Design of WeChat Basketball Competition Mini Program and the Application of Sports Education Mode in Colleges and Universities

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Abstract. Objective: To design a WeChat basketball competition small program, including technical action video, basketball competition registration, basketball competition data record, basketball competition results storage and other functions, make basketball teaching more direct and convenient in colleges; Methods: Based on the wechat platform, design and develop small programs themed on basketball contests, and applied in the actual college basketball sports education mode, teachers experience whether the use of small programs as an auxiliary tool is effective and put forward suggestions for modification; Conclusion: This procedure is easy to use, it covers fewer functions, but it has been able to meet the requirements in the teaching of college courses, the teaching effect of the use class is good, received high praise from students and teachers.

Keywords: wechat small program · basketball competition · college physical education teaching

1 Introduction

The mode of sports education is a very common teaching method used in physical education courses in colleges and universities [1]. That is, the sports competition runs through the whole semester in the season mode, and the competition occupies most of the time in the classroom, and the final result of the students consists of the competition result and the competition performance. However, as the season runs through the semester, both teachers and students need to design the competition process and match arrangement before the semester, keep the paper competition records during the semester, count the competition data and convert the final results at the end of the season. The workload of the teachers is very large, and the students can not help to see the real-time performance ranking and competition data [2]. Based on the popularity of smart phones and the universality of wechat, designing a small program of wechat competition can make this model get better teaching effect and teaching quality.
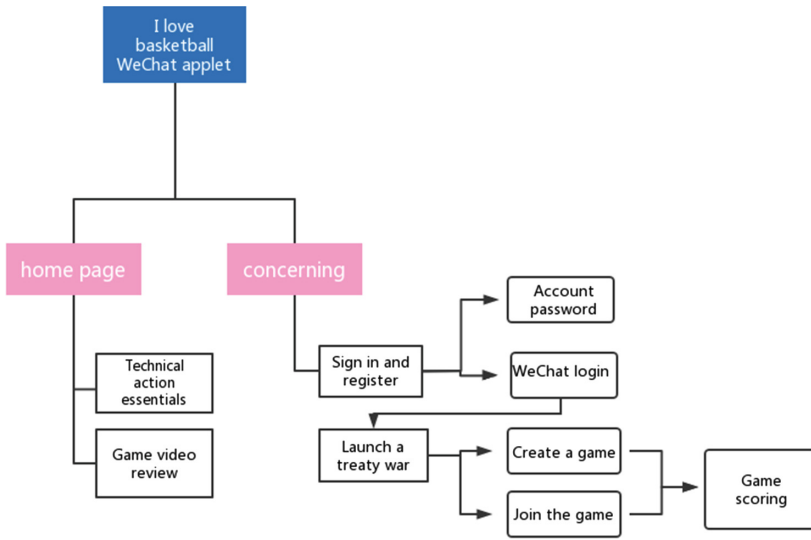
Fig. 1. WeChat Mini program framework diagram of basketball class game

2 Introduction and Display of the Small Program

2.1 Profile

Basketball teaching is often accompanied by actual combat training. Through actual combat data, students can better check the gaps and fill the gaps, and conduct more targeted training [3]. Each team can make up for the shortcomings, and teachers can also give objective and fair semester evaluation through students' performance. The system uses WeChat small program to count and analyze the competition data of students and teams, and uses the bar chart format to show their specific competition status. The small program in this display is the second generation version, which is developed on the basis of the first generation of "basketball WeChat small program". The framework diagram of the system is shown in Fig. 1:

Before class, teachers can upload the basketball teaching materials to the cloud database and display them in the wechat mini program. Students can log in the wechat mini program to view the materials. In the course of classroom teaching competition, small procedures can be used to record the competition process. Competition scoring includes the creation of competition, competition addition, competition preparation, competition scoring and other modules.

2.2 Small Program Function Display

2.2.1 Home Page Display

After the system is running, first enter the home page, which is shown in Fig. 2.

The functions of the home page are divided into three modules: picture rotation broadcast, game video review and basketball teaching. In the picture rotation, you can
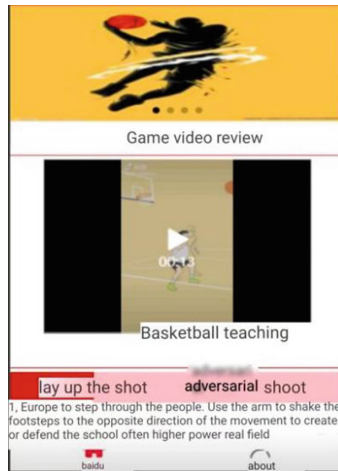
Fig. 2. I love basketball WeChat small program home page

place some promotional pictures, announcements and so on. The game video is a review of the previous wonderful game video, and the basketball teaching is divided into four main modules: pass, layup, confrontation, shooting [4]. Each sub-module has a corresponding graphic explanation and a summary of the action techniques, as shown in Fig. 3.
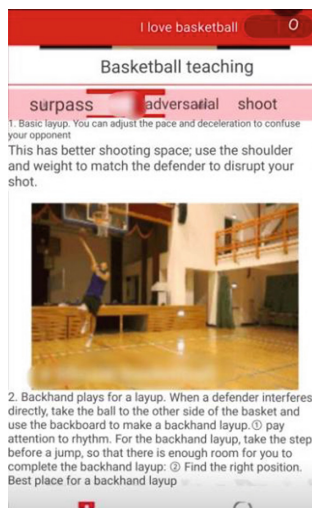

Fig. 3. Basketball teaching module in the home page

2.2.2 Competition Scoring

The competition can be created by clicking the engagement on the page, as shown in Fig. 4.

To create a contest is to create a contest. The system automatically generates a random four-digit game id (match logo), id + "1", for the red team. The id + "2", for the blue team. With the number at the end, you can choose to join the Red team or the Blue team. The person who created the game defaults to the Red team [5].

If other users want to join this competition, enter the corresponding competition id and the name of the competition according to the team they want to join, and they can join. The person who created the contest can finish the game and start the contest. Click to cancel the match, and all records of the race are deleted.

The person who created the game clicks to start the game and jumps to the game scoring page. This module can be divided into the following sub-modules from top to bottom: section switching and each section countdown, game name and current section, red team score, red team players and halftime countdown, scoring details, etc. A basketball game is divided into two halves, each half has two sections, a total of four sections. The game time for each bar is 10 min. The half break between sections is 2 min. The break between the halves is 15 min. On this page, you can freely switch the current section count, conduct the game countdown and the halftime countdown, and count the total score of the game. When a player scores on a goal, click the name of the corresponding player, and the scoring option can pop up. The referee will add points according to the actual situation. In order to avoid misoperation, the score can be corrected by clicking-1. As shown in Fig. 5:
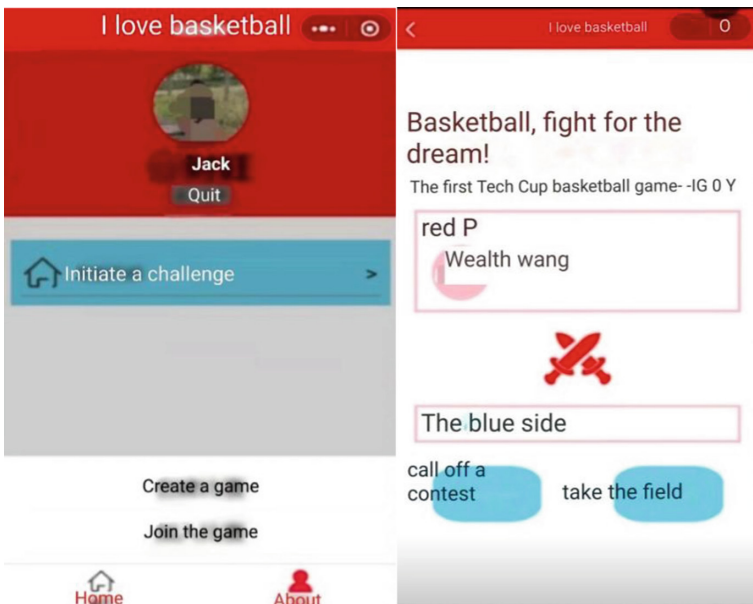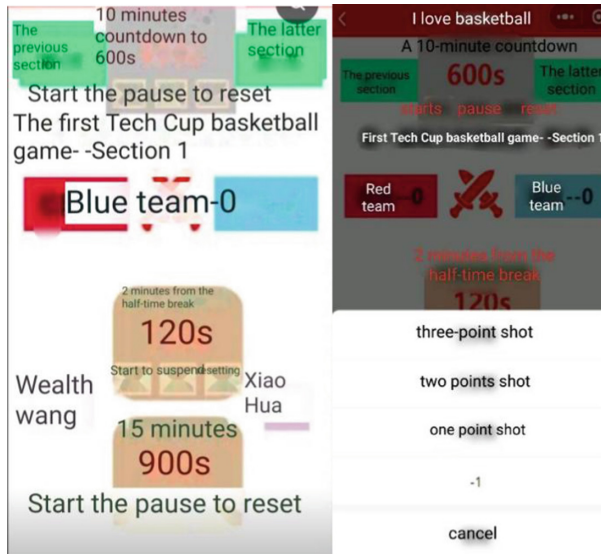

Fig. 4. Launch a engagement war

Fig. 5. Competition record

2.2.3 Data Statistics

Each class consists of five teams with 10 players from each team, and each two teams compete twice for a total of 20 matches. Data statistical code is shown in Fig. 6:

The bar chart is used to show the total score of an individual, the total number of fouls in all team games, and the winning percentage of each team in all games, as shown in Fig. 7.

3 Application of College Basketball in the Classroom

Students register in groups and small programs in the first class, and train on the team naming. After the mini program arranges the competition schedule and is announced to the mini program, the students begin to prepare for the competition. The teacher's division schedule arranges the referee for each class, as well as the data recorder. According to the number of the experimental class, the class is divided into five teams. One team in each class is responsible for the competition organization and the referee work, while the other 4 teams play the competition, and each team is responsible for the captain, as shown in Fig. 8. The match table is shown in Table 1. Among them, 0- * says the team is responsible for organizing and judging competitions.

In each class (game), each cycle (interim), two cycle (final), for each student, each team summarized, help students comb knowledge, make basketball tactics more coherence, systematic, also points out the problems existing in the game, help students to better consolidate learning tactics, stimulate students' enthusiasm, causes the students to achieve the purpose of lifelong love exercise, to use at the same time. After a semester of experiment, students and teachers feedback that the program is simple and convenient, easy to operate and intuitive data, which can well help teaching and learning.
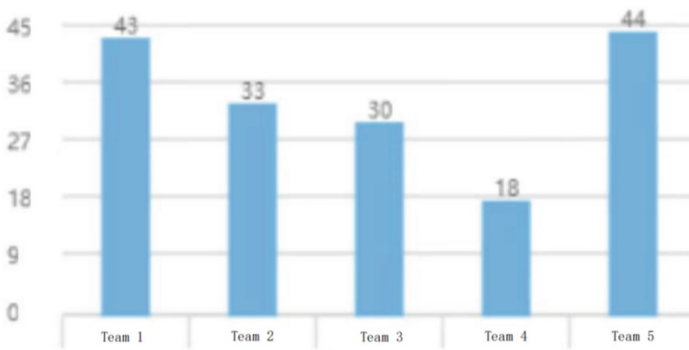
Fig. 6. Data statistical code

Histogram of winning rate of all teams
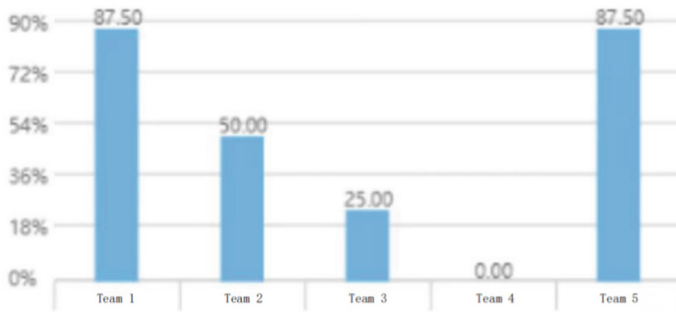
Bar chart of team foul
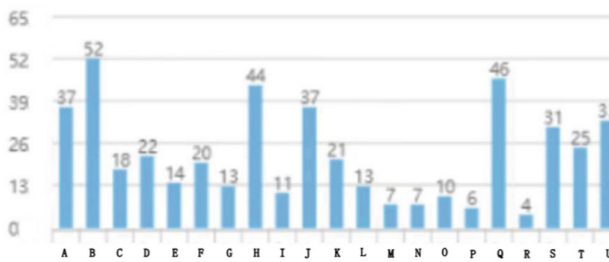

Individual score histogram

Fig. 7. The bar graphs of the data statistics are shown

Fig. 8. Tactical arrangement of the student team

Table 1. Basketball class game cycle and match table

	first round	second round	The third round	The fourth round	The fifth round
First cycle	0–5	0–4	0–3	0–2	0–1
	1–4	5–3	4–2	3–1	2–5
	2–3	1–2	5–1	4–5	3–4
Second cycle	0–5	0–4	0–3	0–2	0–1
	1–4	5–3	4–2	3–1	2–5
	2–3	1–2	5–1	4–5	3–4

4 Conclusion

1. The basketball competition mini program designed can effectively assist teachers in classroom competitions. 2. The use of this program facilitates targeted training for students after class. 3. The addition of this program can improve students' basketball learning effectiveness.

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