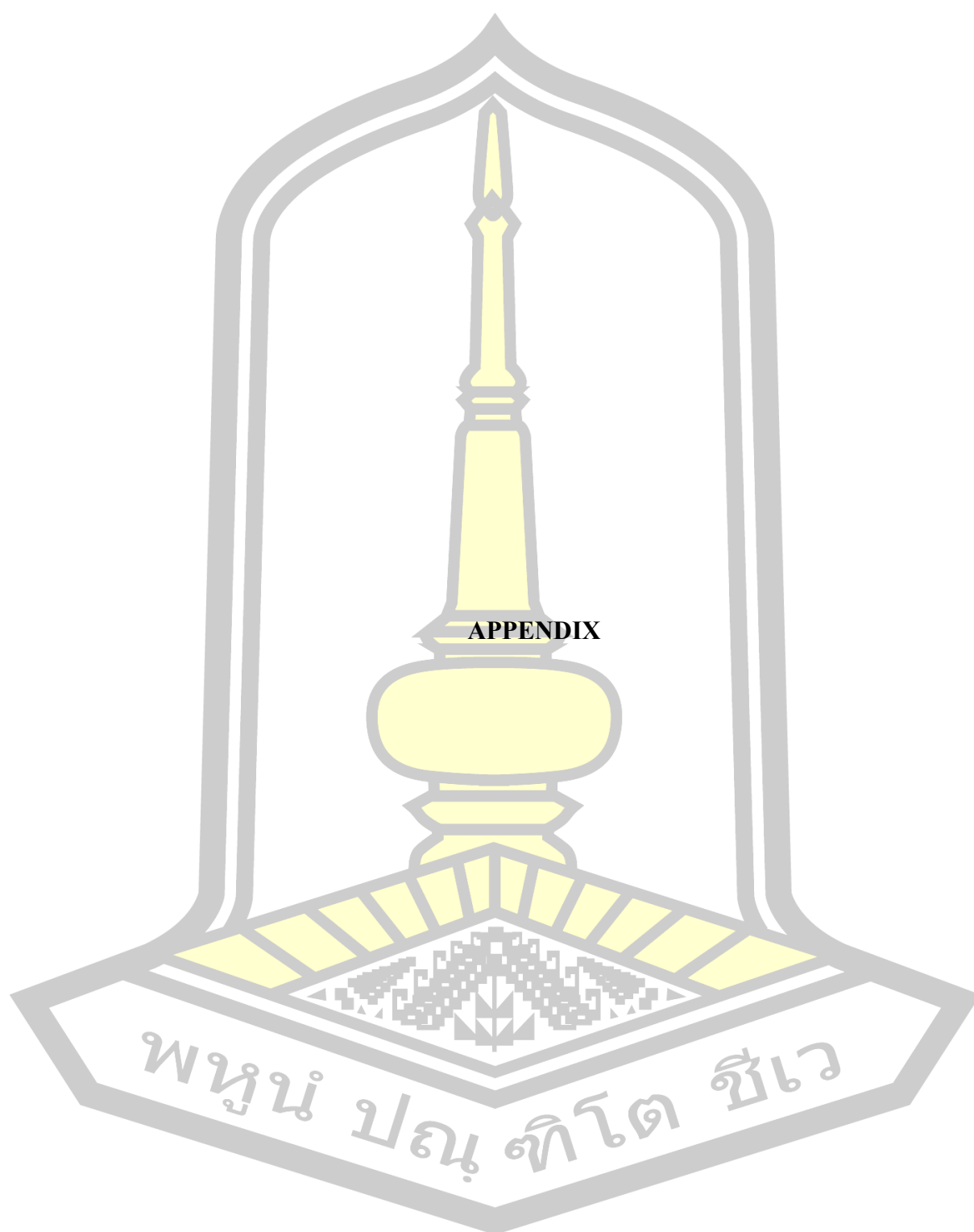
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## APPENDIX A

### (Basketball skills and referees) Teaching Program

#### Adapt to each major

#### One. Introduction to the curriculum

Basketball is a collective confrontation event that integrates running, jumping and throwing. Regularly engaging in basketball can effectively promote the overall development of physical fitness and is conducive to the improvement and improvement of cardiopulmonary function. Through learning and sports practice, you can experience bravery, The enterprising spirit of tenacity, competition and hard work cultivates a good team style.

This curriculum mainly focuses on learning the basic knowledge of basketball, basic techniques, refereeing knowledge, introducing tactics, and introducing basic principles. It focuses on the combination of basic techniques and rules, and combines practice with fun to fully appreciate the fun of basketball. Through general quality exercises and special physical fitness exercises such as strength, speed, endurance, agility, flexibility, etc., we promote the comprehensive development of students' physical fitness and achieve the purpose of strengthening their physical fitness and improving their health level.

#### Two. Course objectives

##### (1) Basic theoretical knowledge

Understand commonly used nouns and terminology, master the development and origin of basketball, the development direction of world basketball, and the current situation of basketball development in my country; master the basic theoretical knowledge of basketball, as well as basketball competition rules and refereeing methods.

### (2) Basic skill

Through the study of skills and referee curriculum, I can master the practical application of basic techniques and rules in basketball, such as movement, dribbling, passing, shooting, ball holding breakthrough, rebounding, individual and personal attack and defense, and be able to use the learned techniques and tactics to play.

### (3) Basic quality

Develop students' specialty and personality, cultivate the sense of competition, cultivate the brave and tenacious and collectivism spirit and other good qualities. In teaching, students are trained in various ability, logical thinking ability, analytical comprehensive ability, creative thinking ability, etc. At the same time, improve students' strength, endurance and physical sensitivity.

### Three. Credit hours allocation

Cell	Name	Theoretical class hours	Practice hours
1	Brief introduction to the development of basketball sports	2	
2	Basketball rules and referee rules	2	
3	Basketball basic tactical theory	2	
4	Basic posture and movement		2
5	Swift ball, violation		4
6	Pass the ball, violation		2
7	Shooting, violation, and foul		4
8	Llayup, violation, foul		4
9	Breakthrough, violation, foul		4

10	Fast attack, referee method		4
11	Defensive, foul		2
12	Tactical coordination, referee method		4
13	Skills theory test		2
Amount to		6	32

#### **Four. Basketball teaching objectives and content**

##### **Unit 1: Overview of the Development of Basketball and Basic**

##### **Theoretical Knowledge of Basketball Technology**

###### **Target**

1. Master the characteristics and value of basketball, the concepts, functions, classification characteristics and structure of basketball techniques and rules.
2. Be familiar with the origin, evolution and development trend of basketball, as well as the technical characteristics and functions of basketball.
3. Understand the brief development of basketball in my country, the value and role of basketball, and the classification of basketball techniques.

###### **Content**

1. Focus on the origin, evolution and development trend of basketball, as well as scientific practice methods guided by theoretical knowledge of basketball.
2. Explain in detail the development of basketball and refereeing in my country, the concepts and functions of basketball techniques and rules.
3. General introduction to the value and role of basketball, classification and structure of basketball technical classification rules.

## **Unit 2: Basketball Tactics Theory Knowledge Competition Rules and Referee Methods**

### **Target**

1. Master the classification, characteristics and structure of basketball tactics, basketball competition rules and refereeing methods.
2. Be familiar with the elements of basketball tactics.
3. Understand the basic teaching methods of basketball tactical coordination.

### **Content**

1. Focus on the definition of basketball tactics, major violations and penalties, major fouls and penalties, and the division of labor and cooperation of on-the-spot referees.
2. Explain in detail the classification of basketball tactics, their characteristics and structure, the elements of basketball tactics coordination and referee movement coordination.
3. General introduction to the basic teaching methods of basketball coordination.

## **Five. Practical teaching objectives and content**

### **Unit 1 Basic techniques and Rules of basketball**

#### **Target**

1. Master basic skills such as movement, shooting, breakthrough, passing and receiving, dribbling, defense, and rebounding.
2. Be familiar with the concepts of various violations and fouls combined with the practice methods of various techniques.
3. Understand and master the basic technology should have the physical quality.

## **Content**

1. Focus on explaining the contents of basic skills (such as movement including starting, emergency stopping, turning, sliding, retreating, basic postures, changing directions, etc.). Contents of fouls and violations (violations: walking, dribbling twice, carrying the ball, kicking the ball, returning the ball to the backcourt, 5 seconds, 8 seconds, 24 seconds, etc.; fouls: hitting, pushing, blocking, pulling, technical foul, unsportsmanlike foul, etc.)

2. Explain in detail the skills and the corresponding rules of the practice method, teaching purpose.

3. Generally introduce the extension technology of various skills.

## **Unit 2 Basic basketball tactics and referee methods**

### **Target**

1. Master the basic tactics of attack and defense of basketball and the practical application of referee method.

2. Be familiar with the importance and significance of tactical coordination in basketball and the workflow of the recording desk.

3. Understand the classification and teaching methods of basketball tactics and referee method.

### **Content**

1. Key points: Basic cooperation includes passing and cutting cooperation, support and cover cooperation, closing the door and flanking attack, fast break including initiating and responding, two attacks and one, refereeing, positional division, and regional cooperation.

2. Explain in detail the team's defensive tactics 2-1-2 area joint defense, the referee running division of labor.



3. Generally introduces the cultivation of tactical consciousness, with the ability to take targeted tactical measures according to the tactical intention of the other side in the game.

### **Six. Ideological and political education elements and their value attributes**

Chapter	Knowledge points	Ideological and political elements	Ideological and political value attributes	teaching methods
Basic techniques	1. Move 2. Offensive techniques 3. Defensive skills 4. Violation and foul	1. Enhance physical fitness 2. Sound personality 3. Strengthen your will	1. Master the method of scientific exercise 2. Step by step and persevere	1. Classroom teaching 2. Watch the video
Basic tactics	1. Pass-and-cut coordination 2. Support, cover and cooperate 3. Close door and pinch attack coordination 4. Fast break includes initiation and response 5. Move quickly, fight more and cooperate less 6. Application of referee methods	1. Unite and collaborate to reach new heights 2. Don't be afraid of difficulties and be responsible and dedicated 3. Work hard and temper your will	1. Unity, cooperation and tenacious struggle 2. Selfless dedication to bring glory to the country.	1. Classroom teaching 2. Exchange competition 3. Watch the video

## **Seven. Measures and evaluation**

### **(One) Measure**

#### **1. Carefully carry out ideological education for students during the teaching process.**

- (1) Lead by example, teach and educate others, and play a leading role in teaching.
- (2) Strictly carry out regular classroom teaching and education, and strictly manage and impose strict requirements on students.

#### **2. Strengthen theoretical teaching**

- (1) Theoretical curriculum are mainly taught in classrooms.
- (2) To enable students to master basic theoretical knowledge of basketball techniques, tactics and refereeing rules.
- (3) Incorporate theoretical lectures into planned and purposeful practical classes to further explain technical and tactical theoretical knowledge.

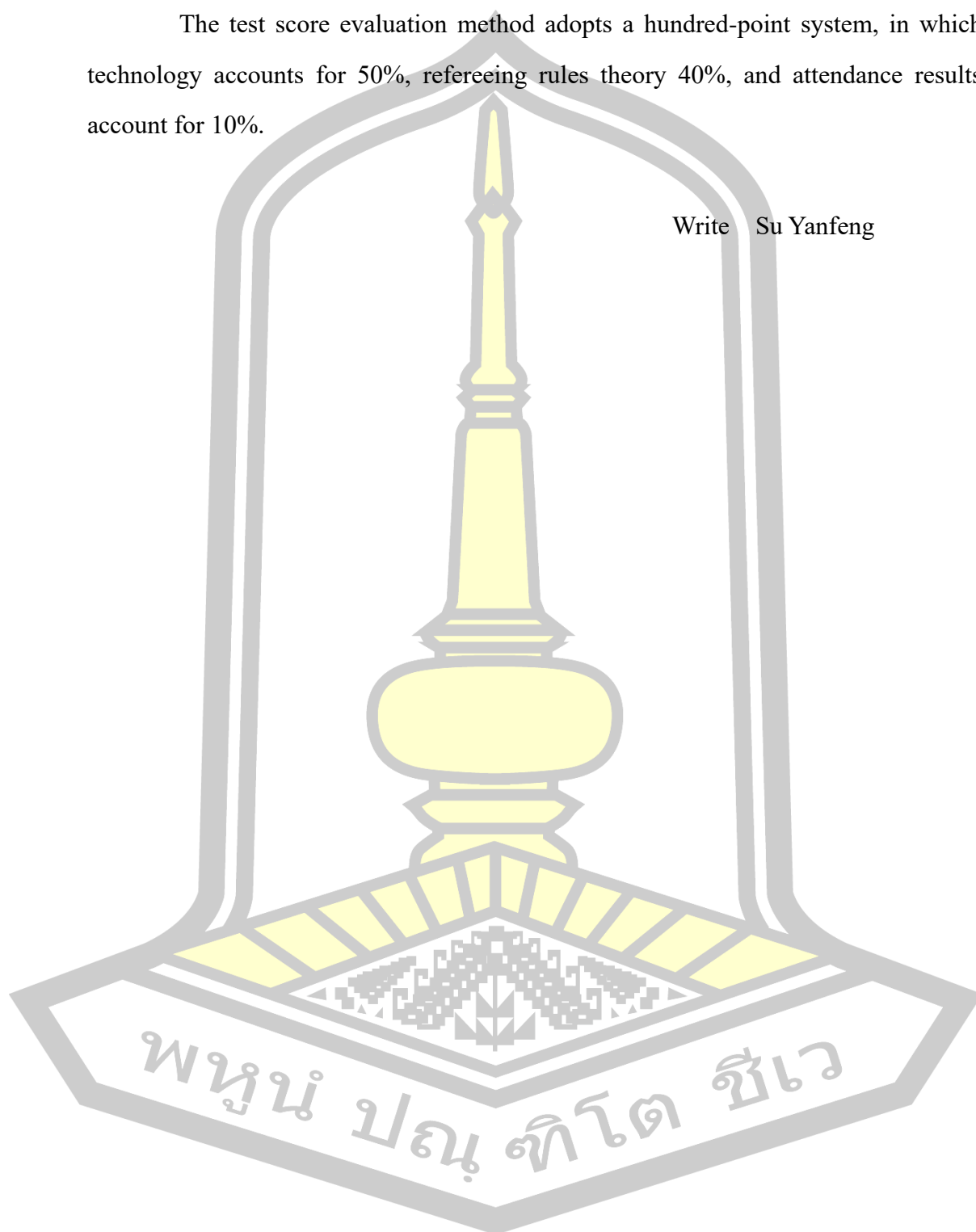
#### **3. Strengthen skills development**

- (1) In the teaching process, strengthen the teaching of basic teaching methods for each key technology combined with the rules required to learn, so that students can initially understand the basic teaching methods and teaching rules.
- (2) Conduct planned technical demonstrations for students in class and on-site to improve students' ability to analyze problems, identify incorrect actions, and correct incorrect actions.
- (3) There is a plan to arrange for each student to serve as an on-the-spot referee to improve the refereeing level.
- (4) Understand the work of organizing competitions and learn general competition organization work through classroom teaching and completing homework.

**(Two) Evaluation**

The test score evaluation method adopts a hundred-point system, in which technology accounts for 50%, refereeing rules theory 40%, and attendance results account for 10%.

Write Su Yanfeng



## APPENDIX B

### Student Basketball Learning Status Questionnaire

**Dear students:**

This is a questionnaire for basketball class. In order to better carry out basketball teaching and improve the teaching effect of tennis class I hope you can fill in the questionnaire carefully. This questionnaire does not involve personal privacy please feel free to fill it out!

Basic information:

Age: \_\_\_\_\_ grade \_\_\_\_\_ Gender: ☐ Male ☐ girl

Basketball Learning Experience: year/month \_\_\_\_\_

1. The type of basketball curriculum you take in college physical education is:

- A. Specialized curriculum
- B. Compulsory curriculum
- C. Elective curriculum

2. How much do you like basketball?

- A. like
- B. prefer
- C. Generally
- D. dislike

3. How often did you exercise in college?

- A. Exercise every day
- B. more than 4 days
- C. less than 3 days
- D. No exercise

4. basketball project for you, your impression of him:

- A. like it very much
- B. like it
- C. feel average
- D. don't like it

5. Before college, your basketball skills:

- A. can play
- B. A little
- C. Not at all

6. What do you think of the teacher's teaching method in basketball teaching?

- A. Very interested
- B. interested
- C. feeling average
- D. not interested

7. Why did you choose basketball?

- A. Like basketball
- B. like teachers
- C. In order to take credits
- D. other

8. Do you think the basketball court in your school can meet your demand for optional basketball curriculum?

- A. Completely satisfied
- B. Satisfied
- C. Basically satisfied
- D. Not satisfied

9. What is your attitude towards practice in class?

- A. Always active
- B. Always active in sparring practice
- C. negative about boring exercises such as repeated swings
- D. Other

10. In the curriculum of learning technology, you choose more communication methods:

- A. Communicate more with teachers
- B. Communicate more with peers
- C. Communicate less

11. Do you think the number of basketball courts in your school can meet the needs of students in your school?

- A. Yes
- B. Basically yes
- C. No

12. What level can you achieve by studying basketball at school

- A. very good
- B. Very average
- C. very bad

13. Have you ever heard of basketball skills and refereeing teaching?

- A. know very well
- B. have A certain understanding
- C. have only heard of
- D. have not heard of

14. The necessity of teaching basketball skills and refereeing:

- A. Very necessary
- B. necessary
- C. general
- D. No annex is necessary

15. Basketball skills and referee teaching method is a teaching concept and method system for students with certain technical foundation. Through the integration of basketball referee rules and basketball skills, students can improve their comprehensive ability and quickly integrate into the basketball game to feel the charm of it. The feasibility of "basketball skills and refereeing teaching" in basketball elective curriculum is as follows:

A. Very feasible      B. feasible      C. general      D. not feasible,

16. Do you think it is necessary to carry out "Basketball Skills and Referee teaching" in college basketball elective curriculum?

A. Very necessary      B. necessary  
C. general      D. Not necessary

17. Teaching methods most commonly used by teachers in basketball teaching:

A. Explaining the model method  
B. decomposing teaching method  
C. repetition training method

18. Do you think the current teaching methods of basketball can meet the needs of teaching?

A. can satisfy      B. can satisfy      C. can satisfy      D. can not satisfy

19: What is your favorite teaching method or practice?

20: Do you have any suggestions or opinions on basketball teaching in schools?

พหุ ประถมศึกษา

## APPENDIX C

### (Basketball Skills and Refereeing) teacher questionnaire

#### honored teacher:

Hello! I am a doctoral candidate in Mahasarakan University of Thailand, and I am currently writing my doctoral thesis. In order to understand the teaching situation of tennis in your university, this questionnaire is formulated according to the relevant questions in the thesis. This questionnaire is only used for thesis research, not for any other purposes, and is conducted anonymously.

Note: Please draw "√" on the options you agree with (no special instructions, all single) or on the horizontal line

Enter the value as required.

1, your age: \_\_\_\_\_ your gender: \_\_\_\_\_ your degree: \_\_\_\_\_ your working years:

\_\_\_\_\_

2. There are: \_\_\_\_\_ physical education teachers in your school, including \_\_\_\_\_ basketball teachers.

3. Basketball courts of your school:

- |                    |                            |
|--------------------|----------------------------|
| A. Very sufficient | B. Relatively sufficient   |
| C. Sufficient      | D. Relatively insufficient |
| E. insufficient    |                            |

4. Your school's basketball equipment:

- |                           |                                |
|---------------------------|--------------------------------|
| A. Purchase by the school | B. Preparation by the students |
| C. club provides          | D. Other                       |

5. The development of basketball in your school:

- |              |                    |
|--------------|--------------------|
| A. Very good | B. Relatively good |
| C. good      | D. Average         |
|              | E. No good         |



6. The importance of your school's leaders to basketball:

- A. attach great importance to      B. attach more importance to
- C. attach more importance to      D. attach less importance to
- E. Make little of

7. Does your school provide basketball training for physical education teachers?

- A. Yes      B. No

8. Have the basketball teachers of your school considered developing new basketball curriculum?

- A. Yes      B. No

9. How much do you know about basketball competition rules and teaching theories:

Research on the curricular transformation of basketball?

- A. Very well      B. know more about
- C. know more about      D. know less about      E. Do not know

10. What do you think of students' interest in basketball skills and refereeing?

- A. Very interested      B. More interested
- C. Interested      D. Less interested      E. Not interested

11. Your attitude towards basketball skills and refereeing entering college sports classes:

- A. Very support      B. More support
- C. More support      D. Less support      E. Not for F Against

12. Where do you think the value of basketball skills and refereeing curriculum transformation is (multiple choices) :

- A. Make basketball better developed on campus
- B. Enable students to master the basic basketball of short tennis faster
- C. Enrich campus culture
- D. More conducive to characteristic campus
- E. Promote the professional development of physical education teachers
- F. Other

13. Where do you think the obstacles to the transformation of basketball skills and refereeing curriculum are (multiple choices) :

- A. School leaders do not pay enough attention to
- B. teachers lack professional competence
- C. Students' lack of interest in learning
- D. other

14. Do you think it is necessary to carry out basketball skills and refereeing curriculum in college basketball electives?

- A. Very necessary
- B. necessary
- C. general
- D. Not necessary

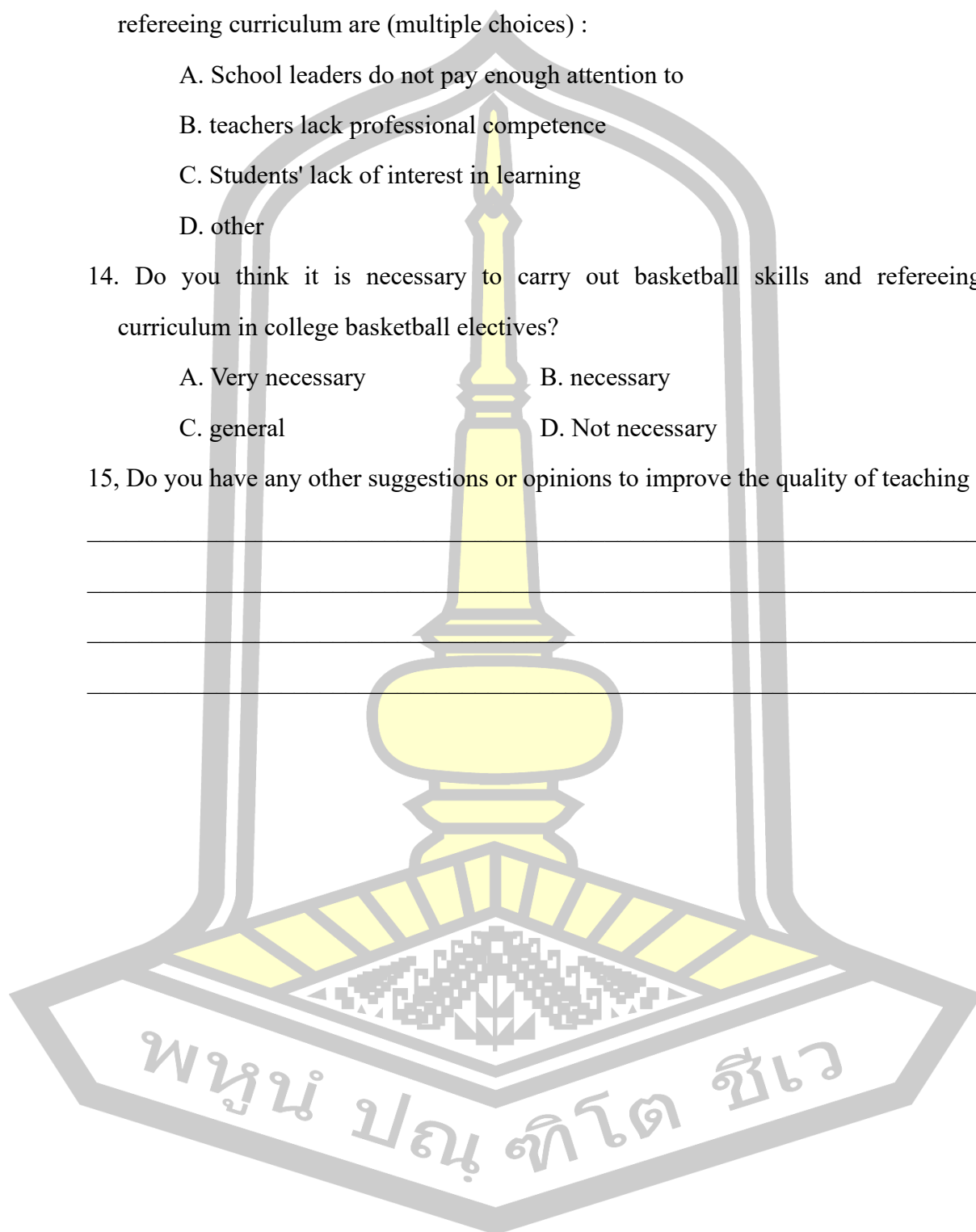
15, Do you have any other suggestions or opinions to improve the quality of teaching

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### Expert interview outline

1. What is the general mode of basketball teaching at present, and what are the problems and challenges?
2. What is the trend of basketball teaching reform at home and abroad, and what is the impact on the original basketball teaching?
3. What do you think is the core content of basketball teaching reform?
4. Do you think it would be helpful for college students to learn basketball skills and referee curriculum first for subsequent competitions?
5. Do you think it is feasible to launch a new curriculum on basketball skills and refereeing? If it is feasible, what should be paid attention to when developing new curriculum content?

**Attached: expert's name, title, research field and expertise**

## APPENDIX D

Basketball elective curriculum experiment class 1 skills pre-test table

Num	Name	Sex	Number of violations	Number of goals scored	Grades
1	Chen Q	Female	4	5	70
2	Wu Yitong	Female	2	2	50
3	Wen Yuke	Female		2	60
4	Sang Zihan	Female		2	60
5	Xie Yixin	Female	1	2	55
6	Chen Yijia	Female		2	60
7	Zhu Meilin	Female		2	60
8	Cheng Yidi	Female		3	70
9	Tian Zhuoyuan	Female	2	2	50
10	Zhang Zihan	Female	2	2	50
11	Fan Xuyao	Female		3	70
12	Zhang Yanan	Female		4	80
13	Nie Linghui	Male		5	70
14	Wang Luqi	Male	1	4	55
15	Hu Qiongya	Male	2	4	50
16	Su Mingyang	Male		5	70
17	Wu Yukun	Male		3	50
18	Chen Yikang	Male	2	5	60
19	Zhang Xinyu	Male	2	6	70
20	Li Zhuo	Male		7	90
21	Zhao Dadi	Male		5	70
22	Li Zhuoyi	Male	1	6	75
23	Liang Feng	Male		7	90
24	Tang Hao	Male		4	60
25	Wang Yusen	Male	2	4	50
26	Yang Wuqing	Male		4	60
27	Cui Kai	Male	2	4	50
28	Guo Liangshuo	Male		6	80
29	Yao Hangyu	Male	2	6	70
30	Zhao Jingwei	Male	2	4	50

Basketball elective class experiment class 1 skills after the examination table

Num	Name	Sex	Number of violations	Number of goals scored	Grades
1	Chen Q	Female		5	90
2	Wu Yitong	Female		2	60
3	Wen Yuke	Female		3	70
4	Sang Zihan	Female		3	70
5	Xie Yixin	Female		2	60
6	Chen Yijia	Female		3	70
7	Zhu Meilin	Female		3	70
8	Cheng Yidi	Female		4	80
9	Tian Zhuoyuan	Female		2	60
10	Zhang Zihan	Female		2	60
11	Fan Xuyao	Female		5	90
12	Zhang Yanan	Female		5	90
13	Nie Linghui	Male		7	90
14	Wang Luqi	Male		4	60
15	Hu Qiongya	Male		4	60
16	Su Mingyang	Male		7	90
17	Wu Yukun	Male		4	60
18	Chen Yikang	Male		5	70
19	Zhang Xinyu	Male		6	80
20	Li Zhuo	Male	1	8	95
21	Zhao Dadi	Male		7	90
22	Li Zhuoyi	Male		7	90
23	Liang Feng	Male		8	100
24	Tang Hao	Male		5	70
25	Wang Yusen	Male		4	60
26	Yang Wuqing	Male		4	60
27	Cui Kai	Male		4	60
28	Guo Liangshuo	Male		8	100
29	Yao Hangyu	Male		6	80
30	Zhao Jingwei	Male		4	60

**Basketball elective curriculum experiment class 2 skills pre-test table**

Num	Name	Sex	Number of violations	Number of goals scored	Grades
1	Zhang Yuting	Female	1	4	75
2	Wu Jiayin	Female		2	60
3	Xia Xinru	Female	1	2	55
4	Zai Xuedi	Female	1	3	60
5	Shi Caiyan	Female		1	50
6	Jin Fangyan	Female		1	50
7	Xu Yingxi	Female		4	80
8	Yu Diandian	Female		3	70
9	Liu Mengrui	Female		0	0
10	Jia Congying	Female		1	50
11	Gao Wenqing	Female	2	2	50
12	Gao Wenqing	Female		3	70
13	Zhang Ke	Female		1	50
14	Liu Jiayin	Female		2	60
15	Liu Jiayin	Female	1	3	65
16	Ma Yangfan	Male		4	60
17	Lu Yongquan	Male		7	90
18	Song Zhanhai	Male		5	70
19	Wang Xuheng	Male	1	5	65
20	Shi Dahua	Male	1	5	65
21	Ding Yanwen	Male	2	3	40
22	Zhang Hongqing	Male	1	3	45
23	Kong Weibin	Male		3	50
24	Chang Kaiheng	Male		8	100
25	Dang Haibo	Male		6	80
26	Li Cunsen	Male		4	60
27	Chen Yan	Male		4	60
28	Guo Chuanjiang	Male		6	80
29	Wang Chenyu	Male		5	70
30	Shi Wenjian	Male		8	100

**Basketball elective curriculum experiment class 2 skills after the examination table**

Num	Name	Sex	Number of violations	Number of goals scored	Grades
1	Zhang Yuting	Female	1	6	95
2	Wu Jiayin	Female		3	70
3	Xia Xinru	Female		3	70
4	Zai Xuedi	Female		4	80
5	Shi Caiyan	Female		2	60
6	Jin Fangyan	Female		2	60
7	Xu Yingxi	Female		6	100
8	Yu Diandian	Female		4	80
9	Liu Mengrui	Female		2	60
10	Jia Congying	Female		2	60
11	Gao Wenqing	Female		2	60
12	Gao Wenqing	Female		5	90
13	Zhang Ke	Female		2	60
14	Liu Jiayin	Female		2	60
15	Liu Jiayin	Female		4	80
16	Ma Yangfan	Male		6	80
17	Lu Yongquan	Male		8	100
18	Song Zhanhai	Male	1	7	85
19	Wang Xuheng	Male		6	80
20	Shi Dahua	Male		6	80
21	Ding Yanwen	Male		4	60
22	Zhang Hongqing	Male		4	60
23	Kong Weibin	Male		4	60
24	Chang Kaiheng	Male		8	100
25	Dang Haibo	Male	1	8	95
26	Li Cunsen	Male		6	80
27	Chen Yan	Male		6	80
28	Guo Chuanjiang	Male		7	90
29	Wang Chenyu	Male		7	90
30	Shi Wenjian	Male		8	100



## APPENDIX E

### Basketball Skills and Referee Course Theory Papers and Test Results

2020 Chinese Basketball Association Basketball Ampires Training Class (Level 3)

theoretical test

(Total score: 100 points, time: 90 minutes)

The examinee number: \_\_\_\_\_ name: \_\_\_\_\_ unit: \_\_\_\_\_

Question number	One	Two	Three	Grades
Score				

One. True/false questions (circle the answer you think is correct, 28 questions in total, 2 points each, 56 points in total)

1. In the first quarter, A4, as a substitute, requested a replacement from the record bench. After the referee completed the replacement procedure, he suddenly found that A4 was wearing two shoes of different colors. Is that allowed?

Yes√ No

2. A1 threw the ball into bounds, and his ball was received by A2 stepping outside the line. Is that A2 pushing the ball out of bounds?

Yes√ No

3. A1 Try a 3-point shot at once. The ball hit the basket and rebounded, and at this time, B1 grabbed the basket and took the racket away. The referee immediately pronounced the B1 interference violation and awarded the A team 2 points, right?

Yes No√

4. A4 throw the ball into bounds, the ball directly into the basket, the referee declared invalid the goal, correct?

Yes√ No

5. A6 after receiving the ball began to dribble, after the first step, the second step before the ball off the hand, at this time, the referee immediately pronounced A6 take the ball violation, the referee's sentence is correct?

Yes No✓

6. A1 in defense B1, after A slight physical contact, A1 made very exaggerated action to forge foul, the referee immediately raised the forearm twice warning action, and in the next dead ball to A1 and A team coaches made A formal warning, at the same time, if in the next game, any team A players similar fake foul behavior, the referee will directly sentenced technical foul, the referee right?

Yes✓ Yes

7. Before the ball enters the ball on the middle line to handle the ball, the executive referee should call a "reminder whistle"?

Yes✓ No

8. A4 stays in the restricted area for less than 3 seconds, at this time A4 moves outside the boundary at the end line to avoid a 3-second violation, then he returns to the restricted area, the referee pronounced A4 three-second violation, is the referee's sentence correct?

Yes✓ No

9. A1 tries to pass in team A's front field to A2, who is also located up front. B1 jumps up in the front of B, grabs the ball in the air, and then B1 falls in the back of B. Is B1 a violation?

Yes No✓

10. A6 shot outside the three-point line, the ball after the shot is touched by the B4 block inside the three-point line, the ball scored, the ball should be 2 points.

Yes✓ No

11. The A1 tries a 3-point shot. After the ball touches the basket, rebound, A2 first seize the basket, and then buckle the ball into the basket, the referee determined that A2 dunk is effective, the referee's decision is correct?

Yes No✓

12. A1 ended the dribble, was attacked by the B team, deliberately touched the ball on B1's leg, A1 then took the ball and began to dribble again. Is it legal?

Yes No✓

13. B After the team requests A substitution, can team A perform the substitution procedure at this time?

Yes No✓

14. A1 throws the ball on the front line, when the offensive clock is 20 seconds, he throws the ball directly to the basket, when the ball touches the basket by the same team, the offensive timekeeper immediately reset for 14 seconds and started, is that right?

Yes No✓

15. A3 jumped in the air and is doing shooting action, the ball is not left the hand when the referee whistle, sentenced B team coach technical foul, at this time A3 continued to complete his shooting action ball off the hand, the ball into the basket. Should the A3 shot be scored on the basket?

Yes✓ No

16. In the three-person system, the order of rotation should be 1 leading, 2 central and 3 tracking.

Yes No✓

17. Control the team assault fouls, the team has reached 6 fouls in the quarter, should not be awarded to the violated player penalty.

Yes✓ No

18. A2 receives a pass from his partner, throws the ball directly to the backboard, and then receives the rebound ball and starts to dribble the ball, ok?

Yes No✓

19. A5 throws the ball at the end line, one foot is on the line (not over the line), the referee judges A5 line violation, and the B team throws the ball.

Yes No✓

20. A2 free throws did not touch the basket, the central referee sentenced the penalty violations, by the other side in the free throw line to throw the ball into, correct?

Yes✓ No

21. At almost the same time in the end quarter of the game, A1, who was doing the shooting action, was fouled by B1 and was awarded two free throws. Should the timekeeper enter the break after executing the A1 free throw?

Yes✓ No

22. A1 held the ball in both hands and began to break to the basket. He was fouled by B1 after the first step of the shot, then hit the ball, and the referee indicated that the score was valid and one penalty was added.

Yes✓ No

23. A1 shot by B2 after hitting the backboard, interference scoring violation.

Yes No✓

24. A1 crosses the midline, he receives an A2 pass in the back, and then A1 passes the ball back to A2 in the back, and the referee counts for 8 seconds.

Yes✓ No

25. A2 receives a pass from his partner, throws the ball directly to the backboard, and then receives the rebound ball and starts to dribble the ball, ok?

Yes No✓

26. A1 throw the ball into bounds, the ball does not touch any player on the field directly out of bounds, B team should throw the ball at A1 original throw.

Yes✓ No

27. Is it legal for the team A team shot to touch the side of the backboard?

Yes✓ No

28. The cylinders of ball players are described in detail in the most recent (FIFA) rules on October 1, 2020).

Yes✓ No

Two. gap filling.(10 questions, 2 points for each question, and 20 points respectively)

29. The standard basketball court is 28 meters long and 15 meters wide.

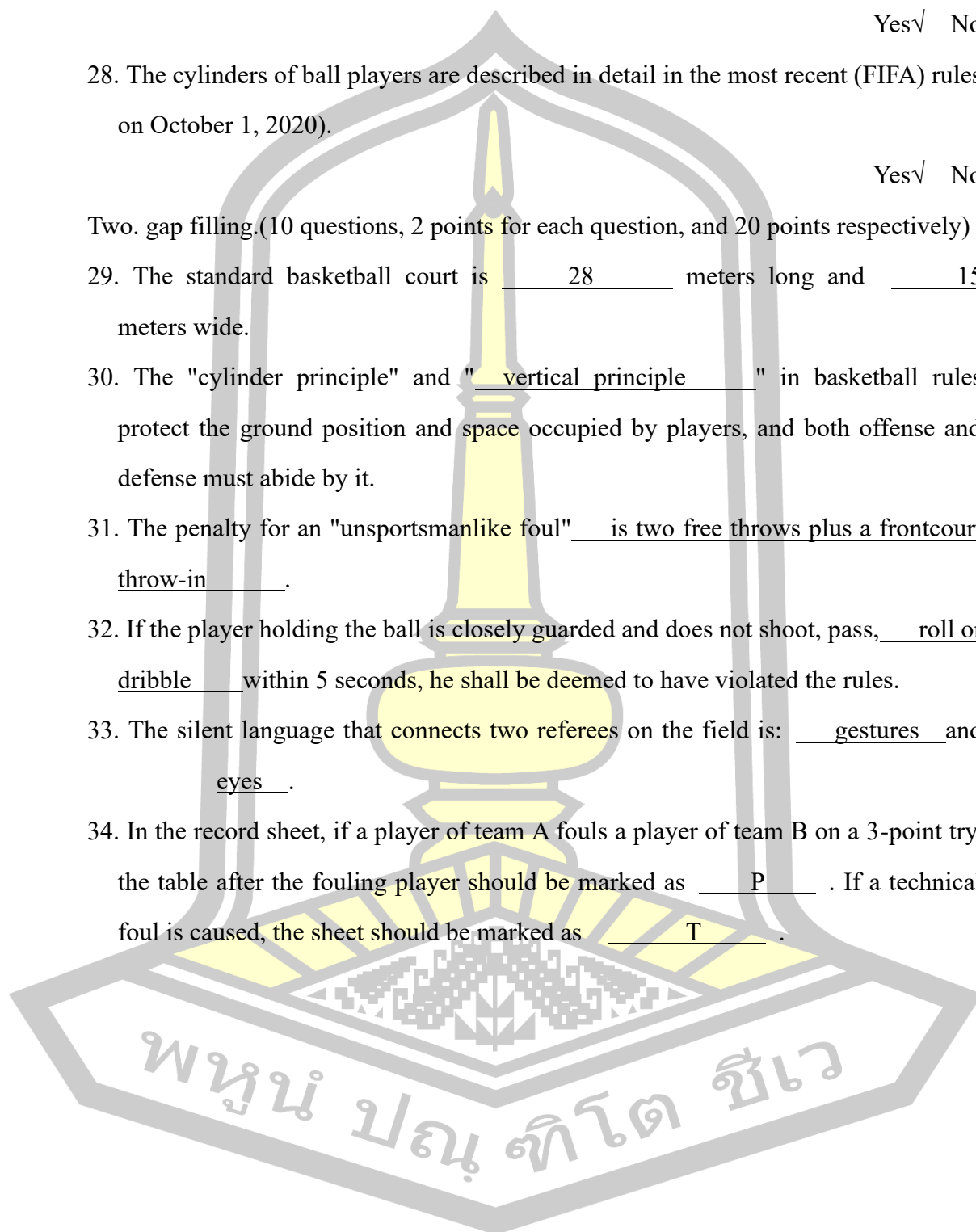
30. The "cylinder principle" and "vertical principle" in basketball rules protect the ground position and space occupied by players, and both offense and defense must abide by it.

31. The penalty for an "unsportsmanlike foul" is two free throws plus a frontcourt throw-in.

32. If the player holding the ball is closely guarded and does not shoot, pass, roll or dribble within 5 seconds, he shall be deemed to have violated the rules.

33. The silent language that connects two referees on the field is: gestures and eyes.

34. In the record sheet, if a player of team A fouls a player of team B on a 3-point try, the table after the fouling player should be marked as P. If a technical foul is caused, the sheet should be marked as T.



Three. Short answer questions. (Total 24 points)

35. Please explain the elements of "ball backcourt". (6 points)

There are three conditions for specifically determining whether the ball returns to the backcourt: (1) the team must control the ball; (2) after the ball enters the frontcourt, a member of the team (or referee) last touches the ball before the ball returns to the backcourt; (3) ) After the ball returns to the backcourt, a player of that team is the first to touch the ball in the backcourt. These three conditions must occur consecutively.

36. A5's shot was fouled by B3, and (1) the ball did not go in (2) the ball went in.

Please explain the procedures for the referee to report to the scorer's table in the above two situations. (8 points)

1. The ball is not scored: The first step is to announce the number of the fouled player and use a gesture to sign the number 3; the second step is to announce the nature of the foul; the third step is to announce the penalty and two free throws.
2. The ball goes in: The first step is to make the two-point gesture and announce that the two points are valid; the second step is to announce the number of the fouling player and use the gesture to indicate the number 3; the third step is to announce the nature of the foul; the fourth step is to announce the penalty and add 1 free throw.

37. What qualities do you think it takes to be a good basketball referee? (10 points)

1. Ideological and moral qualities

- 1.1 Love the basketball career and be loyal to referee work;
- 1.2 Have high professional ethics

2. Business quality

- 2.1 Be proficient in rules and refereeing methods;
- 2.2 Master the general rules and characteristics of the game

### 3. Psychological quality

3.1 Confidence and self-improvement; 3.2 Reaction speed; 3.3 Quick thinking; 3.4 Decisiveness; 3.5 Calmness and composure

### 4. Physical quality

4.1 Fast speed; 4.2 Good endurance; 4.3 Sensitivity and agility



### Basketball Elective Experimental Class 1 Referee Rules Theory Test Score Sheet

Num	Student ID	Name	Grades
1	20221131108	Chen Q	85
2	20221191104	Wu Yitong	80
3	20211420329	Wen Yuke	81
4	20211420320	Sang Zihan	80
5	20221191108	Xie Yixin	79
6	20221191206	Chen Yijia	85
7	20221191216	Zhu Meilin	83
8	20221130925	Cheng Yidi	85
9	20221130924	Tian Zhuoyuan	76
10	20221130923	Zhang Zihan	75
11	20221191214	Fan Xuyao	89
12	20221131224	Zhang Yanan	90
13	20221131223	Nie Linghui	88
14	20221131204	Wang Luqi	75
15	20221191128	Hu Qiongya	73
16	20221191017	Su Mingyang	82
17	20221191015	Wu Yukun	78
18	20221191013	Chen Yikang	83
19	20221190924	Zhang Xinyu	85
20	20221190907	Li Zhuo	90
21	20211170304	Zhao Dadi	92
22	20211420328	Li Zhuoyi	91
23	20211170516	Liang Feng	93
24	20221191225	Tang Hao	78
25	20211170310	Wang Yusen	76
26	20221190905	Yang Wuqing	75
27	20221190923	Cui Kai	77
28	20221190913	Guo Liangshuo	94
29	20221131229	Yao Hangyu	91
30	20221190919	Zhao Jingwei	75

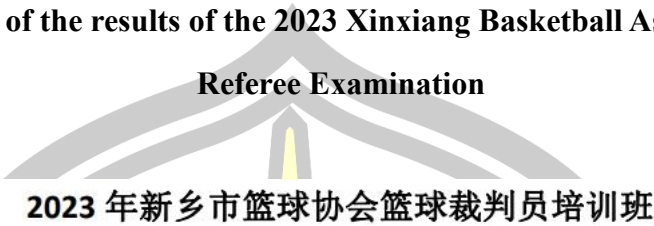


## Basketball Elective Experimental Class 1 Referee Rules Theory Test Score Sheet

Num	Student ID	Name	Grades
1	20221170534	Zhang Yuting	96
2	20221170222	Wu Jiayin	78
3	20221170125	Xia Xinru	77
4	20221170302	Zai Xuedi	83
5	20221170306	Shi Caiyan	80
6	20221170530	Jin Fangyan	79
7	20221170434	Xu Yingxi	95
8	20221170435	Yu Diandian	86
9	20221170531	Liu Mengrui	73
10	20221170334	Jia Congying	75
11	20221170328	Gao Wenqing	76
12	20221170208	Gao Wenqing	92
13	20221170205	Zhang Ke	75
14	20221170101	Liu Jiayin	73
15	20221350105	Liu Jiayin	88
16	20221460005	Ma Yangfan	86
17	20221170117	Lu Yongquan	96
18	20221170415	Song Zhanhai	88
19	20221170321	Wang Xuheng	86
20	20221170206	Shi Dahua	85
21	20221170221	Ding Yanwen	78
22	20221350104	Zhang Hongqing	80
23	20221350117	Kong Weibin	75
24	20221350127	Chang Kaiheng	94
25	20221350201	Dang Haibo	90
26	20221131107	Li Cunsen	88
27	20221131115	Chen Yan	84
28	20221131111	Guo Chuanjiang	89
29	20211170331	Wang Chenyu	91
30	20221191005	Shi Wenjian	94

APPENDIX F

Announcement of the results of the 2023 Xinxiang Basketball Association Level 3  
Referee Examination



三级裁判员成绩结果公示

	推荐单位	姓名	性别	成绩	结果
1	新乡医学院	郭粮硕	男	90	通过
2	新乡医学院	姚航宇	男	88	通过
3	新乡医学院	张亚楠	女	85	通过
4	新乡医学院	李卓	男	82	通过
5	新乡医学院	赵大地	男	80	通过
6	新乡医学院	李卓一	男	83	通过
7	新乡医学院	程驿迪	女	81	通过
8	新乡医学院	武奕彤	女	78	通过
9	新乡医学院	文玉珂	女	80	通过
10	新乡医学院	陈奇	女	82	通过
11	新乡医学院	吴煜坤	男	75	通过
12	新乡医学院	陈奕康	男	78	通过
13	新乡医学院	张新宇	男	80	通过
14	新乡医学院	聂灵慧	女	86	通过
15	新乡医学院	常凯恒	男	90	通过
16	新乡医学院	党海波	男	88	通过
17	新乡医学院	李存森	男	80	通过
18	新乡医学院	陈严	男	85	通过
19	新乡医学院	郭川江	男	80	通过
20	新乡医学院	王晨宇	男	88	通过
21	新乡医学院	施文健	男	89	通过
22	新乡医学院	张玉婷	女	91	通过
23	新乡医学院	杨梦青	女	92	通过
24	新乡医学院	许颖曦	女	94	通过
25	新乡医学院	曹静	女	86	通过
26	新乡医学院	卢永全	男	95	通过



## BIOGRAPHY

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พูน ปณ ทิโต ชีเว