

The Effect of Reciprocal Learning Methods Assisted Feedback Visual on Learning Students Learning Outcomes in Junior High School and High School

I Ketut Yoda^{1(*)}, I Ketut Budaya Astra

¹Dep. of Sport Science, Universitas Pendidikan Ganesha Bali, Indonesia

(*)✉ (e-mail) yodaketut@gmail.com

Abstract

The objectives this study were: to find out the effect of reciprocal learning methods assisted visual feedback on improving physical education outcomes in seventh grade students of junior high school and in ninth grade students of high school. The population in this study was seventh grade students of Sekolah Menengah Pertama Negeri 1 (SMP N 1) Mengwi and ninth grade students of Sekolah Menengah Atas Negeri 1 (SMA N 1) Sukasada in year 2017. This study uses an experimental method with sampling techniques using random sampling. The number of samples used were two classes consists of 40 students in seventh grade students of junior high school and 40 students in ninth grade students of high school. The data collection technique used is the test of learning outcomes which includes aspects of attitudes, knowledge and skills. Based on the results of data analysis, obtained a value of sig.count <0.05 both for high school and junior high school students, it can be concluded: reciprocal learning method assisted visual feedback has a significant effect on improving physical education outcomes in seventh grade students of junior high school, and in ninth grade students of high school. The results of this study are expected to be able to provide information in the field of science in general, and Sports Science related to the improvement of student learning outcomes by applying learning methods innovative for physical education teachers in junior and high school.

Keywords: learning, reciprocal, visual feedback, physical education

Introduction

Physical Education, Sports and Health is an integral part of education as a whole, aiming to develop aspects of physical fitness, movement skills, critical thinking skills, social skills, reasoning, emotional stability, moral actions, aspects of healthy lifestyles and the introduction of a clean environment through activities selected physical, sports, and health programs are planned systematically in order to achieve national education goals (Kurikulum Penjas, 2013). Physical education as an integral part of the education system as a whole has an important role in order to realize the achievement of national education goals (yoda, 2011).

The condition of the quality of physical education learning that is of concern in elementary schools to secondary schools has been raised and examined in various forums by observers of physical and sports education. There are several causal factors from the deterioration are the limited ability of physical education teachers and the limited resources used to support the physical education learning process (Toho Cholik M, 2002). In order for physical education subjects to contribute maximally, the physical education teacher has a very strategic role. The role of physical education teachers is mainly seen in programming learning that is able to develop student activities according to their potential depends on the ability of physical education teachers to choose physical education methods. teaching style is considered important in order to improve student learning outcomes in the classroom (Cintya, 2013). The important role of the learning method as revealed below.

Every act of deliberate teaching is a consequence of a prior decision. Decision making is the central or primary behavior that governs all behaviors that follow: how we organize students; how we organize the subject matter; how we manage time, space, and equipment; how we interact with students; how we choose our verbal

behavior; how we construct the social-affective climate in the classroom; and how we create and conduct all cognitive connections with the learners. All these concerns are secondary behaviors that emanate from, and are governed by, prior decisions, (Moston, 2008)

Through learning in the form of reciprocal teaching, students have a satisfying experience: Taking on the role of actors and observers, providing instructions and caring for each other. In fact, they have the opportunity to be responsible for others and mastery of their learning experiences such as monitoring themselves and their partners who can improve skills such as swimming, gymnastics and handball. Reciprocal learning methods are possible for students with several types of meaningful experiences (Chung Li and Wai Keung KAM, 2011). Reciprocal style allows more decision making by the students as compared to the command and practice styles, which are much more teacher dominated (Kerry Dyke's, in http://www.mun.ca/educ/ed4361/virtual_academy/campus_a/dykek/page7.html).

Reciprocal learning methods are carried out in such a way as to arrange classes where students practice movements in pairs, one as an actor (doer / D) and the other as an observer (O / observer). The special role of lecturers (T) in this learning method, is to involve the two student pairs in designing the learning process (Moston 2008). Students control / supervise their partners and give input to each other, while the teacher goes around monitoring all students (<http://study.com/academy/lesson/methods-for-teaching-physical-education-lessons.html>). Clark (2003) conducted a study in which fifteen students of mixed abilities took part, and was aimed at investigating the impact of using Reciprocal Teaching model and exploring the development of the reading comprehension skills. The results of this study shows that 90% of the participants claimed to have benefited from the use of this model and voiced their preference of using such a model as opposed to the traditional method. In addition, 40% of the students stated that using the Reciprocal Teaching model, has immensely helped them improve their comprehension in the reading text. Clark concluded that RT model is a mechanism that can be used by students in group discussions to help them organise ideas that they produce and reflect on their understanding.

Providing such visual feedback in learning can build a sense of personal confidence and enhance special skills (Ingegerd Ericsson, 2011). Direct Visual Feedback is a method of training used in both practical and rehabilitative settings where the attention of the trainee is tied to an external visual cue in reference to the particular movement, motor function or exercise that is being performed by the trainee, Direct Visual Feedback's method applies more directly to improving exterior physical health and performance. Instead of using technically advanced measuring instruments for feedback, DVF relies on the human eye. (Wikipedia, in <https://en.wikipedia.org/wiki/>). Visual feedback related to the form of movement that is carried out directly is very difficult to obtain, because it is impossible for someone to see his own movements as a whole when moving. In this case, feedback can be obtained through recording the movements carried out using a recording device, namely video. The recording of the images obtained is then rotated and shown to the student who made the move. From the recorded images students can get information whether the movement is right or wrong. To complete this visual feedback, in this study learning was designed using the reciprocal method. Learning using the reciprocal method allows students to directly provide verbal feedback.

Method

This research is a type of field experiment research with a research design used modified randomized the pre test post test design. The population in this study was ninth grade students of SMA N 1 Sukasada as many as 196 people spread into 7 classes, and seventh grade students of SMP N 1 Mengwi as many as 386 people spread in 11 classes. The sample used for the high school level is ninth grade students of SMA N 1 Sukasada in the year 2017/2018 which is distributed into two classes, namely class X MIA 1 totaling 20 people and class X MIA 2 totaling 20 people, so that the total sample was 40 people in senior high school. While in junior high school the number of samples used was in accordance with the results of the draw, namely class VIII D as many as 20 students (10 sons

and 10 daughters) and class VIII I as many as 20 students (10 sons and 10 daughters), so that the total sample was 40 people.

The data of this study were obtained from the results of assessment of basic techniques of chest pass and bounce pass, basic techniques of front roll and back roll and basic techniques of long jump squatting and hanging styles, by 2 evaluators from physical education teachers of SMA N 1 Sukasada and 2 evaluators from physical education teachers of SMP N 1 Mengwi. The procedure of data collection is done by giving a pretest before treatment and posttest after treatment. The tests given in the experimental group and the control group were the same type of test. The instruments used in this study were basic technique of chest pass and bounce pass basketball games, front roll and back roll technique on floor gymnastics, and basic techniques of long jump squatting and hanging styles. Hypothesis testing is carried out after the results of the variance normality and homogeneity test use the independent t-test, the type of test is t-test For Equality of Means with a significance level of 5%. Data analysis in this study will be assisted by using the SPSS 16.0 for Windows program

Results and Discussion

Research Results on Middle School Students

Table 1. <Independent T Test T Test Data>

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2- tailed)	Mean Difference	Std. Error Difference
Senam	Equal variances assumed	.309	.581	2.72	38	.010	9.90000	3.63734
	Equal variances not assumed			2.72	37.98	.010	9.90000	3.63734
Atletik	Equal variances assumed	.026	.874	2.37	38	.022	8.45000	3.55126
	Equal variances not assumed			2.37	37.20	.023	8.45000	3.55126
Basket	Equal variances assumed	2.882	.098	3.48	38	.001	11.30000	3.24532
	Equal variances not assumed			3.48	35.41	.001	11.30000	3.24532
PJOK	Equal variances assumed	.417	.523	3.34	38	.002	9.75000	2.91744
	Equal variances not assumed			3.34	37.84	.002	9.75000	2.91744

Based on Table 1.1, all the significance values were calculated <from α (0.05), the hypothesis "the application of reciprocal learning methods assisted by visual feedback" had a significant effect on the physical education learning outcomes of seventh grade students of SMP "

Research Results on High School Students

Table 2. Independent Simple T Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
Basket	Equal variances assumed	.077	.783	3.456	38	.001	6.80000	1.96763	2.81674	10.78326	
	Equal variances not assumed			3.456	37.672	.001	6.80000	1.96763	2.81560	10.78440	
Senam	Equal variances assumed	.492	.487	5.517	38	.000	13.80000	2.50132	8.73635	18.86365	
	Equal variances not assumed			5.517	37.830	.000	13.80000	2.50132	8.73560	18.86440	
Atletik	Equal variances assumed	.089	.766	6.273	38	.000	11.20000	1.78532	7.58581	14.81419	
	Equal variances not assumed			6.273	37.778	.000	11.20000	1.78532	7.58511	14.81489	
PJOK	Equal variances assumed	2.193	.147	8.513	38	.000	10.80000	1.26865	8.23175	13.36825	
	Equal variances not assumed			8.513	34.846	.000	10.80000	1.26865	8.22410	13.37590	

Based on table 1.2, all the significance values are calculated $(\alpha = 0.05)$, then "the visual feedback assisted reciprocal learning method has a significant effect on physical education learning outcomes of of ninth grade students of SMA". The application of reciprocal learning methods in learning means developing new realities in the form of situations that occur in the learning process, where there is a new relationship between teacher and students, and students with students so that this method is more useful than teaching it through a teacher-centered approach (Juliana, 2016).

There are two roles that must be carried out by students in pairs, the first being students acting as observers and students acting as actors. decisions that may occur in the learning process about the movements and tasks that must be carried out by students followed by decision making about the right or wrong movements carried out by students when they see a difference between the movement indicators that are true to the reality done by their friends. either directly or using recorded videos, this is done after a friend has carried out the movement, which is then followed by discussion and communication by the couple and provides greater training opportunities to learn and improve the

movement. This condition can increase students' interest in learning and makes more active, productive, and cooperative (Surya Mahyudi, 2012; Komariah, et al., 2015).

Through learning in the form of a partner or reciprocal teaching, students have a satisfying experience. Carry out their respective roles as actors and observers, provide opportunities, discuss, direct each other and care for each other fellow students. In fact, they have the opportunity to be responsible for the results not only for themselves but also for others. The relationship that exists between students in carrying out the learning process is also always trained, by using reciprocal learning methods, students inevitably have to establish good communication between partners in carrying out the learning process, conducting discussions, giving input and explanation of the movements that have been carried out by his friends is one of the ways to build good relationships between students in the learning process, able to express opinions and comment on the movements of their friends so as to make students more active role in the learning process so that students' motivation and interest in learning increases (Gulhiz Pilten, 2016). Social behavior will also grow through the learning process using the reciprocal method, where students learn to foster awareness of their partners (Mosston and Ashworth, 1998), correcting the movements that have been carried out by their friends, giving input about mistakes made, which will later be used as material for improvement so that the purpose of the learning process can be achieved, not just following the learning process but each student can increase responsibility, cooperation, and leadership for his own success and primarily is the success of his partner who is a partner in learning using the reciprocal method (Marzona, 2001 in Ahmadi, 2012).

The effectiveness of physical education learning with the reciprocal method is also supported by visual feedback given by the students themselves to their partners. With the help of visual feedback, students will be immediately clear about the movements or motion techniques performed by these students and they can immediately correct the motion errors made by each student. This can be understood, because feedback is communication understood as a reaction (response) given by the recipient of the message or communicant to the messenger or communicator/source. The model promotes social interactions among learners, and between learners and teachers, which in turn leads to improving the learners' cognitive abilities, sharing their ideas, feeling more confident, and learning from the more skilled peers (Yousef & AlSarairah Ku, 2016).

Good communication will certainly create a harmonious relationship between students. The success of this communication when viewed in terms of science, it can be explored based on the elements in it, namely communicators, messages, media, communicants and feedback. Feedback or visual feedback in the process of communication between students provides an overview of each student among their partners about how successful each student is doing. So that with visual feedback this will be one element that can contribute to the success and failure of the learning process.

Feedback is part of the results or responses returned to students / performers as input material. Feedback is good for revisions / improvements or responses that have just been made or as confirmation of improvement in responses. Feedback is a major factor in the learning ability of motion from the age of a toddler to adulthood (Drowatzky N John, 1981). One important thing in teaching is that students should rely on intrinsic abilities in doing assignments. The main purpose of artificial or additional feedback is to attract students' attention to these intrinsic abilities and help students to use them to achieve maximum results. Visual feedback can also improve balance and ability better in carrying out daily activities (Zhen Li, etc all., 2018).

Feedback is input that is received by students with regard to what has been done. From the feedback, students become aware of whether what has been done is right or wrong, the students become right or wrong about the movement done based on the information conveyed through visual feedback. The information conveyed through visual feedback originating from peers who are often called visual feedback will have a very positive impact on the improvement of motion carried out by students as doers. Feedback is a significant functional role in neural information processing. We present a neural network model of cortical feedback that successfully simulates neurophysiological data associated with attention (Spratling and Johnson, 2006).

Visual feedback is received from the actions taken which can be seen, for example in students doing basic basketball drafting techniques, when reflecting a ball he can receive feedback about hand movements, foot position, and the right or wrong hand on the ball by looking at the recording done by the student's partner, then he received feedback that maybe one part of his body was still wrong or correct. Therefore, in the next exercise if the correct feedback movement needs to be maintained while the wrong movement needs to be corrected. Because the visual feedback processing of motion information received by students to be manifested in the form of real movements becomes shorter (William and Kevin, 2013).

Conclusion

The results of this study indicate that the reciprocal method assisted by visual feedback is significantly higher than the control group provided with conventional learning models. Based on these findings, then to improve the quality and learning outcomes of physical education can be done by applying reciprocal learning methods assisted by visual feedback. The application of reciprocal learning methods assisted by visual feedback in the learning process physical education aims to familiarize students with working with friends, and active in learning,

Acknowledgments

This research was funded from the DIPA FOK Undiksha, for that I would like to express my gratitude for the support of the funds, and also thank for teachers of the school of SMPN 1 Mengwi and SMA N 1 Sukasada for their assistance in carrying out this research.

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