ISSN 2618-1576 Vol. 4, Issue 7: 37-40, DOI: 10.25236/FSR.2022.040708

Analysis on the Application of Difficulty Movements in Three person Aerobics of Group B of the Fourth Universiade in Gansu Province

Qiaoyan Pan

Department of Physical Education of Gansu Normal College for Nationalities, Hezuo, Gansu, 747000, China

Abstract: *Using the methods of literature, video observation and logical analysis, this paper studies the number, type, rule and sequence of difficult movements in the video of group B aerobics trio of the Fourth Universiade in Gansu Province. The research shows that the difficulty of aerobics group B trio in the 4th Universiade has been significantly improved, and the combination shows better spatial, dynamic, flexible, and smooth; Most of the difficulty combinations are distributed in the "first half set", which is conducive to the high-quality completion of the movements of the players. The players have more abundant physical strength and can complete the difficult movements more beautifully.*

Keywords: *Aerobics, The fourth Universiade, Application analysis of difficult movements*

1. Preface

The degree of completion of difficult movements and the rationality of their arrangement are the key factors for competitive aerobics athletes to achieve excellent results and win over their opponents in competitions. Therefore, mastering the scientific and reasonable application arrangement of difficult movements is an important strategic means to win. Through the systematic analysis and research on the video of aerobics group B (professional group) three person aerobics in the Fourth Universiade of Gansu Province, we further explore the inherent laws of the project, and based on the general analysis of the characteristics and technical characteristics of competitive aerobics,Combined with the analysis of the number, form, type, rule and sequence of the difficult movements in the video of aerobics group B of the Fourth Universiade in Gansu Province. It provides reference for guiding and optimizing the training practice of competitive aerobics in Gansu Province and improving the scientific level of training.

2. The application analysis of the difficulty of Group B three-person calisthenics events

2.1. The quantity analysis of the difficulty movements

Along with the national level of the calisthenics competition gradually upward, the whole set of aerobics movements are directed towards high-quality, high-intensity, a variety of diversification, variety and variety of difficult movements to match the aspects of progress. In the aerobics set of difficult movements, will let the participants in the aerobics competition use the "Difficult combination", although this is very dangerous, but its value and the advantage of space does have a strong charm. The number of difficult movements of the first, second and fourth teams participating in Group B three-person calisthenics of the 4th Gansu Aerobics Universiade was 13, and the number of difficult movements of the third team was 12, the number of difficult moves for the 5th and 6th place is 10. Each team had a different number of difficult actions and a different degree of difficulty. The higher the ranking, the higher the difficulty completion rate and the fluency of the completed actions needed to be[1-2].

2.2. Analysis of the types of difficult movements

2.2.1. Analysis of the types of "Pre-difficult" movements

In the set of competitive aerobics, the first movement is called"Pre-difficult" movements, this is followed by what is called a"Post-difficulty" action. From the video can be analyzed: the Fourth Universiade Group B competitive aerobics competition is to"Pre-difficult"-based. According to the observation and analysis of the competition, the first six teams in Group B of the 4th Universiade used the flexion jump, followed by the flexion split leg, and then the Korsak class. The most common

ISSN 2618-1576 Vol. 4, Issue 7: 37-40, DOI: 10.25236/FSR.2022.040708

movements in Group C are jumps and jumps, which are easy to run through the difficult movements of each group, and can make the athletes have a short buffer time, but also have outstanding space conversion[3].

2.2.2. Analysis on the type of "post difficulty"

In the difficult movements in the group B triple gymnastics competition of the Fourth Universiade in Gansu Province, the selection of "post difficulty" in the combination of difficult movements is dominated by 10 categories in Group A, Group B, Group C and Group D. The most frequently used is the hip lifting action in Group A, the second is push up, and the two types of bending jump and push up jump are juxtaposed as the third. From the video, we can see that the "rear difficulty" in the whole set of exercises is determined by the "front difficulty", because the "front difficulty" will directly affect whether the "rear difficulty" action can be smooth and coherent, and whether such splicing can be "convenient", "practical" and "economic", as shown in Figure 1.

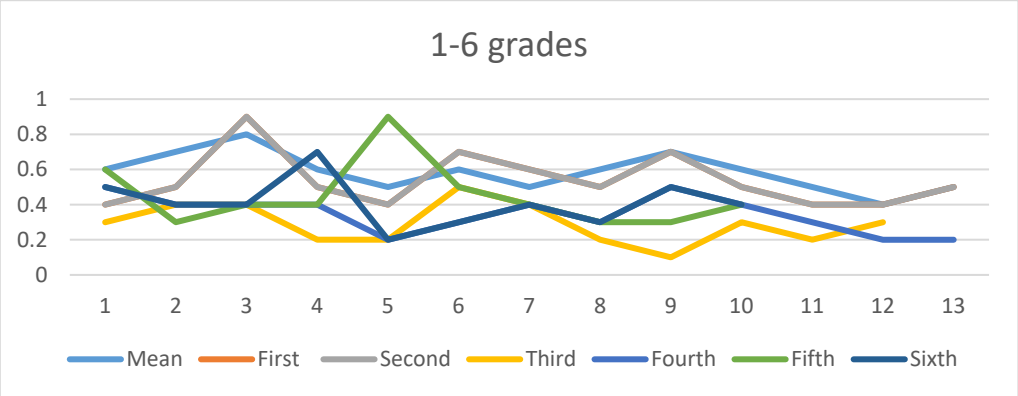

Figure 1: Distribution of 1-6 scores

2.3. Analysis of the first six team athletes' movement difficulty order

The first team player starts with a moderate difficulty single-foot rotation with a 360-degree vertical split, and then gradually increases the difficulty, the second and third difficulty become the highest difficulty of the whole set and successfully completed. Because the physical exertion is great, so the fourth difficulty gradually reduce the difficulty. In the fifth difficulty is the first low of the set of difficulty Korsak jump, through the use of some transitional connections to adjust, in the seventh, the eighth difficulty appeared in the second peak, after the second peak, due to various reasons of physical strength, the difficulty curve suddenly slipped, the last 2 difficulty with 0.4 points of medium difficulty to finish the game, the overall movement beautiful and smooth. The movement difficulty curve and the moving average are from the high to the low trend, which is also in line with the movement of the human body function level gradually decline characteristics, showing the general characteristics of the whole set of movement arrangement, it shows that the arrangement should be in line with the athletes' physiological function and technical level, as shown in Figure 2.

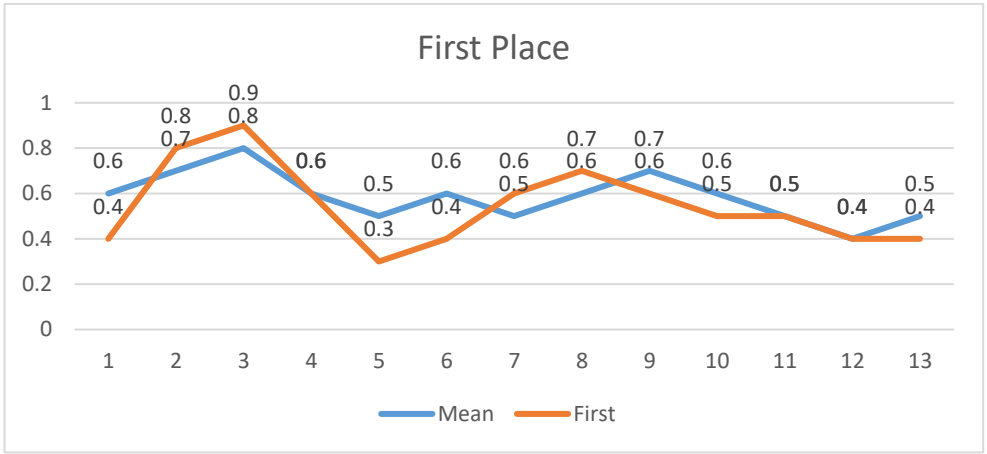

Figure 2: Distribution of first place scores and average scores

The athletes of the second team started the game with 370 degrees of moderate difficulty of right

ISSN 2618-1576 Vol. 4, Issue 7: 37-40, DOI: 10.25236/FSR.2022.040708

angle support, gradually increasing the difficulty, and reached the highest difficulty coefficient of the team of 0.9 points in the third movement. The fifth action is the first low point in the complete set of actions, which adopts the difficulty of lifting legs and turning 360 degrees for temporary adjustment, and then shows the second wave peak with the second highest difficulty of 0.7. Then adjustment was made, and the third peak appeared. After a small adjustment, the fourth peak was pulled out, and the competition ended. It can be seen from the curve that this competition reflects the relatively comprehensive physical fitness of the participants and the uniqueness of the coach's arrangement, as shown in Figure 3.

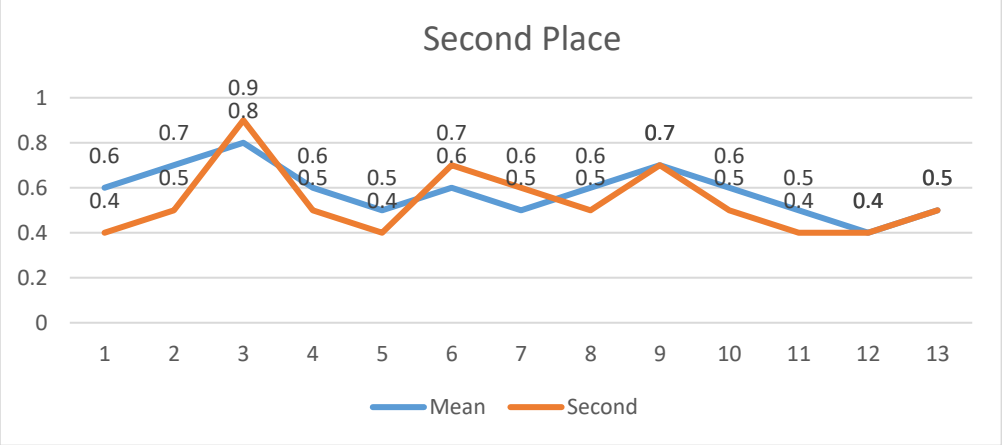

Figure 3: Distribution of second place scores and average scores

The rhythm of the whole set of movements of the third team is particularly obvious. After each difficult movement is completed, a low difficult movement will be taken for a short time to recuperate to recover some physical strength, which also reflects the sense of spatial segmentation of the overall movement. The sixth action: helicopter Cheng Wensen is the highest difficulty of the whole. From the point of view of the arrangement of the set exercises, the athletes need better special skills and techniques. The two low score difficulties are all flexible, which indicates that the flexibility level of the whole team is generally not high and needs to be further strengthened, as shown in Figure 4.

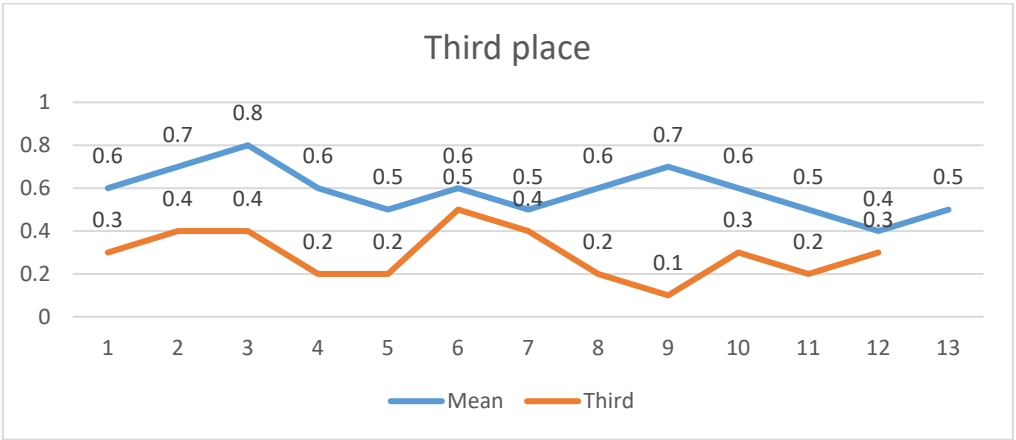

Figure 4: Distribution of third place scores and average scores

The first movement of the fourth team, Shushuluowan, is the most difficult one in the set. This arrangement also fully and effectively uses the characteristics of the athletes at the beginning of the competition, such as slow heartbeat, sufficient physical strength, and good stability. Then, the adjustment starts with the moderately difficult movement. After the second peak, a 360 degree single foot rotation of balance type was used. Such a low difficulty transition movement can help the body recover its strength as soon as possible, so as to prepare for the later high difficulty. It can be seen from the video that the athletes of this team are relatively flexible, and their upper limbs are generally strong. In order to meet the satisfaction of difficult movements, they must have higher static requirements for the competitors of this set of exercises.

The movement curve of the fifth team's difficulty is shown to the audience in the form of "four peaks and three valleys". It starts with the mid difficulty of hip lifting, prancing, turning and then turning 180 degrees, followed by the mid difficulty of single arm and single leg push ups, followed by depth

ISSN 2618-1576 Vol. 4, Issue 7: 37-40, DOI: 10.25236/FSR.2022.040708

adjustment. With a difficult movement of 0.9 points, Thomas spins into a full spin and then raises his leg to attack the second peak. Because the first two peaks consumed a lot of physical strength, the scores of the last two peaks were low. In general, the four peaks of the full set of exercises show a slow downward trend. The difficulty coefficient of the full set of exercises is very high, which requires the super high physical quality and strong special quality of the participants[4-6].

Most of the difficulties of the sixth team are slightly higher than the average. At the beginning, the medium difficulty Shushuluowan was also used, and then the exercise was used to adjust it. Then it quickly climbed to the highest difficulty, turning 180 degrees, bending and leg splitting, and then turning 180 degrees. The first four difficulties were the medium and high difficulties in the whole set of exercises. Later, the side plank leg balance was adopted, which was very conducive to the physical consolidation of the athletes. Then, the second highest difficulty, right angle support, turned 360 degrees, reached the second peak, Then the adjustment was made again, and two more difficult movements were made, ending with these two movements[7].

3. Conclusion

Through watching and analyzing the video, we can see that the number of difficulties applied by all teams in the competitive aerobics group B three person aerobics project of the Fourth Universiade in Gansu Province has slightly increased in the specified number, with the lowest being 10 and the highest being 13; Because most of the players have not received scientific and systematic training before, the difficulty types are mainly "front difficulty" and "back difficulty"; The difficulty position order is based on the arrangement concept of "stability and progress", and the difficulty moves are arranged according to their own conditions.

References

[1] Sanmao. New trends in artistic gymnastics development from the perspective of new rules [J]. Journal of Harbin Institute of Physical Education, 2008, 26(1): 116 -117.
[2] Feiyin Hu. The interactive mechanism between the new rules of competitive aerobics and the difficult movement system [J]. Journal of Guangzhou Institute of Physical Education, 2006,11(6):54 -57.
[3] Jia Xuejun, Chen Qiang. From 1997-2008 International Aerobics competition rules changes to see the development of difficult movements[J]. Journal of Chengdu Institute of Physical Education, 2005, 31(4): 87-90.
[4] Li cuiling, Shi Chunxia. An analysis of the results and difficult movements of mixed double events in the 9th World Aerobics Championship [J]. Journal of Harbin Institute of Physical Education, 2008, 26(1): 107-109.
[5] Eugene Lee. A study on the classification of difficult movements and mechanics principles of competitive aerobics [J]. Journal of Shandong Institute of Physical Education, 2005, 21(2): 63-67.
[6] Liang Ying, Dong Xiaolong. Research on the development trend of women's single and difficult movements in competitive aerobics [J]. Anhui Tizhi Science and technology, 2008, 29(4): 57-58.
[7] Zhang Xiaoying, Luo Huang. An analysis of the difficult movement of men's single event in the 9th World Championships of bodybuilding grass [J]. Journal of Beijing University of Physical Education, 2008, 31(11): 12-15.