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International Seminar of
Sport Culture and Achievement

ISSCA 2014
PROCEEDINGS

"Global Issues of Sport Science & Sport Technology Development"

Diterbitkan Oleh:
Fakultas Ilmu Keolahragaan
Universitas Negeri Yogyakarta

International Seminar of Sport Culture and Achievement

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24 April 2014

Preface

Salam Olahraga!

Praise and be grateful to the Lord, so that this proceeding can be issued. The International Seminar of Sport Culture and Achievement with "Global Issues of Sport Science & Technology Sport Development" theme is held on 23rd- 24th April 2014 at Yogyakarta State University Hotel. The seminar is conducted by Faculty of Sport Science, Yogyakarta State University.

The seminar was conducted in order to enliven the 50th anniversary of Yogyakarta State University.The Seminar aims at revealing any growing sport potentials and recent worlwide research results. There are three pillars of sport: recreational sports, physical education/ sports pedagogy, and ellite sport that in common have one goal to form characters and support achievement.

Hopefully, the publication of this proceeding can bring benefits to the participants in particular and readers in general. Final words for all those who have helped this seminar, we thank you.

Dean of Faculty of Sport Science
Yogyakarta State University,

Drs. Rumpis Agus Sudarko, M.S.

Preface

Assalammualaikum Warrah Matullahi Wabarakatuh

The honorable speakers, Prof. Dr. Djoko Pekik Irianto, M.Kes. AIFO (Deputy of Achievement Improvement of Sport and Youth Ministry), Dr. Wayne Cotton (Australia), Dr. Jose Vicente Garcia Jimenez (Spain), Dr. Achara Soachalerm (Thailand), Dr. Lim Peng Han (Singapore), and Dr. Gunathevan A/L Elmulai (Malaysia). The distinguished guests.

First of all, on behalf of the committee of the International Seminar of Sport Culture and Achievement, let me express great thank to God Allah SWT who gives us opportunity and health, so that we can join this international seminar on sport culture and achievement. it is my pleasure to welcome you to the International Seminar of Sport Culture and Achievement in Faculty of Sport Science Yogyakarta State University.

The international seminar is in order to celebrate the 50th anniversary of Yogyakarta State University. In this opportunity, we invite five speakers from five countries; they are from Spain, Australia, Thailand, Singapore, and Malaysia. The participants of the seminar are 250 participants.

Finally, allow me to express my gratitude to all audiences, especially the honorable speakers and the distinguished guests for paying attention to this seminar. I hope that the seminar will run well and be successful.

Thank you very much.

Wassalamualaikum Warrahmatullahi Wabarakatuh

Yogyakarta, 24rd April 2014
Chairman of ISSCA,

Dr. Panggung Sutapa, M.S.

CONTENT

THE INFLUENCE OF LEARNING PATTERN AND ADVERSITY QUOTIENT TOWARDS THE ACHIEVEMENT OF JAVELIN-THROW LESSON AFTER CONTROLLING STUDENT PREVIOUS KNOWLEDGE

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Abstract

The objective of this study is to find out the difference between learning pattern and adversity quotient. The research was conducted in the Faculty of Sport Science, Universitas Negeri Padang. This was an experimental research, using 2 X 2 treatment by level. Multi Stage Random Sampling was used because the populations were only 112 students. 56 students were for reciprocal learning pattern and 56 students for command learning pattern. The experiment was on the influence of learning pattern and adversity quotient towards the achievement of javelin-throw lesson after controlling the students' previous knowledge. There are seven conclusions in this research. They are: 1) after controlling the students' previous knowledge, the achievement of reciprocal learning pattern was higher than command learning pattern, 2) after controlling the students' previous knowledge, the achievement of student's javelin-throw learning process that has high adversity quotient was better than low ones, 3) after controlling the students' previous knowledge, there was an influential interaction between student's learning pattern and adversity quotient towards the achievement of javelin-throw lesson, 4) after controlling the students' previous knowledge of students, the achievement of javelin-throw lesson of students with reciprocal pattern was higher than the students who has high adversity quotient with command pattern, 5) after controlling the students' previous knowledge, the achievement of students who used reciprocal pattern was lower than those with command pattern and low adversity quotient in the javelin-throw lesson, 6) after controlling the students' previous knowledge, the achievement of javelin-throw learning process of students with high adversity quotient was better than the students with low adversity quotient in the reciprocal pattern, and 7) after controlling the students' previous knowledge, the achievement of javelin-throw learning process with command pattern of students with high adversity quotient was lower than the students with low adversity quotient. The research results imply that the achievement of students should be improved through assistantship of lecturers using appropriate learning patterns.

Keywords: learning pattern, adversity quotient, the achievement of discus-throw lesson. previous knowledge

INTRODUCTION

Soedijarto (2000:34) says that, education must be put on the top priority of most important to build a better generation of nation. It means every efforts must be exert to make people that has good quality. This symptoms has effect that the rise of competition between individual to other, a country to another country within the result that the effort to rise the quality of human resources is become top priority. It is the strategic function of ordinance No. 20 Year 2003 about educational system has benefit to expand the ability and make the better behavior and national civilization. Based on the national ordinance, in Sport Science Faculty, State University Padang the lecture is making to be optimal by using every activity. There is a plan before the lecture based on the syllabus; the lesson is given by a team that routinely conduct the discussion about the strategy of teaching, strategy to increase students motivation, and bring about the program evaluation. However, the final score of student is decreased lately, especially in athletic lecture, javelin throw subject. It makes some opinions from another, someone says that the measurement quality and quantity of practice instrument is not complete enough, another says the basic skills of student is very low. The method is not appropriate that is used. The learning pattern that the lecturer used is not suitable with student. However, it is

necessary to conduct the research to acknowledge the factors that make the final score of javelin throw subject are low.

Learning is the effort to use every facility and resource internal or external to someone's development. Learning is not only to develop cognitive ones, however affective, and psychomotor is also included. It has purpose to receive information, comprehension of something or to achieve a expertise (Anarinno, 1980: 39). Saffat (2009: 39) says that learning has three factors, they are: process, constant change and there is a change caused by experience. Based on those opinions above, it can be concluded that learning is the relation of change that happened in aspect of someone personality, emotional and physically. Those indicators show the ability as the result of learning is in variant; the simple ones into the complex ones. It also acknowledged as learning outcomes. It is every ability and result that achieved that measured by using learning process and indicated in numerical output (Briggs, 1979: 7). Bloom (1981: 7) says that learning outcomes is the change result of behavior into three aspects, they are cognitive; (1) knowledge, (2) Comprehension, (3) Application, (4) Analysis, (5) Synthesis, and (6) Evaluation. Knowledge, comprehension, and application is categorize as low cognitive ability. Affective aspect such as: (1) Acceptance, (2) Attention, (3) Reaction, (4) Adaptation, (5) Appreciation, and (6) Control. Psychomotor aspect such as: (1) Imitation, (2) Utilization, (3) Carefulness, (4) Coordination and (5) Naturalization. Harrow in Slavin (1994 : 497) says that by making (1) reflect movement, (2) fundamental movement, (3) perceptual ability, (4) Physical ability such as: weight lifting, long distance cycling, (5) accustomed movement and (6) communication without discourse are prominent. Another dominance aspect in javelin throw subject is psychomotor or motor ability. The characteristic of motor ability after follow up the lesson is, Kiram (1996: 18):1) says that 1) first phase of motor is development and mastering coordination roughly, 2) second learning phase, development and coordination mastery softly, and 3) third phase of learning is stabilizing coordination ability and formed a skills. The learning outcome motor lesson is a human activity to change the behavior in training process to achieve ability. It means, it is necessary to have motor learning process.

Uno (2007:191) says that behavioral change that appears toward the object is concrete. This inspection has been formed as movement based on material. A lecturer gives an order to students to do that movement is a stimulus and student who use their thought when that movement do is a response and the result is concrete. It has relation with javelin throw subject. After the lecturer give the example of movement, the student should try it in order to their technique is better than before. Javelin throw is one of athletic number that appear in old Greek sports competition. It is throwing long-cylindrical with measured weight thing that formed like bamboo and has made by using metal as the material. It is done by releasing the javelin by using single hand that posed on the side of body. It has purpose to achieve longest distance by releasing it from the tip of fingers based on the rules.

Willpower and endurance is important in this sport. Husdarta (2010:32) says that willpower is kind of will to achieve something better than before. It means the will is coming from the inside of individual that acknowledge as motive. Motive means a power that individual has that make him or her to do something. It means motive is movement capacity that appear inside subject in order to do some activity to achieve some purpose (Purwanto, 2010 : 62). In order to achieve that purpose, the willpower is necessary to exist inside individual mind. Stoltz (2005:6-7) says that there are four benefit of willpower, they are: (1) willpower explains how far someone can face the trouble and their ability to face it; (2) willpower can predict which one can survive or not, (3) willpower can predict which one can exceed their limit and fail, (4) willpower can predict which one can give up and not. Someone ability to face difficulty, he or she must have survival instinct inside the mind. because, someone achievement is not only measured by using their intelligence, however willpower is important too. In another word, willpower recently appear in the necessity to achieve something by empowering his or her own self (Bompa, 1998 : 436). It means, willpower can be indicated by using four indicators: (1) control, (2) confession, (3) ability range, and (4) endurance. It means willpower in this research is student's ability to response the difficulty that they face Djamarah (2002:5) says strategy can be defined as general motive of learning and teaching into four aspects: a) identify and state the specification and qualification of student's behavioral change. B) to choose learning process theory based on aspiration and life view of people, c) to choose and state the procedure, method and learning technique and d) state the rules and minimal limit of achievement to do learning evaluation program. Muston and Ashworth (2010 : 87) says that learning strategy in his way is by giving some

tasks to students to train with partner and change the role simultaneously. There is a time the student becomes a subject and observer by using the instructional purpose that the teacher stated before. Reciprocal learning pattern is the individual in class is organized in groups. The teacher give the group's tasks as doer (d) and observer (o), the lecturer can play the role as someone who gives explanation to every group about what should they do. The task of doer is similar with learning pattern; communication by using observation. The task of observer is give a feedback to doer and communicate to lecturer. Lecturer task is watch closely both of doer and observer, however the communication is only with observer (Byra , 2006 : 11). The observer should give the feedback simultaneously to the doer by using a work paper that formed by lecturer

Meanwhile, in command learning pattern, every decision Is taken by lecturer absolutely. In another hand, the lecturer communicates every decision for every part/episode/process in learning process. Lutan (1988: 128) says that command learning pattern is teaching guide that lecture use by giving material as training pattern per part. In this learning pattern, the important elements are the lecturer demonstrates when he or she gives the material to the student and the student is given enough time to practice.

RESEARCH METHOD

Based on the problem and operational purpose of research, this research is using deign treatment by level 2 X 2 methodologies. This method is chosen in order to observe the effect by using learning pattern, after the learning pattern is implemented at least six times, it will be done a test of javelin throw.

Sampling technique is using Edwards (1985: 15) multi stage random sampling in three stages: (1) choose the learning class by using purposive technique,: every student have same purpose who take javelin throw subject in similar semester (2) choose the class for sample , it using random technique in two section for 120 students, (3) choose the sample for each research cell that using simple random sampling; it is the data from four women students is not used and the data from 4 men students is not complete. It means the sample is 112 in total, only for men students. Analysis techniques include descriptive analysis, regulation test analysis and inferential analysis. It is necessary to test the hypothesis before do inferential analysis based on regulation test analysis such as: 1) Normality test, 2) homogeneity test, 3) Linearity test, 5) covariate influence toward variable and 5) regression line test.

RESEARCH RESULTS AND DISCUSSION

The result of descriptive analysis of basic ability and learning outcome in javelin throw subject for every research group is appear on Table 1 below:

Table 1. score recapitulation of basic ability and learning outcome in javelin throw subject for every research group

B		A				Σ	
		A_1		A_2			
		X_{11}	Y_{11}	X_{21}	Y_{21}	X_1	Y_1
B1	N	14	14	14	14	28	28
	$\bar{X}$	11,04	18,96	7,25	13,06	9,70	16,29
	S	2,97	2,23	1,96	1,82	2,81	3,26
	Varians	8,84	4,97	3,83	3,32	7,89	10,66
	Min	5,35	14,90	4,65	10,70	4,65	11,75
	Max	15,65	22,85	10,30	16,10	16,50	22,85
B2	N	14	14	14	14	28	28
	$\bar{X}$	8,36	13,63	10,71	16,16	8,97	14,63
	S	1,92	1,33	3,15	2,34	3,12	2,83
	Varians	3,68	1,78	9,90	5,47	9,74	8,02
	Min	4,65	11,70	6,65	13,05	4,65	10,50
	Max	11,65	16,10	16,50	21,20	15,65	21,20
	N	28	28	28	28	56	56
	$\bar{X}$	9,53	16,01	9,22	14,89	9,35	15,46

B	A				Σ	
	A_1		A_2			
	X_{11}	Y_{11}	X_{21}	Y_{21}	X_1	Y_1
S	3,05	3,61	2,83	2,27	2,96	3,05
Varians	9,31	13,03	7,99	5,16	8,65	9,09
Min	4,65	10,70	4,65	11,70	4,65	11,13
Max	15,65	22,85	16,50	21,20	16,08	22,03

Explanation : A= Learnin Pattern, A_1 = reciprocal learning pattern, A_2 = command learning pattern, B= Willpower, B_1 = high willpower, B_2 = low willpower, X_i = basic ability, and Y_i = javelin throw learning result

Normality test analyzed by using Lillefors test with the significance value α = 0,05. It show treated sample from population is normally distributed. Homogeneity test from treated sample from this research is done by using F-test and Bartlett test that show there is no variants difference between the tested groups. It means the data is come from homogeny population. Linearity and covariate X test has influence toward free variable (Y). Meanwhile the equal regression line also show that F-test by using regression line for every equalize cell factors.

Hypothesis test

Test result of analysis requirement is fulfilling criteria to conduct covariate analysis (ANKOVA). For next step, it necessary that to conduct inferential analysis in order test the research hypothesis.

1. Javelin throw subject learning result that using reciprocal pattern is higher rather than command learning pattern, after controlling basic ability.

Table 2 : F test statistic about the influence A and B factor and interaction A*B toward learning result of javelin throw subject after controlling X in average.

Variant Sources	JK_{res}	Df	RJK	F	
Intercept	380,766	1	380,766	206,443	0,000
X	107,750	1	107,750	58,420	0,000
A	22,506	1	22,506	12,202	0,001
B	24,914	1	24,914	13,508	0,001
A * B	62,534	1	62,534	33,904	0,000
Error	94,065	51	1,844		
Total	13881,425	56			

Based on analysis above, it show that p = 0.001 < 0.05, and the value of F_{count} = 12,202 > F_{table} (0, 05/1/55) = 4, 02. It can be concluded that H_0 is not acceptable. It means that learning result that using reciprocal pattern is higher than command learning pattern after measuring basic ability. It can be draw the conclusion that there is a difference between reciprocal and command learning pattern toward learning result after controlling basic ability of student.

2. Learning result of student who has high willpower is higher than student who has low amount of willpower, after controlling basic ability.

   Based on variant analysis of two sides of data by using GLM (General Linear Model) procedure is showing that analysis model regression Uni-variant directly. Based on table 2, the value of F_{count} = 13,508with the value of p = 0.001 < 0,05, can be concluded H_0 is unacceptable and the data is suitable with this research. In another word, the learning result of javelin throw subject for those who high amount of willpower is higher rather than who have it in low amount after controlling basic ability.

3. There is interaction influence between student learning pattern and willpower toward learning result Javelin throw subject, after controlling basic ability.

   The similarity ANKOVA Uni-variant in table 2 above is using to test the influence of interaction factors between (Colum) learning patterns and (row) willpower toward learning outcome of Javelin throw subject after controlling basic ability. Base on statistic F test in table two

above the value of F_{count}= 33,904 and p = 0,001 < α = 0, 05. Those values is higher than $F_{table\ (0.05;\ 1/51)}$ = 4,02. It make H_0 is refused. It means based on this result there is influence between interaction of learning pattern and willpower towar learning result of javelin throw subject after controlling basic ability of students.

The effect of interaction and main influence of learning pattern form and will power after controlling basic ability is significance, in covariant analysis above, therefore, the test is continued by using ANKOVA T-Test between data pairs in order to measure which group is higher between two subjects in average.

Hypothesis test of simple effect is purposed to test hypothesis between two sample groups. in this case, there are four simple hypothesis (simple effect) that will tested: (a) the difference of reciprocal and command pattern toward group who have high amount of willpower by controlling students basic ability in javelin throw subject (b) difference between students who treated by using reciprocal and command after controlling basic skills in javelin throw subject, (c) the difference of learning result between student who have high and low amount of willpower who treated in reciprocal pattern after controlling basic ability in javelin throw subject. And (d) learning result between who have high and low amino of will power that treated in command pattern after controlling basic ability in javelin throw subject. This simple effect hypothesis test will be backed up with SPSS program ; by using GLM Uni-Variat procedure in (1) X B A*B to examine hypothesis (a) and (b); (2) X A A*B to examine hypothesis (c) and (d).

4. Examine the difference learning outcome of javelin throw subject between student who treated in reciprocal is higher than command pattern for student who has high amount of willpower after controlling basic ability.

Table3. Parameter estimation to test difference between Y average toward A factor for every B factor by controlling X

Parameter	B	Std. Error	T	p
Intercept	10.140	0,867	11,696	0,000
X	0.562	0,074	7,643	0,000
[B=1]	1.331	0,573	2,008	0,040
[B=2]	0(a)	.		.
[A=1] * [B=1]	11.438	2,022	5,652	0,001
[A=1] * [B=2]	0	-	-	-
[A=2] * [B=1]	15.924	2,018	7,891	0,001
[A=2] * [B=2]	0(a)			.

Based on statistic value of T-test in table 3 row [(A=1)*(B=1) = 5,652 in value of p 0,001 < 0,05 ; therefore Ho is unacceptable. It means the data is suitable for research hypothesis. It can be conclude that especially for B_1 (student who have high amount of willpower) , the learning outcome that given reciprocal pattern treatment is higher than command ones by controlling basic skill before.

5. Learning outcome student who treated in reciprocal is low rather than command for who have low amount of willpower, after controlling basic ability. Based on statistic value T-Test in table 3 line [(A=2)*(B=1)] = 7,891with p value 0,001 < 0, 05; Ho is refused and can be concluded the data is supporting the hypothesis of research. It can be concluded that especially for B_2 group (student who have low amount of willpower) who treated by reciprocal pattern, the learning outcome is lowest than command ones, after controlling basic ability.
6. Examine the difference javelin throw subject learning outcome between student who have high amount of willpower rather than low ones that treated with reciprocal pattern after controlling basic ability.

Table.4. Estimation parameter to test average difference Y between every factor B for every level a factor by controlling X.

Parameter	B	Std. Error	T	Sig.
Intercept	10,140	0,867	11,696	0,000
X	0,562	0,074	7,643	0,000
[A=1]	-1,207	0,541	2,230	0,030
[A=2]	0(a)			
[A=1] * [B=2]	3,828	0,550	6,961	0,001
[A=1] * [B=1]	0(a)			.
[A=2] * [B=2]	-1,332	0,573	2,342	0,030
[A=2] * [B=1]	0(a)			

Based on statistic value T-Test toward table four row [A=1]*[B=2] value T = 6,961 with p = 0,001 < 0,05; it means can be concluded that especially in A_1 (students who treated in reciprocal learning pattern) in javelin throw that has high amount willpower is higher than student who has low amount of will power, after controlling basic ability before.

7. Learning outcome of student in javelin throw subject that treated in command pattern and have low amount of willpower is higher than student who has high amount of willpower after measuring basic ability.

   Based on table four above, the statistic value T-test in row [(A=2)]*[(B=2)] = 2,324 wih p value p = 0,030 < 0,05 therefore Ho is unacceptable means the data is suitable toward hypothesis. It means especially in A_2 (student who treated with command learning pattern) the learning outcome is higher than student who have high amount of willpower, after controlling basic ability.

Analysis

In this research, javelin throw learning outcome is the result that gained from students body motor ability that throw the javelin as far as possible by using the rules that stated by Persatuan Atletik Seluruh Indonesia (PASI). In following explanation below, it explain about difference between learning pattern and willpower toward Javelin throw subject learning outcome after controlling student's basic ability.

The difference javelin throw learning outcome between reciprocal and command pattern after controlling basic ability show the result of first hypothesis test. It shows that student who treated in reciprocal pattern has high result rather than command ones. In this case can be draw the conclusion that in order to gain the learning purpose, reciprocal pattern is more effective rather than command learning pattern.

Based on the result of calculation it appear that the average final score of student group who treated in reciprocal learning pattern is is 9,70 meanwhile in command pattern is 8,63. It means final score of student who treated with reciprocal learning pattern is better than command learning pattern. Meyer in Muhfida (2010 :12) says that the way of reciprocal learning process are : information, instruction, stated in group in module read-and take conclusion. The benefits that appear in this learning pattern are information task that student should to accomplish, and the student can give a help to members of their group about the tasks. Thus, every student in the learning group actively gives an advice to member of his or her group.

The difference of learning outcome for student who high amount of willpower is higher than who have low amount willpower, after controlling basic ability. Based on research finding, students group who have high amount of willpower has better final score rather than the low ones. Based on data analysis toward student group average score for those who have low amount of willpower is 9,22 and for high one is 9,53. It means learning outcome for student who have high amount will power is better than the low ones.

The success in javelin throw learning process the lecturer not only counts on student motor movement. There is another aspect that lecturer should pay attention to is student will, in another word as acknowledged as willpower. Without willpower, student will not achieve the maximal result.

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