



# PROCEEDINGS

## THE 1<sup>ST</sup> YOGYAKARTA INTERNATIONAL SEMINAR ON HEALTH, PHYSICAL EDUCATION, AND SPORTS SCIENCE.

*Evidence-Based Practice of Sports Science in Education, Performance, and Health.*

October 14<sup>th</sup>, 2017. Eastparc Yogyakarta, Indonesia



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# YISHPESS PROCEEDINGS

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## **OPENING SPEECH**

As the Dean of Faculty of Sport Sciences Universitas Negeri Yogyakarta, I would like to welcome and congratulate to all speakers and participants of the First Yogyakarta International Seminar on Health, Physical Education, and Sport Science (YISHPESS) 2017 entitled "Evidence-Based Practice of Sport Science in Education, Performance, and Health".

This international seminar is actually an implementation in the framework of the assessment of the achievements and sports culture in society that can support the achievements of the Indonesian people, so that there will be a significant role of practitioners, academicians, sport people, and sports observers from Universities, Institutions and Sports Organizations to help actively facilitate in the development, assessment of innovative sports science development so as to achieve sport achievements at the National and International level.

Finally, we thank all the committee of YISHPESS for their hard work in organizing this activity, and congratulate the invited speakers and all participants. Hopefully, this seminar is significant for the development of physical education, health, and sports sciences.



**Dean of Faculty of Sport Sciences,**  
Universitas Negeri Yogyakarta

**Prof. Dr. Wawan S. Suherman, M.Ed.**


## **PREFACE**

*Alhamdulillahirobilalamin*, thank Allah the First Yogyakarta International Seminar on Health, Physical Education, and Sport Science (YISHPESS) has been prepared well and on time. With all humility, we welcome and congratulate the speakers and participants of Yogyakarta International Seminar on Health, Physical Education, and Sport Science (YISHPESS) organized by the Faculty of Sport Sciences, Universitas Negeri Yogyakarta.

The YISHPESS 2017 is designed to updating and applying evidence-based practice in sports science aspects, including: education, performance and health. We hope that the invited speakers of this seminar can reduce the gaps between academic and field to get best output in the daily sport and health practices.

We would like to thank to Rector and the board of Universitas Negeri Yogyakarta for supporting this seminar come true. Praise and be grateful to the Lord, so that this proceeding can be issued. Hopefully, the publication of this proceeding can bring benefits to the participants in particular and readers in general.

Yogyakarta, October 14<sup>th</sup>, 2017  
Chairperson of the Committee



**Dr. Or. Mansur, M.S.**

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## THE CONTRIBUTION OF LEG MUSCLE STRENGTH AND DYNAMIC BALANCE TOWARDS THE ABILITY OF DOLLYO CHAGI KICK

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### Abstract

**Objectives:** The purpose of this study was to find out the contribution of leg muscle strength and dynamic balance toward the ability of Dollyo Chagi kick of Tae Kwon Do male athletes at Barcelona Tae Kwon Do Training Center (BTTC) Rokan Hulu Riau.

**Methods:** Subject of the study were 60 Tae Kwon Do male athletes who have 1 year experiences in both training and competitions. Leg muscle strength was measured with leg dynamometer and dynamic balance, was measured with Bass test. Data were analyzed by Simple and Multiple Correlation and Regression.

**Results:** The results showed that all of data obtained elicited significant ( $p < 0.05$ ): (1) there is significant contribution of the leg muscle strength towards the ability of Dollyo Chagi of male Tae Kwon Do athletes, which is contributes of 40.96%. (2) There is significant contribution of dynamic balance towards the ability of Dollyo Chagi of Tae Kwon Do male athletes, which contributes 40.6% (3) there is significant contribution of the Leg muscle strength and Dynamic Balance all together towards the Ability of Dollyo Chagi of Tae Kwon Do male athletes at BTTC District Rokan Hulu Riau, which contributes 59,29%.

**Conclusions:** This study states that the Leg Muscle Strength and Dynamic Balance contributes toward Dollyo Chagi kick ability of male Tae Kwon Do athletes in BTTC Rokan Hulu Riau, it's mean that Leg Muscles strength and Dynamic Balance can be used in increasing the ability of Dollyo Chagi kick of Tae Kwon Do male Athlete. It is expected that the trainers have understanding and insight in training especially in Tae Kwon Do martial arts activities in BTTC at District Rokan Hulu Riau and to establish training parameters as required to develop leg muscle strength and dynamic balance in Tae Kwon Do

**Key words :** leg muscle strength, dynamic balance, dollyo chagi kick.

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### INTRODUCTION

Sports activities have become life necessities of the community in Indonesia, whether for the purpose of high sport achievement or just to fill the leisure time such as games, gymnastics, soccer, volleyball and also martial sports and so forth. Tae Kwon Do is one of the martial arts as a popular sport among many people[1]. Tae Kwon Do is a Korean martial art that is also a national sport of Korea and characterized by its emphasis on head-height kicks, jumping and spinning kicks, and fast kicking techniques. This is one of the world's most popular martial arts competed in the Olympics. Tae Kwon Do has grown in society and does not look at the social status, sex, age who participate in the Tae Kwon Do martial arts as evidenced by the increasing number of Tae Kwon do training centers not only to socialized this sport as one of the activities to fill leisure time, also for high performance in sports coaching.

Each training program must have clear objectives and be processed systematically, thus, in addition to skill training, a high performance sports should not ignore physical condition training program. Tae Kwon Do's training program includes fostering the following aspects: the physical condition, technique, tactics and athletic psychology.



Tae Kwon Do is dominated by foot or hand attacks, so if the technique is supported by physical ability it will be a decisive factor in winning a fight. where the principal of the Tae Kwon Do concept is the combination of strength, ability and speed (Suryadi, 2009). Therefore, both technique and physical ability must be equally in order to succeed in training or in competition, especially in applying the technique of foot attack or kick. The reason is, this technique is one of the most dominant attack techniques in competition and this attack has a higher value than a hand blow attack.

Kick is one of the attacks that can knock out your opponent quickly. There are several kicking techniques in Tae Kwon Do such as Dollyo Chagi (kick spin / play), Yeop Chagi (side kick), Dwi chagi (kick back), Naeryo Chagi (kick drift) and others. One of the most common techniques used in training or in competition is dollyo chagi and this technique is relatively easy to apply, and able to generate in resulting power kicks.

In order to reach the quality as Tae Kwon Do, the athletes have to have a good quality parameters in physically and technically. There is a transactions and an interaction between physical, technique, and tactics. Thus, however the athlete's technical ability is great, but if not supported by physical qualities, a Tae Kwon Do will quickly exhausted and at the same time will impair the technical coordination.

Based on observations, approximately 25% of Tae Kwon Do male Athletes in the District of Rokan Hulu Riau is still not able to do Dollyo Chagi kick correctly and quickly. If this kick can not be mastered properly, then he will lose the chance to get a point in every match. Therefore, this kick must be completely mastered of both feet by paying attention to several things such as concentration in view of the target, speed, strength, power, distance, timing, static or dynamic balance while and/or after a kick.

Many factors influences the weakness as mentioned before. Tae Kwon Do dominated by foot or hand attack, if the technique is supported by a good physical ability it will be a decisive factor in winning a battle. Therefore there must be equality between the ability of the technique and physical ability, especially in applying the technique of foot attack or kick. Dollyo Chagi it self is the most versatile and frequently used scoring technique in Olympic Tae Kwon Do Matches and is an attack that has a higher value than a hand blow attack..

According to the previous observations, the failure of dollyo chagi are much depend on the leg muscle strength and the weakness will impair the stability of body position especially during movement[3] and other physical components such as dynamic balance. There are two components that cause dollyo chagi technique can not be done perfectly.

Strength is one of the most dominant elements of physical condition in human life related to human motion and activity. Without strength it is unlikely that it will be able to sustain life well and reasonably. Muscle Leg Strength is the maximum force of contraction produced by a group of muscles. Dynamic balance (dynamic balance) on the other hand, is a person's ability to move from one point to another or from one space to another while still maintaining his balance, such as jumping loops in ice skating, forwarding salto or backwards in artistic gymnastics, leaping moves on a jump table, or while doing a salto kick on football, rollerblading, or kicking moments and so on



**Figure. 1. Phases of dollyo chagi**

## **METHODS**

Out of 120 Tae Kwon Do athletes, sixty Tae Kwon Do athletes took part in this study. The research included measurements of leg muscle strength, dynamic balance, and dollyo chagi kick. Leg muscle strength was assessed with leg dynamometer and dynamic balance was assessed with Modified Bass Test. Dollyo chagi kick was assessed according to Depdiknas (2004) as main criteria for the ability. As an indicator of success in tests performed, the athletes do dollyo chagi kick and the score gained is the number of repetitions in 20 seconds.

## Statistical Analysis

Simple and multiple Correlation was applied in order to find out the correlation between  $X_1$  to  $Y$ ,  $X_2$  to  $Y$ , and  $X_{1,2}$  all together to  $Y$ . simple and multiple Regression was applied in order to know the degree of contribution of  $X_1$  to  $Y$ ,  $X_2$  to  $Y$ , and  $X_{1,2}$  all together to  $Y$  on the level of  $\alpha$  .05.

## RESULTS AND DISCUSSION

At first, based on the product moment and regression analysis, it revealed that there is significance contribution of leg muscle strength toward the ability of dollyo chagi kick which contributes 40.96%. as shown on the following table

**Tabel 1. Summary of correlation coefficient and contribution of leg muscle strength toward dollyo chagi kick of male athletes**

Correlation coefficient $r_{x_1y}$	Index of Determination ( $r^2$ )	$T_{count}$	$t_{table}$	Conclusion
0.64	0.254	6.34	1.67	Significance

Second, there is a significant contribution of dynamic balance toward the ability of dollyo chagi which contributes 46.26% as shown on the table below

**Tabel 2. Summary of correlation coefficient and contribution of leg muscle strength toward dollyo chagi kick of male athletes**

Correlation coefficient $r_{x_2y}$	Index of Determination ( $r^2$ )	$T_{count}$	$t_{table}$	Conclusion
0.65	0.25	6.51	1.67	Significance

Third, there is a significant contribution of leg muscle strength and dynamic balance all together toward the ability of dollyo chagi which contributes 46.26% as shown on the table next page

**Tabel 3. Summary of correlation coefficient and contribution of leg muscle strength and dynamic balance all together toward dollyo chagi kick of male athletes**

Correlation coefficient $r_{x_{1,2}y}$	Index of Determination ( $r^2$ )	$T_{count}$	$t_{table}$	Conclusion
0.77	0.245	9.19	3.16	Significance

## Discussion

### Contribution of leg muscle strength toward *Dollyo Chagi* kick on Tae Kwon Do male athletes at BTTC Kabupaten Rokan Hulu

Leg muscle Strength basically one of the important factors in the training process which will ultimately affect the ability of Dollyo Chagi kick at Tae Kwon Do male athletes. Muscle strength of the lower limb is particularly important because it is essential for kicking, jumping, and maintaining postural stability (Fong, 2011) referred to in this study is more specific, namely Muscle Limb Strength. Based on the experience and research data on the muscle strength of limbs, it was found that most of the leg muscle strength of Tae Kwon Do male athletes were classified as moderate.

There is a significant contribution of Leg Muscular Strength to Dollyo Chagi Kicking, should be considered that leg muscle strength should include in every the training program to foster and improve the Dollyo Chagi Kick on Tae Kwon Do male athletes, the reason is because this kind of technique is easy and most apply in nature especially in the match.

### **The contribution of dynamic balance toward *Dollyo Chagi* kick at Tae Kwon Do male athletes at BTTC Kabupaten Rokan Hulu**

Besides Dynamic balance there is another kind of balance namely static balance. The dynamic balance is an important factor in improving physical condition that should be mastered by every athletes, especially when it done while very dynamic motion. Kicking dollyo chagi is done in a state of motion and relies to keep stable in one leg, and therefore dynamic balance is a necessity that must be mastered by Tae Kwon Do. Taek Kwon Do forms further challenge dynamic balance by incorporating directional changes of 90°, 180°, and 270° in conjunction with blocks, strikes, and kick (Ronita, 2007). Based on the result, the dynamic balance contributes 46.26% toward *Dollyo Chagi* ( $0.05\alpha$ ). its mean that dynamic balance should be considered to be included in every training program.

### **Contribution of leg muscle strength and dynamic balance toward *Dollyo Chagi* kick Tae Kwon Do male athletes at BTTC Kabupaten Rokan Hulu**

Basically to improve all of the techniques in Tae Kwon Do, all of the biomotor ability should be improve according to the need of each athletes including leg muscle strength and dynamic balance. As state of the result that leg muscle strength and dynamic balance all together have contribute significantly toward *Dollyo Chagi* , which is contributes 59.29%, its mean that more than a half the two factors contribute toward dollyo chagi kick of Tae Kwon Do male athletes at BTTC Kabupaten Rokan Hulu Riau and 40.70% determined by other factors.

### **CONCLUSION AND SUGGESTION**

According to the result of this research, its concluded that: Leg muscle strength and Dynamic balance contributes significantly toward *Dollyo Chagi* of Tae Kwon Do male athletes at BTTC Kabupaten Rokan Hulu. In order to foster and improve the *Dollyo Chagi* Kick Tae Kwon Do male athletes. It is recommended that both of the above variables should be trained maximally, because it can be guaranteed to make a significant contribution to the success of an athlete during training or in Competitions.

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## LAY UP SHOOT SKILL OF FIK UNP STUDENTS (EXPERIMENTAL STUDY OF TEACHING METHOD AND LEARNING MOTIVATION TOWARD LAY UP SHOOT SKILL OF FIK UNP STUDENTS)

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### Abstract

**Objectives:** The purpose of this research was to determine the outcome differences of learning method and learning motivation toward Lay Up Shoot basketball skills students at FIK UNP in Padang. Specifically, it was to determine (1) differences in learning outcomes in performing Lay Up Shoot Basketball skills of students who were treated cooperative methods and method of inquiry, (2) the interaction between teaching methods and learning motivation towards learning outcomes Lay Up Shoot basketball skills, (3) differences in students' learning outcomes Lay Up Shoot basketball of skills students who have high motivation to learn between cooperative learning method with learning method of inquiry, (4) differences in students' learning outcomes Lay Up Shoot basket ball skills who have low learning motivation treated by cooperative learning method and inquiry learning methods.

**Methods:** This research was conducted by using experimental study with designs by level 2x2. The population of this research was male student's as much as 72 students at FIK UNP Padang in the second semester (January-June) of the academic year 2015/2016. 40 students were taken as the sample through random sampling. The instrument of research was in the form of a test to measure Lay Up Shoot basketball skills and students' tests level of motivation. Data analysis technique was done by testing that requirements analysis as a prerequisite for the use of statistical analysis techniques and followed by hypothesis testing. Data were analyzed using Anova Design level by 2x2 at the level of  $\alpha = 0.05$ , followed by Turkey's test.

**Results:** of the tukey test results, the first hypothesis shows that  $Q_{count} = 6.35 > Q_{table} (\alpha = 0.05 / 40) = 2.86$ . The second research hypothesis states that  $Q_{count} = 13.95 > Q_{table} (\alpha = 0.01/20) = 4.02$ . The third research hypothesis stated  $Q_{count} = 4.97 > Q_{table} (\alpha = 0.01/20) = 4.02$ . The fourth hypothesis of research Based on the ANAVA testing outcome, it can be seen that  $F_{count} = 21.31 > F_{table} (\alpha = 0.01) = 6.96$ . it means that  $H_0$  is rejected and  $H_1$  is accepted. In other words, there is significant interaction between leaning method and learning motivation.

**Conclusions:** It was proved that the learning outcomes of Lay Up Shoot basketball skills of students in both treatment provides a significant difference. Through further testing, it proved that the outcome of learning Lay Up Shoot basket ball skills treated cooperative learning is higher than those who did not.

**Keywords :** lay up shoot, learning motivation

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### INTRODUCTION

Basketball is one of popular game of all ages in the world. It is a game which is playful, competitive, educative, entertaining and healthful. Personal skills such as shooting, luring, dribbling, rebound and teamwork to attack or defense are the requirements in order to perform this game successfully (Jon, 2007: 13). It means that the movements needed in this game are the combinations of several supporting motions. This game is really suitable to watch because it can be performed indoor and it needs only a small field to play.

Lay up shoot is a shoot to put the ball to the basket through integrating several motions to perform complex movements. It is a shoot which is performed near by the basket as if the ball is put into the basket preceded by two steps before (Ahmadi, 2007: 19). Based on this opinion, it can be concluded that lay up shoot is done systematically through dribbling the ball, jumping closely to the opponent basket and putting the hand as close as possible to the basket and finally putting the ball to the opponent's basket adjusted with the way how to hold the ball, players' sight, balance, elbow adjustment, and the foot step.

### **Learning Motivation**

Based on Good and Brophy in Fardi (1997:13), they propose motivation as a construct to state the beginning, direction, intensity and the attendance of behavior. As the controller of someone behavior, Marten in Fardi (1997:14) says that motivations comes from two sources; intrinsic and extrinsic motivation. Intrinsic motivation is natural force comes from oneself to do something not to gain appreciation but to gain self satisfaction. Extrinsic motivation is external force to cause someone to do something. The external forces are usually caused by the desire to gain something beneficial (Fardi, 2007:15). Setyobroto (2002:28) says that the athlete's motivations are to 1) show the skill and achievement, 2) show the strengths, 3) attain success, 4) beat someone, 5) show group's pride, 6) look for sensation, 7) attain career, 8) gain materials, and 9) to attain popularity. Based on the opinion above, it can be concluded that to perform such a perfect lay up shoot skill, an athlete should have high motivation which will influence his earnestness to learn, to prepare physical condition and to perform a good and optimal technique of lay up shoot skill.

### **Cooperative Learning Method**

Cooperative learning method is a method which requires the students to communicate well in a group (Nurhadi, 2004: 65). The learning is begun when the group is formed. Then the teacher and students choose certain topic to discuss in the group (Agus, 2009:93). According to Slavin, cooperative learning is a set of instructional method that requires student work in small, mixed-ability learning groups. It means that cooperative learning is a set of instructional method in which the students needs to work in small group with mix-ability group member (Slavin, 2010: 173). Cooperative learning method surely can promote the students through small group consisting of 4-5 heterogenic members. The learning process is begun by stating the learning purpose, explaining the materials, group work, quiz, and group rewards. Cooperative learning method increases students' willing to contribute positively to the group and promotes students' motivation to follow the learning process which will influence the learning outcome consequently (Trianto, 2009:58). Based on the discussion above, it can be concluded that cooperative learning method is a method which requires the students to learn in heterogenic group to promote their academic skill.

### **Inquiry Method**

Inquiry method is a method which focuses on the students. The task designed in this method is to give option and deliverance to the student to work as they wish within control. According to Lutan (2001: 61), this method offers freedom for to students to work and move freely. The lecturer's task is to prepare the learning material and general instructions. The students' task is to respond suitably. Based on the explanation above, inquiry method is a learning method to promote students' scientific thought. Consequently, the students will learn independently, improve their creativity to solve problem. The students are the subject of learning process and the lecturer is only the facilitator. This research focuses on the promoting the lay up shoot skill of FIK UNP student.

### **Relevant Studies**

The findings of Cucut Hidayat shows the influence of learning style and learning motivation toward basic movement badminton od SDN Cieunteung students, Tasikmalaya, West Java. It informs entirely that inquiry method gives significant influence rather than order/command method towards male students' skill, especially for those whose high motoric skill (Cucut Hidayat, 2008: 185-186).

### **METHOD**

The steps are:

1. Research preparation including the permission, try out of lay up shoot and learning motivation instrument, sampling, and treatment.
2. Research implementation including presenting the treatment to the groups.
3. Data collecting of lay up shoot tes after having 16 meetings.

The treatment was given during the exercise. every meeting was held in 2 hours. The place of research was in the GOR PPSP basketball field at FIK UNP. Every group was given treatment twice a week for 8 weeks (16 meetings). The research is aim at knowing 1) the learning outcome differences of students' lay up shoot skill between those who were treated by cooperative method and inquiry method, 2) the interaction between learning method and learning motivation toward learning outcome of lay up shoot skill, 3) the learning outcome differences of high motivation students who were treated by cooperative and inquiry method, 4) the learning outcome of low motivation students who were treated by cooperative and inquiry method.

The research method used was experimental study using 2x2 design (by level). It was chosen because there were treatment given to independent variable that is learning method and leaning motivation to know each influences toward students' lay up shoot skill of FIK UNP (dependent variable). The target population was all students of sport education study program who enrolled basketball course in FIK UNP at January-June, 2015/2016 academic year. The population was homogeny since it has similar sillaby, teacher/lecturer, course material, facility and curriculum. Thus, the population was about 72 students, The sampling was taken based on verducci that is based on learning motivation test to determine the group. For those whose outcome was more than 27% were categorized high motivations students and the rest (less than 27%) were categorized low motivation students (Verducci, 1980: 176-177).

To fulfill the experimental study requirements, every group was involved and wa given treatment. They were 20 high motivation students and 20 low motivations students. Then, every group was divided into two groups through random sampling. Thus, there were 4 groups consisting of 10 members/students. The hypothesis was tested by ANAVA testing by level 2x2 design ( $\alpha=0,05$ ). If the outcome is significant and was interacted to n (sample), the test will be continued by using Tukey test to show better interaction.

## RESULTS AND DISCUSSION

### **The learning outcome differences in performing lay up shoot skill between those who were treated by cooperative method and inquiry method**

Based on the ANAVA testing outcome, it can be seen that  $F_{count} = 4.81 > F_{table} (\alpha = 0.05/40) = 4.08$ . it means that  $H_0$  is rejected and  $H_1$  is accepted. In other words, there is significant difference in the learning outcome of students' lay up shoot skill between those who were treated by cooperative method and inquiry method. The learning outcome of students who were treated by cooperative method is higher than those who were treated by inquiry method. Then, Tukey test was conducted to know the differences of the treatment given. The outcome shows that  $Q_{count} = 6.35 > Q_{table} (\alpha = 0.05/40) = 2.86$ . it means that there is significant difference in the learning outcome of students' lay up shoot skill between those who were treated by cooperative method and inquiry method. The learning outcome of students who were treated by cooperative method is higher than those who were treated by inquiry method.

### **The learning outcome differences of high motivation students in performing lay up shoot skill between those who were treated by cooperative method and inquiry method**

Based on Tukey test,  $Q_{count} = 13.95 > Q_{table} (\alpha = 0.01/20) = 4.02$ . it means that  $H_0$  is rejected and  $H_1$  is accepted. Hence, there is significant difference. The learning outcome of students who were treated by cooperative method is higher than those who were treated by inquiry method.

### **The learning outcome differences of low motivation students in performing lay up shoot skill between those who were treated by cooperative method and inquiry method**

Based on Tukey test,  $Q_{count} = 4.97 > Q_{table} (\alpha = 0.01/20) = 4.02$ . it means that  $H_0$  is rejected and  $H_1$  is accepted. Hence, there is significant difference. The learning outcome of students who were treated by cooperative method is lower than those who were treated by inquiry method.

### **The influence and interaction between the treatment given (learning method) and learning motivation toward students' learning outcome in performing lay up shoot skill**

Based on the ANAVA testing outcome, it can be seen that  $F_{\text{count}} = 21.31 > F_{\text{table}} (\alpha = 0.01) = 6.96$ . it means that  $H_0$  is rejected and  $H_1$  is accepted. In other words, there is significant interaction between leaning method and learning motivation.

Based on hypothesis testing, it can be seen that there is significant difference in students' learning outcome in performing lay up shoot skill. The further testing also shows that the learning outcome of those who were treated by cooperative method is higher than those who were treated by inquiry method. Learning motivation is also p;ay significant role to the learning outcome. It shows that high motivation students perform higher and better learning outcome than low motivation students.

### **The learning outcome differences in performing lay up shoot skill between those who were treated by cooperative method and inquiry method**

The first hypothesis testing outcome shows that the students whore treated by cooperative method have higher learning outcome than those who were treated by inquiry method. In other words, cooperative method is more effective than inquiry method. The outcome above is along with the research finding of Sutaman (2014) that cooperative method can increase students' responsibility to contribute positively to their group and can promote their enthusiasm to follow the learning process in which can effect to their learning outcome later. It goes along with Trianto (2009: 58) who says that cooperative method can promote cooperative habit, better relationship and students academic aspects. The same opinion stated by Roberts (2010:173) who says that cooperative learning can increase students' lay up shoot skill as well as their self-esteem and relationship between group member.

### **The learning outcome differences of high motivation students in performing lay up shoot skill between those who were treated by cooperative method and inquiry method**

The outcome shows that there is significant difference of high motivation students' learning outcome who were treated by cooperative learning. The learning outcome was higher than those who were treated by inquiry method. The similar outcome was also found by Nurhadi (2004) who states that cooperative learning method is a method which requires the students to have good ability both in communication and in lay up shoot skill in a group. Then, Suprijono (2009) also states that cooperative learning is begun by dividing the students into groups. After that, the lecturer and the students choose the topic related to the lay up shoot skill. It goes along with Robert (2010: 14) who says that cooperative learning demands the students to work within small group consisting of more or less 4 members in practicing basketball lay up shoot skill.

### **The learning outcome differences of low motivation students in performing lay up shoot skill between those who were treated by cooperative method and inquiry method**

The hypothesis testing shows that there is significant difference of low motivation students' learning outcome who were treated by cooperative learning and those who treated by inquiry method. The learning outcome was lower than those who were treated by inquiry method. On the other hand, .... (2000) explains that cooperative learning can promote students' motivation to prefer practicing lay up shoot skill more. It is because cooperative learning create such a delightful atmosphere which makes the students eager to learn more and more about lay up shoot skill.



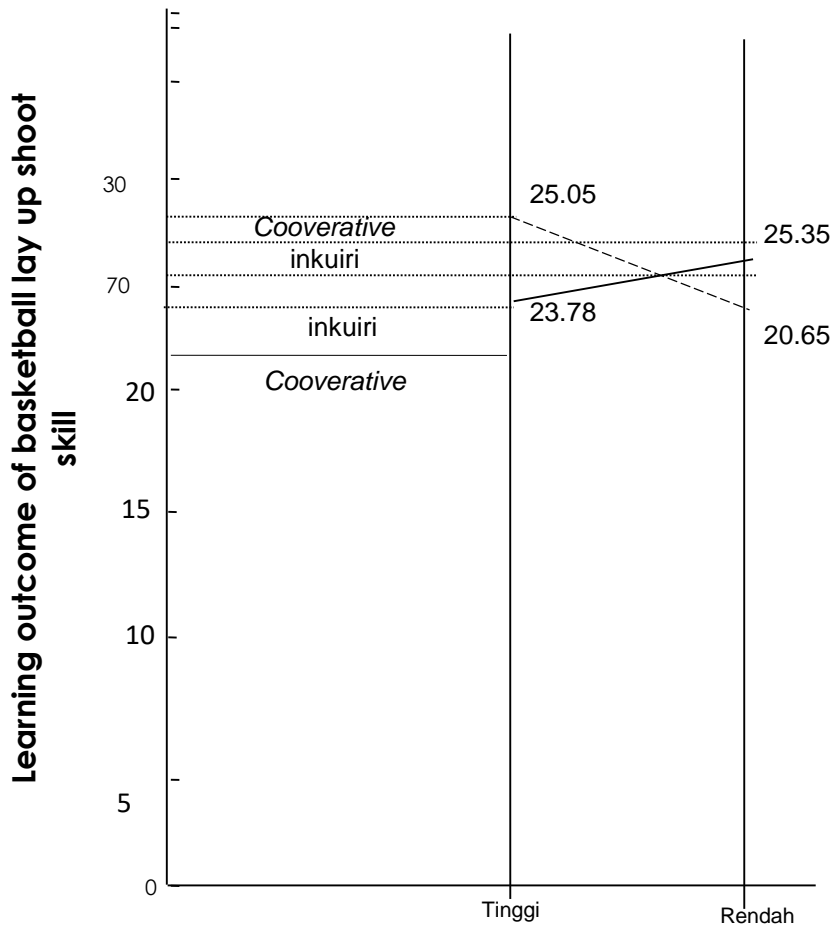


Figure 1. Interaction Between Learning Method and Learning Motivation

Note:

- = learning motivation
- = Learning approach

The hypothesis testing shows that there is interaction between learning model and students' learning motivation and its influence toward learning outcome of lay up shoot skill. The high motivation students who were treated by cooperative learning method performed better and higher learning outcome than those who treated by inquiry method.

Table 1. Description Data and Research Findings

MOTIVASI \ METODE	PEMBELAJARAN KOOPERATIF		PEMBELAJARAN INKUIRI	
	(A <sub>1</sub> )		(A <sub>2</sub> )	
Tinggi (B <sub>1</sub> )	n <sub>1</sub>	10	n <sub>2</sub>	10
	ΣX <sub>1</sub>	250,50	ΣX <sub>2</sub>	206,50
	ΣX <sub>1</sub> <sup>2</sup>	6299,82	ΣX <sub>2</sub> <sup>2</sup>	4323,31
	$\bar{X}_1$	25,05	$\bar{X}_2$	20,65
	SD	1,65	SD	2,56
	MAX	27,17	MAX	24,33
	MIN	21,67	MIN	17,67
Rendah (B <sub>2</sub> )	n <sub>3</sub>	10	n <sub>4</sub>	10
	ΣX <sub>3</sub>	237,83	ΣX <sub>4</sub>	253,50
	ΣX <sub>3</sub> <sup>2</sup>	5699,58	ΣX <sub>4</sub> <sup>2</sup>	6449,86
	$\bar{X}_3$	23,78	$\bar{X}_4$	25,35
	SD	2,19	SD	1,62
	MAX	26,83	MAX	27,33
	MIN	21,00	MIN	22,50
Σk	nk <sub>1</sub>	20	nk <sub>2</sub>	20
	ΣXk <sub>1</sub>	488,34	ΣXk <sub>2</sub>	491,33
	ΣXk <sub>1</sub> <sup>2</sup>	11.999,40	ΣXk <sub>2</sub> <sup>2</sup>	10.773,17
	Xk <sub>1</sub>	24,42	Xk <sub>2</sub>	23,00
	SD	2,00	SD	3,19
	MAX	27,17	MAX	27,33
	MIN	21,00	MIN	17,67

## CONCLUSION AND SUGGESTION

Based on the findings above, cooperative learning method influences students' lay up shoot skill. Hence, there should endeavor to increase students' lay up shoot skill in basketball through learning model such as: first, the students work independently by collecting information from several sources about lay up shoot skill and by learning from other students. Second, the students can express their idea verbally and discuss it to other students. Third, the learning method can promote students to respect each other and to realize their own limitation and accept the differences among group member. Fourth, the learning model improves students' responsibility during learning process. Fifth, this learning model is effective to improve students' skill as well as their social interaction and their positive interpersonal relationship. Sixth, it can promote students' ability to analyze their own idea and comprehension and to give feedback. The students encourage to solve the problem without feeling afraid because it is the responsibility of the group. Seventh, the interaction in cooperative method stimulates the students to think and to be more motivated which will be beneficial for their long-term education.

Based on research findings, the learning motivation influences significantly toward students' lay up shoot skill in basketball. The implication of this finding is the better the learning motivation, the better the skill. Thus, learning motivation should be improved. Based on research findings, inquiry learning method influence significantly toward lay up shoot skill in basketball of FIK UNP

students. The implication of this finding is the better the inquiry method, the better the lay up shoot skill. Hence, the students' lay up shoot skill can be improved through using inquiry learning method.

First, the learning of this strategy is meaningful because it stresses on the improvement of students' cognitive, affective and psychometric aspects. This method accentuates the students to learn based on their learning habit. Second, it leads the students to be more active and to find their own problem solving in order to increase their self-confidence and curiousness about lay up shoot skill in basketball. Third, inquiry learning method is considered suitable with the development of modern learning psychology which assumes that learning is the changing of behavior due to the experience. The lecturer is only the facilitator in this learning method.

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