



## Design an Exercise Training to Enhance the Ability of Flat Turn Performance in Latin Dance

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### Abstract

**Background and Aim:** The purpose of this research is to study muscle strength using the Flat Turn program and to use the experimental results of the Flat Turn program in teaching a sample group of students at Bampu Senior High School Jiangsu Province China Number 40 people divided into A control group of 20 people and an experimental group of 20 people trained with the Fla program. Turn, while the control group trained with normal dance moves for 8 weeks. Summary of the results of the research.

**Materials and Methods.** 1. Bringing books to ask for the country of Experts, 2 Site preparation and control group appointment to explain the data collection method, 3. Starting The experiment with the exercise and the control group practicing the normal exercises, 4. Collecting exercise test data of both groups of abdominal muscles before training, 5. Both groups began Training for 8 weeks, 6. A data acquisition test was performed in the second week of, and 7. Data acquisition tests were performed, in the second week, the fourth week, the sixth week, and the eighth week.

**Results:** 1. The next research must increase the sample size. 2. The next research will be to find a program that is suitable for dancing. Dance more than this. 3. The next research must have a method for selecting a sample group that is balanced and has more quality than this.

**Conclusion:** The results of the research found that using the Program flat turn for teaching dance with a total of 6 skills. When doing the research, it was possible to use all 6 skills. skills to teach dancing activities because from research it was found that each skill developed sequentially from before the test until the experiment and was measured and evaluated in week 2, week 4, and week 8. The results showed that there was a sequential development of each skill can be concluded that the research results in using the program. Flat turn has a total of 6 skills through research and once the experiment is complete, it can be used to teach Latin dance activities in the future.

**Keywords:** Flat Turn; Latin Dance; Program

### Introduction

China's dance has been around for a long time. In 2017, the Ministry of Culture and Sports Department issued a notice. Announcement notice regarding the regulation of public dancing exercise activities. Issuing announcements to organize and promote public dance events, informing these seniors. The number of elderly people who participated in public dance activities, this notice of the elderly According to statistics for the whole country in 2017, the number is estimated to be more than 100 million, among which a large number of people aged 60 and over are those who have a hobby and participate in public dancing activities. China is entering an aging society; Internet Square Dance is going to be a growing trend. number of elderly people A lot will reach the dance group. can be gathered on the platform through the application Therefore, the Chinese elderly industry will grow. Next is a chain Both about high-class medical tourism health care Buying various funds, etc. Public dancing has become a new industry related to the elderly. From the above introduction, it can be seen that the dance activities of the elderly in China are everywhere. Anyone who goes to China can try to join the outstanding groups with them. They have fun, have fun, and get healthy. Nowadays, such activities have become economic value-added activities, while at the same time promoting the exercise of people from the state (Wang, 2016) China's development of dance has been continuously developed from the exercise of people to go and Coming to the elderly, there were many forms of public dances. But





sometimes it is traditional and tribal dances. dance evolved through to modern dance is the style of international dance. It is an international dance, a method of dance that has developed rapidly to become popular in China today. (Zhang, 2016)

Latin dance is a competitive sports dance with, a strong explosive style, skills are its characteristics, there is a lot of competitive sports dance play space. Latin dance also refers to sports dance, divided into rumba, cha-cha, cowboy, samba, and bullfight five dances; The association is divided into the World Dance Sport Federation (WDSF), World International Standard Dance Federation (WDC), China International Standard Dance Federation (CBDF), China Dance sport Federation (CDSF) and other associations. Latin dance is a very popular dance in China. (Liang, 2019)

The main reason is that sports dance mobilizes people 'With the improvement of China's comprehensive national strength, its influence in various fields has gradually increased. Although China has made considerable achievements in dance sports in recent years, there are many outstanding Chinese players in the world's major competitions. The development of sports dance has been widely popularized in China, and there are many students engaged in sports dance majors. The teaching of sports dance has become a very important issue. However, there are still many deficiencies in the existing teaching system. The main reason is that sports dance mobilizes people's physical quality. However, according to the needs of sports quality training, training methods should be organically combined with sports dance technology. The integration of training methods and dance sports techniques is an urgent problem to be solved.

## Objective

To study the strength of the muscles of the dance flat turn program. To bring the results from using the Flat Turn program in dancing to develop muscles to be used in teaching dance.

## Literature Review

This study mainly discusses the influence of abdominal strength muscle training on the Latin dance flat turn technique. Many movements in dance are performed in a state of instability. Therefore, in abdominal muscle strength training, the training means should be closely related to the special technical characteristics. The following literature research will be conducted at Banpu Senior High School, Lianyungang City, Jiangsu Province, China. It is used to explore the influence of abdominal strength muscle training on the flat turn technique of Latin dance and explore the better way to train the flat turn technique. (Wu, 2017)

With the improvement of China's comprehensive national strength, its influence in various fields has gradually increased. This is even though China has made considerable achievements in dance sport in recent years. Chinese Latin dancers have achieved good results in various world competitions, and Chinese dancers can be seen in various Latin dance competitions in the world. Latin dance is also very popular in China, whether it is children, teenagers, or the elderly, there are a lot of people learning this dance. It can be said that Latin dance is very popular in China. The main reason is that sports dance mobilizes people's physical quality. (Liang, 2019).

However, according to the needs of sports quality training, training methods should be organically combined with sports dance technology. The integration of training methods and dance sports techniques is an urgent problem to be solved. Latin dance also refers to sports dance, divided into rumba, cha-cha, cowboy, samba, and bullfight five dances; The association is divided into the World Sport Dance Federation (WDSF), World International Standard Dance Federation (WDC), China International Standard Dance Federation (CBDF), China sport dance Federation (CDSF) and other associations. Latin dance is a competitive sports dance with a strong explosive style and its characteristics are skills. It has great space for competitive sports dance to play. (Ma, 2018).

It has entered the official competition of the Asian Games. Latin dance officially applied to enter the Olympic Games on November 12, 2014, and is now in the approval stage. The WDSF Association, the highest Latin dance event every year, will be held in different locations in member countries around the world. For all those who participate in international standard dance work in the world, Blackpool in the United Kingdom can be described as the first international standard dance event. WDC will hold



the Blackpool Dance Festival in the United Kingdom, which is loved by the people of Europe.

In summary, the study explores the vital role of abdominal muscle strength training in enhancing the Latin dance flat turn technique, recognizing the significance of stability and control in a sport that demands precision and agility. Against the backdrop of China's growing influence and achievements in dance sport, this research aims to bridge the gap between sports quality training and dance techniques, ensuring that training methods align effectively with the dynamic and skill-based nature of Latin dance. Latin dance has gained international recognition, participating in major competitions like the Asian Games and working towards inclusion in the Olympic Games. The prominence of events like the Blackpool Dance Festival underscores the global appeal and competitive nature of Latin dance, emphasizing its position as a rapidly growing and influential field in the world of sports dance.

### Conceptual Framework

In this study: Effects of Abdominal Strength Training with Flash Turn Technique on Latin Dance the researcher presents the conceptual framework as follows.

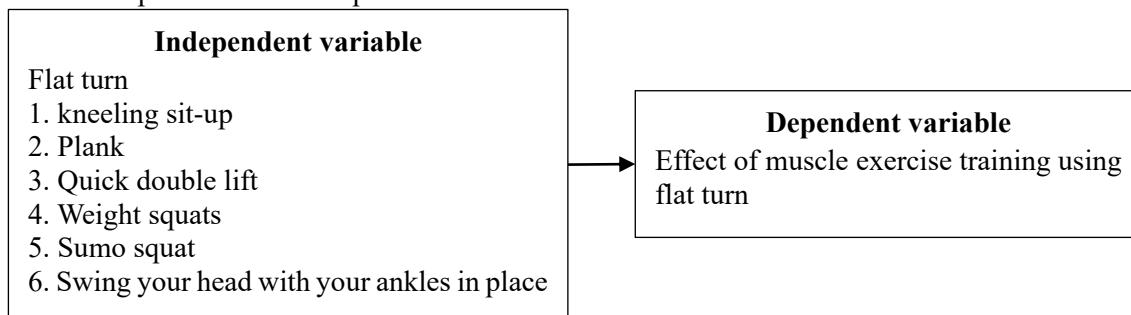


Figure 1 Conceptual framework

### Methodology

Bring exercises to seek advice from experts for implementation. Take the exercise to find the IOC 3 experts to verify Validity and coincidence. Bring the exercise to try out. With another group aged between 17-18 years 30 people in 8 weeks to find the possibility. Then bring the exercise to college and turn in the data.

**Population and sample:** the target population of this study is 60 students of dance sports at Banpu Senior High School, Jiangsu Province, China. The sample was purposively divided from the population of 60 people, 40 people were selected, divided into two groups of 20 people each, and drawn into the experimental group and the control group.

### Research Tools

1. Flat turn of muscles training of dance sports training by abdominal muscles strength test.

2. Three experts were presented to determine the IOC. There is a list of followers; (1) Miss Xiao Zhannan, national reference Lianyungang City. (2) Miss Li Wennan, national reference Nanjing Bo Art Training. (3) Miss LiLi national reference Yangcheng city.

3. To verify content integrity and Tool.

### Tool making Process

1. Bring exercises to seek advice from experts for implementation.

2. Take the exercise to find the IOC 3 experts to verify Validity and coincidence.

3. Bring the exercise to try out with another group aged between 17-and 18 years 30 people in 8 weeks to find the possibility.

4. Then bring the exercise to college and turn in the data.

### Results

In the Latin dance movement arrangement, the horizontal movement is indispensable and plays a very important role. According to the comparative analysis of Latin dance flat turn technical test scores between the experimental group and the control group, after eight weeks of training, their flat turn



technical level has improved, but the improvement rate of the control group is significantly lower, which indicates that muscle strength training can effectively improve the flat turn ability and technical level of Latin dance learners. When rotating flat, it is necessary to rotate based on maintaining stability in the middle part of the body to maintain the balance of the body, while the traditional training method of Latin dance is to focus on training dance movements and simply carry out dance training.

Based on consulting data and experts, the researchers developed a muscle strength training plan for the Latin dance flat turn movement.

### Statement

- 1 A weekly test has three Mondays, Wednesdays, and Fridays.
- 2 The control group practiced at 1: 00~3:00pm
- 3 The experimental group practiced at 3: 00~5:00pm
- 4 A total of eight weeks will train in both the Control and Experimental groups.

**Table 1** shows the mean and standard deviation of age, weight and height of the research Sample on the Design an exercise training to enhance the ability of flat turn performance in Latin dance.

Group (n.=40)	Control group		Experimental group		t	p-value
	$\bar{x}$	S.D..	$\bar{x}$	S.D..		
Age	17.00	0.00	17.00	0.00	0.000	0.000
Weight	49.52	0.89	49.59	0.46	0.034	0.045
Height	168.90	0.98	169.20	0.95	0.088	0.030

p≤0.05

From Table 4.1 the results of data analysis show the mean and standard deviation of the control group in terms of age had a mean of  $17.00 \pm 0.00$ , weight had a mean of  $49.52 \pm 0.89$ , and height had a mean of  $168.90 \pm 0.98$  and the Experimental group in terms of age had a mean of  $17.00 \pm 0.00$  weight had a mean of  $49.59 \pm 0.46$  and height had a mean of  $169.20 \pm 0.95$ .

**Table 2** shows the results of designing exercise training to enhance the ability of flat turn performance Latin dance in the training Control and Experimental groups before the flic goal training.

Group (n.=40)	Control group		Experimental group		t	p-value
	$\bar{x}$	S.D..	$\bar{x}$	S.D..		
Kneeling sit-up	27.5	0.89	28.5	0.82	0.165	0.075
Plank	1.02	0.89	1.20	0.93	0.070	0.189
Quick double lift	21.00	0.71	24.50	0.77	0.455	0.065
Weight squats	5.00	0.88	6.50	0.84	0.156	0.156
Sumo squat	7.00	0.28	8.50	0.78	0.234	0.094
Swing your head with your ankles in place	2.00	0.76	4.50	0.81	0.679	0.089

p≤0.05

Form table 4.2 shows the results of the program flat turn performance in Latin dance before the types of skill the results of the control group were, kneeling sit-up  $27.5 \pm 0.89$ , Plank  $1.02 \pm 0.89$ , Quick double lift  $21.00 \pm 0.71$ , Weight squats  $5.00 \pm 0.88$ , Sumo squat  $7.00 \pm 0.28$  and swing your head with your ankles in place  $2.00 \pm 0.76$ . The experimental group was, kneeling sit-up  $28.5 \pm 0.82$ , Plank  $1.20 \pm 0.93$ , Quick double lift  $24.5 \pm 0.77$ , Weight squats  $6.50 \pm 0.84$ , Sumo squat  $8.50 \pm 0.78$  and swing your head with your ankles in place  $4.50 \pm 0.81$ .





**Table 3** shows the results of Designing an exercise training to enhance the ability of flat turn performance in Latin dance in the control and experimental groups before and after week 2 of training. It has the following results.

Group Skill (n=40)	Before Training After Training week2								t	p-value		
	Control Experimental group				Control Experimental group							
	$\bar{x}$	SD.	$\bar{x}$	SD.	$\bar{x}$	SD.	$\bar{x}$	SD.				
kneeling sit-up	27.5	0.89	28.5	0.82	29.50	0.89	30.50	0.86	0.045	0.035		
Plank	1.02	0.89	1.20	0.93	1.32	0.98	1.42	0.78	0.030	0.037		
Quick double lift	21.00	0.71	24.50	0.77	25.00	0.75	26.50	0.71	0.055	0.045		
Weight squats	5.00	0.88	6.50	0.84	6.00	0.89	7.00	0.88	0.056	0.046		
Sumo squat	7.00	0.28	8.50	0.78	8.00	0.88	9.50	0.98	0.034	0.034		
Swing your head with your ankles in place	2.00	0.76	4.50	0.81			4.00	0.76	6.50	0.98		
									0.679	0.489		

p≤0.5

Table 4.3 showing the results of flat turn performance in Latin dance between the control group before kneeling sit-up  $27.5 \pm 0.89$ , after  $29.50 \pm 0.89$ , before Plank  $1.02 \pm 0.89$ , after  $1.32 \pm 0.98$ . before quick double lift  $21.00 \pm 0.71$ , after  $25.00 \pm 0.75$ . Before Weight squats  $5.00 \pm 0.88$ , after  $6.00 \pm 0.89$ . before sumo squat  $7.00 \pm 0.28$ , after  $8.00 \pm 0.88$ . Before Swing your head with your ankles in place  $2.00 \pm 0.76$ , after  $4.00 \pm 0.76$ . and experimental group before kneeling sit-up  $28.5 \pm 0.82$ , after  $30.50 \pm 0.86$ , before Plank  $1.20 \pm 0.93$ , after  $1.42 \pm 0.78$ . before Quick double lift  $24.50 \pm 0.77$ , after  $26.50 \pm 0.71$ . Before Weight squats  $6.50 \pm 0.84$ , after  $7.00 \pm 0.88$ . before Sumo squat  $8.50 \pm 0.78$ , after  $9.50 \pm 0.98$ . Before Swing your head with your ankles in place at  $4.50 \pm 0.81$ , after  $6.50 \pm 0.98$ .

**Table 4** shows the results or Design of an exercise training to enhance the ability of flat turn performance in Latin dance in the control and experimental groups before and after week 4 of training. It has the following results.

Group Skill (n=40)	Before Training After Training week4								t	p-value		
	Control Experimental group				Control Experimental group							
	$\bar{x}$	SD.	$\bar{x}$	SD.	$\bar{x}$	SD.	$\bar{x}$	SD.				
Kneeling sit-up	27.5	0.89	28.5	0.82	31.50	0.89	32.50	0.88	0.160	0.005		
Plank	1.02	0.89	1.20	0.93	1.45	0.78	1.51	0.87	0.060	0.107		
Quick double lift	21.00	0.71	24.50	0.77	29.00	0.78	30.50	0.89	0.415	0.055		
Weight squats	5.00	0.88	6.50	0.84	8.00	0.89	9.00	0.82	0.150	0.106		
Sumo squat	7.00	0.28	8.50	0.78	9.00	0.78	10.00	0.77	0.230	0.074		
Swing your head with your ankles in place	2.00	0.76	4.50	0.81			6.00	0.79	8.00	0.79		
									0.579	0.080		

p≤0.05

Table 4 shows the results of flat turn performance in Latin dance between the control group before kneeling sit-up at  $27.5 \pm 0.89$ , after  $31.50 \pm 0.89$ , before Plank  $1.02 \pm 0.89$ , after  $1.45 \pm 0.78$ . before Quick double lift  $21.00 \pm 0.71$ , after  $29.00 \pm 0.78$ . Before Weight squats  $5.00 \pm 0.88$ , after  $8.00 \pm 0.89$ . before Sumo squat  $7.00 \pm 0.28$ , after  $9.00 \pm 0.78$ . Before Swing your head with your ankles in place  $2.00 \pm 0.76$ , after  $6.00 \pm 0.79$  and. experimental group before kneeling sit-up  $28.5 \pm 0.82$ , after  $32.50 \pm 0.88$ , before Plank  $1.20 \pm 0.93$ , after  $1.51 \pm 0.87$ . before Quick double lift  $24.50 \pm 0.77$ , after  $30.50 \pm 0.89$ . Before Weight squats  $6.50 \pm 0.84$ , after  $9.00 \pm 0.82$ . before Sumo squat  $8.50 \pm 0.78$ , after  $10.00 \pm 0.77$ . Before Swing your head with your ankles in place at  $4.50 \pm 0.81$ , after  $8.00 \pm 0.79$ .



**Table 5** shows the results or Design of an exercise training to enhance the ability of flat turn performance in Latin dance in the control and experimental groups before and after week 8 of training. It has the following results.

Group Skill (n=40)	Before Training After Training week8							
	Control		Experimental group		Control		Experimental group	
	$\bar{x}$	SD.	$\bar{x}$	SD.	$\bar{x}$	SD.	$\bar{x}$	SD.
Kneeling sit-up	27.5	0.89	28.5	0.82	33.50	0.87	35.50	0.89
Plank	1.02	0.89	1.20	0.93	2.00	0.89	9.05	0.99
Quick double lift	21.00	0.71	24.50	0.77	31.00	0.92	34.50	0.71
Weight squats	5.00	0.88	6.50	0.84	10.00	0.86	11.00	0.87
Sumo squat	7.00	0.28	8.50	0.78	11.00	0.65	12.00	0.68
Swing your head with your ankles in place	2.00	0.76	4.50	0.81	7.00	0.65	10.00	0.68

p≤0.05

Table 5 shows the results of flat turn performance in Latin dance between the control group before kneeling sit-up  $27.5 \pm 0.89$ , after  $33.5 \pm 0.87$ , before Plank  $1.02 \pm 0.89$ , after  $2.00 \pm 0.89$ , before Quick double lift  $21.00 \pm 0.71$ , after  $31.00 \pm 0.92$ . Before Weight squats  $5.00 \pm 0.88$ , after  $10.00 \pm 0.86$ , before Sumo squat  $7.00 \pm 0.28$ , after  $11.00 \pm 0.65$ . Before Swing your head with your ankles in place  $2.00 \pm 0.76$ , after  $7.00 \pm 0.65$  and experimental group before kneeling sit-up  $28.5 \pm 0.82$ , after  $35.50 \pm 0.89$ , before Plank  $1.20 \pm 0.93$ , after  $9.05 \pm 0.99$ , before Quick double lift  $24.50 \pm 0.77$ , after  $34.50 \pm 0.71$ . Before Weight squats  $6.50 \pm 0.84$ , after  $11.00 \pm 0.87$ , before Sumo squat  $8.50 \pm 0.78$ , after  $12.00 \pm 0.68$ . Before Swinging your head with your ankles in place  $4.50 \pm 0.81$ , after  $10.00 \pm 0.68$

Table 6 the results of the strength of the dance Flat Turn program, there were results that improved sequentially from the study of weeks 2,4,8, as shown below.

Skill	week 2		week 4		week 8	
	Control	Experimental	Control	Experimental	Control	Experimental
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Kneeling sit-up	29.50	0.89	30.50	0.86	31.50	0.89
Plank	1.32	0.98	1.42	0.78	1.45	0.78
Quick double lift	25.00	0.75	26.50	0.71	29.00	0.78
Weight squats	6.00	0.89	7.00	0.88	8.00	0.89
Sumo squat	8.00	0.88	9.50	0.98	9.00	0.78
Swing your head with your ankles in place	4.00	0.76	6.50	0.98	6.00	0.79

p≤0.05

Table 6 shows the results of studying the better development of the program of the dance flat turn as follows. The kneeling sit-up the week 2 increased to  $30.50 \pm 0.86$ , the week 4 increased to  $32.50 \pm 0.88$ , the week 8 increased to  $35.50 \pm 0.89$ . The Plank the week 2  $1.42 \pm 0.78$  increased, the week 4 increased to  $1.51 \pm 0.87$ , the week 8 increased to  $9.05 \pm 0.99$ . The Quick double lift the week 2 increased to  $26.50 \pm 0.71$ , week 4 increased to  $30.50 \pm 0.89$ , the week 8 increased to  $34.50 \pm 0.71$ . The Weight squats the week 2 increased to  $7.00 \pm 0.88$ , the week 4 increased to  $9.00 \pm 0.82$ , and the week 8 increased to  $11.00 \pm 0.87$ . The Sumo squat the week 2 increased to  $9.50 \pm 0.98$ , the week 4 increased to  $10.00 \pm 0.77$ , and the week 8 increased to  $12.00 \pm 0.68$ . The Swing your head with your ankles in place the week 2 increased to  $6.50 \pm 0.98$ , week 4 increased to  $8.00 \pm 0.79$ , the week 8 increased to  $10.00 \pm 0.68$ .

### Experimental process

1. Muscle strength training was not added in the first week of the experiment, and the original



Latin dance technique training was simply carried out. After the first week of training, the experimental group and the control group were tested.

Table 7 Experimental group the results of the week of horizontal rotation technology test

ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score (out of 40)	18	16	16	16	20	17	18	17	19	19	18	18	17	18	16	15	19	19	19	16

Table 8 The test results of the control group in the 1st week

ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score (out of 40)	19	21	19	16	18	16	16	16	20	17	18	17	19	16	16	16	17	17	19	18

	Group	N	M	SD	t	P-value
1	Experimental group	20	17.500	1.357	-0.109	0.914
	Control group	20	17.550	1.538		

Muscle strength training was not added in the first week of the experiment, and the original Latin dance technique training was simply carried out. After the first week of training, the experimental group and the control group were tested by the horizontal rotation technique for an independent sample t-test. The significance value of the test results of the experimental group and the control group was 0.914, which was greater than the significance standard of 0.05, indicating that there was no difference in the test results of the experimental group and the control group in the first week.

2. Muscle strength training was added to the experimental group in the second week from the beginning of the experiment. The original Latin dance technical training was changed to muscle strength basic training and Latin dance basic training. The control group only received technical training in Latin dance. After the second week of training, the experimental group and the control group were tested.

Table 9 Experimental group the results of the week of horizontal rotation technology test

ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score (out of 40)	19	20	19	18	18	18	20	18	18	21	19	19	20	19	21	17	18	20	19	19

Table 10 The test results of the control group in the 2nd week

ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score (out of 40)	20	17	18	17	19	19	18	18	17	18	16	16	19	19	18	18	18	20	20	18

	Group	N	M	SD	t	P-value
2 周	Experimental group	20	19.000	1.076	2.378	0.023
	Control group	20	18.150	1.182		

In the second week of the experiment, muscle strength training was added to the experimental group, and the original Latin dance technical training was changed to muscle strength basic training and Latin dance basic training. The control group only received technical training in Latin dance. An Independent sample t-test was carried out for the test group and the control group using the horizontal rotation technique. The significance values of the test results of the experimental group and the control group were 0.023 respectively, which was less than the significance standard of 0.05, indicating that the test results of the experimental group and the control group were different in the second week. The experimental group showed significant improvement compared with the control group. The results of the experimental group in the second week were slightly better than those of the experimental group in the first week.



3. In the third week from the beginning of the experiment, muscle strength training was added to the experimental group, and the original Latin dance technical training was changed to muscle strength basic strength training and Latin dance basic training. The control group only received technical training in Latin dance.

4. In the fourth week of the experiment, muscle strength training was added to the experimental group, and the original Latin dance technical training was changed to moderate strength muscle strength training and basic Latin dance training. The control group only received technical training in Latin dance. After the fourth week of training, the experimental group and the control group were tested.

Table 11 Experimental group the results of the week of horizontal rotation technology test

ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score (out of 40)	26	27	30	27	30	30	26	29	27	29	30	26	28	29	28	29	31	30	30	27

Table 12 The test results of the control group in the 4th week

ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score (out of 40)	22	24	23	24	20	23	24	21	23	22	24	26	23	20	24	24	20	25	23	22

	Group	N	M	SD	t	P-value
4 周	Experimental group	20	28.450	1.605	10.835	0.000
	Control group	20	22.850	1.663		

In the third week of the experiment, muscle strength training was added to the experimental group, and the original Latin dance technical training was changed to muscle strength basic strength training and Latin dance basic training. The control group only received technical training in Latin dance. After the second week of training, the experimental group and the control group were tested by the horizontal rotation technique for an independent sample t-test. The significance value of the test results of the experimental group and the control group was 0.000 respectively, which was less than the significance standard of 0.05, indicating that there were differences in the test results of the experimental group and the control group in the fourth week. The experimental group showed significant improvement compared with the control group.

The experimental group did better than the control group in the fourth week. The results in the fourth week of the control group were slightly better than the results in the second week, and the results in the experimental group were significantly better than the results in the second week of the experimental group.

5. In the fifth week from the beginning of the experiment, muscle strength training was added to the experimental group, and the original Latin dance technical training was changed to moderate strength muscle strength training and basic Latin dance training. The control group only received technical training in Latin dance.

6. In the sixth week from the beginning of the experiment, muscle strength training was added to the experimental group. The original Latin dance technical training was changed to muscle strength strengthening training and basic Latin dance training. The control group only received technical training in Latin dance.

7. In the seventh week from the beginning of the experiment, muscle strength training was added to the experimental group. The original Latin dance technical training was changed to muscle strength strengthening training and basic Latin dance training. The control group only received technical training in Latin dance.

8. In the eighth week of the experiment, muscle strength training was added to the experimental group, which was changed from the original Latin dance technical training to medium strength muscle strength training and basic Latin dance training. The control group only received technical training in Latin dance. After the eighth week of training, the experimental group and the control group were tested.



Table 13 Experimental group the results of the week of horizontal rotation technology test

ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score (out of 40)	35	38	36	37	38	35	39	38	39	36	38	37	39	35	37	36	38	36	37	38

Table 14 The test results of the control group in the 8th week

ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score (out of 40)	24	27	25	26	25	26	27	28	24	25	25	27	26	24	27	25	26	24	25	28

	Group	N	M	SD	t	P-value
8week	Experimental group	20	37.100	1.334	27.354	0.000
	Control group	20	25.700	1.302		

In the fourth week of the experiment, muscle strength training was added to the experimental group, and the original Latin dance technical training was changed to moderate strength muscle strength training and basic Latin dance training. The control group only received technical training in Latin dance. After the fourth week of training, the experimental group and the control group were tested. An Independent sample t-test was carried out for the test group and the control group using the horizontal rotation technique. The significance value of the test results of the experimental group and the control group was 0.000 respectively, which was less than the significance standard of 0.05, indicating that the test results of the experimental group and the control group were different in the eighth week. The experimental group showed significant improvement compared with the control group. There were significant differences between the experimental group and the control group in the eighth week of the horizontal rotation technique test. The experimental group was significantly better than the control group. The results of the experimental group in the eighth week were significantly better than those of the experimental group in the fourth week. The results of the control group in week 8 were slightly better than those in week 4.

#### One-way analysis of variance

Table 15 The test analysis of the horizontal rotation technique at 1, 2, 4, and 8 weeks in the control group

	type	N	M	SD	F	P-value
Control group	1week	20	17.550	1.538	147.612	0.000
	2week	20	18.150	1.182		
	4week	20	22.850	1.663		
	8week	20	25.700	1.302		

One-way ANOVA was performed on the test results of the horizontal rotation technique at 1, 2, 4, and 8 weeks of the control group through the above table,  $F=147.612$

$P=0.000$ , less than the significance criterion 0.05, indicating that there were significant differences in the test of horizontal rotation technique at 1, 2, 4, and 8 weeks in the control group. Then, after the multiple comparisons can be obtained: there is no significant difference between the first week and the second week, there is a significant difference between the second week and the fourth week, and there is a significant difference between the fourth week and the eighth week.

	(I)group	(J) group	(I-J)	SE	P-value
Control group	1week	2week	-0.600	0.453	0.190
		4week	-5.300*	0.453	0.000
	2week	8week	-8.150*	0.453	0.000
	2week	1week	0.600	0.453	0.190
		4week	-4.700*	0.453	0.000





(I)group	(J) group	(I-J)	SE	P-value
4week	8week	-7.550*	0.453	0.000
	1week	5.300*	0.453	0.000
	2week	4.700*	0.453	0.000
	8week	-2.850*	0.453	0.000
8week	1week	8.150*	0.453	0.000
	2week	7.550*	0.453	0.000
	4week	2.850*	0.453	0.000

Table 16 Test analysis of the horizontal rotation technique in the experimental group at 1, 2, 4, and 8 weeks

	type	N	M	SD	F	P-value
Experimental group	1week	17.550	1.395	17.550	889.304	0.000
	2week	19.000	1.076	19.000		
	4week	28.450	1.605	28.450		
	8week	37.100	1.334	37.100		

Through the above table, one-way ANOVA was performed on the test results of the horizontal rotation technique in the experimental group at 1, 2, 4, and 8 weeks,  $F=889.304$

$P=0.000$ , less than the significance standard 0.05, indicating that the experimental group of 1, 2,

4, 8 weeks of flat rotation technology test there are significant differences. Then, through post-hoc multiple comparisons, it can be obtained that there are significant differences between the first week and the second week, the second week and the fourth week, and the fourth week and the eighth week.

	(I)group	(J) group	(I-J)	SE	P-value
experimental group	1week	2week	-1.450*	0.432	0.001
		4week	-10.900*	0.432	0.000
		8week	-19.550*	0.432	0.000
	2week	1week	1.450*	0.432	0.001
	4week	4week	-9.450*	0.432	0.000
		8week	-18.100*	0.432	0.000
		1week	10.900*	0.432	0.000
	8week	2week	9.450*	0.432	0.000
		8week	-8.650*	0.432	0.000
		1week	19.550*	0.432	0.000
	4week	2week	18.100*	0.432	0.000
		4week	8.650*	0.432	0.000

Before the experiment, there was no significant difference between the experimental group and the control group. However, after muscle strength training, compared with the control group that only conducted Latin dance training, the experimental group's score on the flat spin technology test increased significantly.

### Summary of research results

Research on designing exercise training to enhance the ability of flat turn performance in Latin dance the result. Summarized as follows: (1) Explain the objective number study the results of the strength of the dance Flat turn program, there were results that improved sequentially from the study of weeks 2,4,8, as shown below to study the strength of the muscles of the dances flat turn program.



Muscle development. From losing a program that has a total of 6 skills muscle development is better accordingly. Considering the research of each week, from week 2 the increase improved, in week 4 Pattaya continued to increase and in week 8 also increased sequentially. (2) objective 2, is to bring results from using the flat turn program in dancing to develop muscles to be used in teaching dance. From the study of the table, it can be seen that using the Flash Turn Latin teaching program resulted in development from the table for each week of the experiment, that is, week 2 improved, and week 4 still improved as well. And in the 8th week, the joints developed accordingly. However, the study of muscle strength is good and developed accordingly from the table shown above.

## Conclusion

In the Latin dance movement arrangement, the horizontal movement is indispensable and plays a very important role. According to the comparative analysis of Latin dance flat turn technical test scores between the experimental group and the control group, after eight weeks of training, their flat turn technical level has improved, but the improvement rate of the control group is significantly lower, which indicates that muscle strength training can effectively improve the flat turn ability and technical level of Latin dance learners. When rotating flat, it is necessary to rotate based on maintaining stability in the middle part of the body to maintain the balance of the body, while the traditional training method of Latin dance is to focus on training dance movements and simply carry out dance training.

Therefore, compared with only dance technical movement training means, regular muscle strength training does not only reflect comprehensive training but also is better than simple dance technical movement training, so that the improvement of dance technical level is accelerated. It has a good effect on improving the technical level of Latin dance flat turn.

## Discussion

1. The first finding found the strength of the dance Flat turn program, there were results that 1 improved sequentially from the study of weeks 2,4,8, as shown below to study the strength of the muscles of the dance flat turn program, consisting of muscle development. From losing a program that has a total of 6 skills muscle development is better accordingly. Considering the research of each week, from week 2 the increase improved, in week 4 Pattaya continued to increase and in week 8 also increased sequentially.

The objective of this study is to assess and analyze the results of the strength of dancers participating in the Flat Turn program, focusing on the progress observed over time. The study tracked the development of muscle strength in participants over 8 weeks. The data collected reveals that there was a noticeable and sequential improvement in muscle strength from week 2, through week 4, and up to week 8. This improvement is particularly evident in the context of the six specific muscle skills that were assessed.

The study indicates that the Flat Turn program had a positive impact on the development of these specific muscles. The progression was consistent, with each week showing an increase in muscle strength. Week 2 marked the initial improvement, and this upward trend continued into week 4 and further into week 8. This suggests that the program effectively contributed to enhancing the muscle development of the participants, with results becoming more pronounced and noteworthy as time went on. These findings reflect the potential benefits of the program in promoting muscle strength and highlight the importance of continued assessment and monitoring of physical improvements in dancers as they engage in training regimens like the Flat Turn program.

2. The second finding found that using the flat turn program in dancing to develop muscles is to be used in teaching dance. From the study of the table, it can be seen that using the Flash Turn Latin teaching program resulted in development from the table for each week of the experiment, that is, week 2 improved, and week 4 still improved as well. And in the 8th week, the joints developed accordingly.

Objective 2 of the study aims to assess the results of utilizing the Flat Turn program in dance training and its potential implications for teaching dance. The study's data, as presented in the table, demonstrates that employing the Flat Turn Latin teaching program led to noticeable muscle development throughout the experiment, spanning multiple weeks.

The results indicate a consistent pattern of improvement in the participants' muscles as a result of the program. Specifically, the data shows that by the end of week 2, there was already an improvement in muscle development. This progress continued into week 4, with further advancements observed. The most substantial gains were registered in the 8th week, with joint development aligning



with the overall pattern of growth.

These findings suggest that the Flat Turn program not only contributes to muscle development but also holds promise as a useful tool in dance instruction. The observed progression in muscle strength implies that this program could be employed in teaching dance to enhance the physical abilities and skills of dancers, potentially leading to better overall performance and technique. The data supports the notion that the program has the potential to be a valuable resource for dance instructors seeking to improve the physical preparedness and abilities of their students.

## Recommendation

The development recommendations focus on the further development of the Flat Turn program in dance training:

### 1. Customized Training Plans

Develop a system that allows trainers or dance instructors to create personalized training plans for each dancer based on their unique needs and objectives. Integrate technology or software that can assess an individual's current physical condition and skill level, allowing for tailored program recommendations.

### 2. Educational Resources

Create comprehensive educational materials for both dancers and instructors, including video tutorials, manuals, and training guides. Consider offering online courses or webinars for dance instructors to learn how to effectively integrate the Flat Turn program into their teaching.

### 3. Dance Curriculum Integration

Collaborate with dance schools and institutions to officially include the Flat Turn program as part of their dance curriculum. Develop a certification or accreditation system for instructors who have completed training in the Flat Turn program, ensuring quality instruction.

### 4. Feedback and Improvement

Establish a feedback loop with dance instructors and students using the program to gather insights on its effectiveness and areas for improvement. Regularly update and enhance the program based on feedback and emerging research in dance science and physical conditioning.

### 5. Promotion and Awareness:

Launch a targeted marketing and awareness campaign within the dance community, including advertising at dance competitions, conferences, and events. Partner with influential figures in the dance world, such as renowned choreographers or professional dancers, to endorse and promote the program.

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