

Proceeding

INTERNATIONAL CONFERENCE ON SPORT

GOR UNY, Saturday, 12th DECEMBER 2009

Theme

The Development Of Sport Culture
To be Indonesian Civilization



Faculty Of Sport Science
Yogyakarta State University



ISORY DIY



Ministry of Youth and Sport
Republic of Indonesia



Indonesian Sport
Deans Forum

**THE OPENING SPEECH
ON INTERNATIONAL SEMINAR ON SPORT
DECEMBER 12, 2009-12-28
AT INDOOR STADIUM OF YSU**

Assalamu'alaikum wr wb

The honorable speakers, Mr. Prof Dr. dr. James Tangkudung, M.Pd, (Minister of Youth and Sport), Mr. Kostadin Angelov, (Bulgaria), mr. Toho Cholik Mutohir, Ph.D, (Head of ISORI), Mr. Lauren (Athletic Coach from France), and Charlotte (Sport Activist, from Netherland),

The distinguished guest
Ladies and Gentlemen,

First of all, on behalf of the president of YSU, let me express great thank to God (Allah SWT) who gives us opportunities and health, so that we can join this very important international seminar on development of sport culture toward civil Indonesian society. I do hope international sport seminar can gives us valuable knowledge and experiences.

Secondly, it is my great pleasant to express my warm welcoming to al audiences, especially Mr. Prof Dr. dr. James Tangkudung, M.Pd, (Minister of Youth and Sport), Mr. Kostadin Angelov, (Bulgaria), mr. Toho Cholik Mutohir, Ph.D, (Head of ISORI), Mr. Lauren (Athletic Coach from France), and Charlotte (Sport Activist, from Netherland), who are ready to come this occasion for sharing all issues we are concern. I absolutely expect that this forum forum will be beneficial for all of us, not only as practitioners, but also as experts.

Thirdly, let me express my thank to the audiences who are interested in joining this very important seminar. I do hope that all audiences can take more advantages, then implement some related ideas in improving the quality of sport in general, and the quality of sport education for all. Beside that also want to thank to all members of committees who spent much time in preparing, organizing, and controlling this event. I absolutely hope that they can have more academical and managerial advantages.

Ladies and gentlemen,

Sport is veri important in our life, because, sport can make us be healthy and fresh. Healthy person can do everything what he/she wants. Healthy person can do more productive result than others. By having good health, we create more ideas. Late cite rasulullah saying, " A'aqlus saliim fil jismis saliim."

By having awareness of the importance of sport, we have to practice any kind of sport. Let us remember rasulullah saying again: adzdzibuu aulaadakum shibaahata warimaayata, means that teach your kids with swimming and throwing.

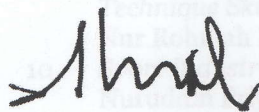
Even though the contribution of sport for our health is so clear, but in the fact that most people are still reluctant to do exercises. As sport community, we have a responsibility to socialize the sport. How to make a sport as culture? We have to condition by using more effective strategies. First, physically, we have to prepare various facilities for sport activities. Secondly, economically, we have to give the user with non-expensive rate. Thirdly, socially, we have to be ready to serve community as coaches for any kinds of sport activities, culturally, we have to develop sport and the culture.

I do hope hat this seminar will have some important result which can be more beneficial for improving of sport education develop by YSU, especially.

Ladies and gentlement,

Once again, let me express my gratitude to all audiences, especially the honorable speakers and the distinguished guest, for paying attention. I absolutely hope that this seminar will run well. Finally, may I officially declare this nternational seminar by saying " Bismillahi rahmaanir rahiim", may Allah SWT always bless us. Amien

Wabillahit taufiq wal hidayah.
Wassalamu'alaikum wr.wb



Dr. H. Rochmat Wahab, M.Pd., M.A.
Rector of Yogyakarta State University

THE OPENING SPEECH

The honourable, minister of youth and sport, who is represented by Prof. Dr. dr. James Tangkudung, the member of minister's experts staffs.

The honourable, head of yogyakarta State University, Dr. Rahmat Wahab, M.Pd, M.A

The Honourable, head of central board of Indonesian sport bachelor association (ISORI), Prof Toho Cholik Mutohir, Ph.D

The distinguished guest and the participants of international sport seminar.

Assalamu'alaikum warahmatullahi wabarakatuh

Salam Olahraga...!

It's great pleasure for me to be given the opportunity to deliver a speech on this international sport seminar. Let's express our welcome to our campus.

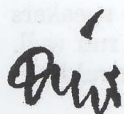
This international sport seminar is held by the cooperation among Sport Science faculty of yogyakarta State University, Indonesian Sport Bachelor Association in yogyakarta, Ministry of youth and Sport, and forum of Deans of sport science faculty in Indonesia.

The theme of this international seminar is "The development of sport culture towards the civilization of Indonesia". These day, sport is a social phenomena which cannot be separated from its moral and culture relationship.

The aim of the seminar is at discovering strategic attempts to develop sport culture towards the civilization of Indonesia. This seminar will be held on Saturday, 12 December 2009. The spokesmen in this seminar are:

1. Prof. Dr. dr. James Tangkudung, one of the expert's staff in ministry of youth and sport. His presentation will be about "strategic development of sport in Indonesia".
2. Kostadin Angelov, a sport practitioner from Bulgaria. He will deliver a presentation about "the *comparison study on sport establishment in states in Asia*."
3. Prof. Toho Cholik Mutohir, Ph.D, head of central Indonesian sport bachelor association. His presentation will discuss "the role of Indonesian sport bachelor association in the development of sport in Indonesia."
4. Lauren, an athletic coach from France. Her presentation will be about "sport establishment system in France."
5. Charlotte Peeters, a sport activist from Netherlands

Regards,



Sumaryanto, M.Kes.
Dean of Faculty of Sport Science Yogyakarta State University

	Sri Sumartiningsih, Semarang State University.....	
14	<i>Form Child Healthy Living Behave</i>	97
	Sriawan, Yogyakarta State University.....	
15	<i>Volleyball Game: Empowering The Civilization</i>	101
	Sujarwo, Yogyakarta State University.....	
16	<i>Maintain Physical Fitness With Healthy Lifestyle</i>	106
	Sumintarsih, UPN Veteran Yogyakarta.....	
17	<i>Development Of Social Skills Based Mini Basketball Game Model To Improve Social Skills Motor And Physical Fitness In Elementary School Age</i>	112
	Supriyadi, Malang State University.....	
18	<i>Building Tourism And Balinese Culture Through The Development Of Sport Tourism</i>	121
	Suratmin, Ganesha University Of Education.....	
19	<i>Guide For Sport Tourism</i>	125
	Syarif Hidayat, Ganesha University Of Education.....	
20	<i>Strategies For The Development Of National Sports Industry</i>	129
	Tomoliyus, Yogyakarta State University.....	
21	<i>Water Game Model To Increase Child Braving In Aquatik's Learning And Water Activity</i>	133
	Tri Winarti Rahayu, University Of Sebelas Maret.....	
22	<i>Exercise To Reduce Stress In The Workplace</i>	137
	BM. Wara Kushartanti, Yogyakarta State University.....	
23	<i>Creativity For Sports Manpower</i>	141
	Wasti Danardani, Ganesha University of Education.....	
24	<i>Motivating Learning To Athletics Play Method For Basic School Student</i>	145
	Sriawan. Yogyakarta State University.....	
25	<i>Teacher Creativity In Sport Using For Development Early Childhood Motor</i>	149
	Nofli Piri, Manado State University.....	
26	<i>Taekwondo: A Practical Self Defense For Maintening And Empowering Socio Cultural Norms</i>	153
	Devi Tirtawirya, Yogyakarta State University.....	
27	<i>Rise Of Novice Physical Educators Professionalism (The Emergence Of Lesson Study)</i>	158
	Herka Maya Jatmika, Yogyakarta State University.....	
28	<i>Computer Base Learning In Pencak Silat (Comprehensif Learning Perspectives)</i>	163
	Nur Rohmah Muktiani, Yogyakarta State University.....	
29	<i>Crushing Cultural Barriers: Experiencing With Social Sport</i>	167
	Herka Maya Jatmika, Yogyakarta State University.....	
30	<i>The Efficiency Of "Tendangan Sabit" Technique In Pencak Silat Kategori Tanding (A Biomechanical Analysis)</i>	171
	Awan Hariono, Yogyakarta State University.....	
31	<i>Students Investment Nationalism Through Physical Education And Sport</i>	177
	Banu Setyo Adi, Yogyakarta State University.....	
32	<i>Nutrient Problems Related To Physical Endurance And Work Productivity</i>	182
	Cerika Rismayanthi, Yogyakarta State University.....	
33	<i>Healthy By Practicing Hatha Yoga</i>	186
	Ch. Fajar Sriwahyuniati, Yogyakarta State University.....	
34	<i>Factors In The Design And Implementation Of Programmes That Will Attract, Recruit, Retain And Develop Young Athletes</i>	189
	Cukup Pahalawidi, Yogyakarta State University.....	
35	<i>Practical Strategies To Improve Character Building Through Sports</i>	194
	Dimiyati, Yogyakarta State University.....	
36	<i>The Difference Of Influence Between Intermittent Exercise Type I And Intermittent Exercise Type II Toward The Speed, Time Of Reaction, And Anaerobic Threshold Of Basketball Athlete</i>	198
	Eka Novita Indra, Yogyakarta State University.....	
37	<i>The Role Of Physical Education And Sport Health Science In Character Building</i>	202
	Endang Sri Hanani, Semarang State University.....	
38	<i>Sport Nutrition For Athlete</i>	208
	Endang Sri Retno & Sri Sumartiningsih, Semarang State University.....	
39	<i>Traditional Game Can Increase Freshness Of Child Body</i>	210
	A. Erlina Listyorini, Yogyakarta State University.....	
40	<i>Review On Warming Up And Cooling Down In Sport</i>	214
	Tri Ani Hastuti, Yogyakarta State University.....	
41	<i>Doping In Sports: Old Problem, New Faces</i>	218

94	Prevention Of Coronary Heart Disease Risk With The Tennis Game Ahmad Nasrulloh, Yogyakarta State University.....	464
95	Proposal for Pre-Service Professional Teacher Education (A Backward Design Approach for Critical Curriculum Development) Caly Setiawan and Saryono, Yogyakarta State University.....	470
96	Sport Education: Towards A Community Sport Culture Through School Agung Wahyudi, Universitas Negeri Semarang.....	479
97	The Effectiveness Of Concentration Enhancement Training On Students For Subject Learning Of The Principle Of Swimming Movement Agus Supriyanto, Yogyakarta State University.....	483
98	Efforts To Boost Teacherprofessionalism To Increase Education Quality Aris Priyanto, ISORI DIY.....	491
99	Reality Sport Science Epistimology Development On Institute Higher Education In Indonesia Dimiyati, Yogyakarta State University.....	498
100	Self Efficacy : What Physical Education Teachers Need? Eunike R Rustiana, Semarang State University.....	506
101	The Contribution Of Pedagogical Content Knowledge In Physical Education Learning For Graduated Teacher Of PJKR Study Program In Year 2002 Dan 2003 Fitria Dwi Andriyani, Universitas Negeri Yogyakarta.....	511
102	The Differences Of Effect Of Giving Loaded Exercise To Improve Performance Of Junior Male Lifters In Semarang City Hadi, Semarang State University.....	518
103	Physical Education And Sport And Its Contribution To Character Building Imam Santosa Cww, Semarang State University.....	524
104	Contribution Of The Muscle Strength Toward The Speed For Swimming 50 M By Crawl Stroke On Female Swimmer Tri Tunggal Setiawan, Semarang State University.....	530
105	Influence Of Exercise Ball Bounce Of Yourself And Friends To Under Service In The Sepak Takraw Games Of PPLP Players In Salatiga Tri Aji, Semarang State University.....	537
106	The Management Of Physical Education Facilities Tri Ani Hastuti, Universitas Negeri Yogyakarta.....	541
107	Toward The Indonesian Football Industries Komarudin, Yogyakarta State University.....	548
108	Effort To Improve The Learning Outcomes Of Fast Run Through "Method Of Play" For The Students In Grade III SD Negeri 1 SAMBIRATA, CILONGOK, BANYUMAS Ngatman, Yogyakarta State University.....	552
109	The Detraining Effects Of Complete Inactivity Sigit Nugroho, Yogyakarta State University.....	558
110	Review Of Sport Pedagogy Andun Sudijandoko, Surabaya State University.....	563
111	Sport Cultural Development Based Community Muhammad Hamid Anwar, Yogyakarta State University.....	567
112	Paradigm Changes To Physical Education Toward Civil Society Komarudin, Yogyakarta state University.....	571
113	"Ace Tennis" As One Of The Method And Seeding Mode Tennis Sports Publicity at Early Age Ngatman, Yogyakarta State University.....	574
114	Lesson Study To Improving The Quality Of Learning in Kinesiology Sigit Nugroho, M.Or, Yogyakarta State University.....	583
115	Physical And Nutritional therapy for Athletic Training Recovery Novita Intan Arovah, Sport Science Faculty Yogyakarta State University.....	589

REVIEW ON WARMING UP AND COOLING DOWN IN SPORT

By
Tri Ani Hastuti
Yogyakarta State University

ABSTRACT

Warming-up exercise (warm up) is one part of the beginning of a training program (conditioning program). Warming-up exercise consists of a group exercise (movement) that is performed at the time to exercise. Warming-up exercise is expected to improve athletic performance and reduce injury risk. Cooling down activity aims to restore the constitution and Mental back to its original state. Cooling down is done by two kinds of ways of active and passive.

Keywords: *Warming up, Cooling down, Sport*

INTRODUCTION

Sufficient warming up before practice or game is a must for athletes. With enough warming up, we are not prone to soft tissue injury (muscle, tendon, ligament) and we will also look better. Although warming is already known for many people, but there are still many people who do not know the benefits. Before doing many kinds of sport exercise, we have to do warming-up first.

Warming up is a variety of physical exercises to prepare the physical training load greater intensity. Doing warm up with enough proportion before an exercise causes muscles to contract better, will increase blood flow, oxygen transport and the delivery will multiply. Metabolism will also be much faster and will get better performance. It will indirectly affect the psychological or mental preparation which increases the confidence that causes a person in giving his best performance when playing. Not enough warming up can cause injury or risk of injury prone especially when the exercise with maximum intensity is less, done with no serious, long moves, no coherent or systematic.

After sports or doing exercises, it better to do cooling down down. Cooling down aims to restore the physical condition and stabilizes the Mental in its original state. Doing cooling down can be done in two ways, namely active and passive. Cooling down is best done actively and create a sense of fun or exciting.

FORM OR TYPE OF WARMING UP

Warming-up exercise is one of the basic part of the beginning training program (conditioning program) or in teaching physical education (PE). Warming-up exercise consists of a group exercise (movement) that is performed at the time to do sports activity or PE lessons. Warming- up exercise sufficients to increase the circulation of blood circulation, increase metabolism, and improve muscle elasticity. Exercise and a good warm-up are expected to mobilize the right mental state or condition fisik, repair the athlete appearances and reduce the risk of injury in training.

Form of warm-up exercise by Michael J Alter (1999:16) there are three categories, namely:

1. Passive warm-up, that is an warming up exercise using special equipment such as the use of warming up pads (warming up pads), sauna (hot showers).
2. General warm-ups, a warm-up technique that is often used in warm-up exercise. This technique uses some of the varied movements and indirectly related to the movements used in the exercise itself. Included in this technique is calisthenics movement, brisk walking, jogging and jumping rope.
3. Formal warm-up (specific warm-up), this warming include movements that mimic the movements used in real sports activities, with diminished intensity (low).

According to the opinion of medical experts of sport (Sadoso Sumosatdiono, 1995) there are several types of each effective as it can raise the rectal temperature and muscle. Types of warming up are:

1. Passive type of warming up that can be done with the help from outside the body such as a hot water bath or a hot pillow.
2. Active type of conducting warming- up by muscle activity, such as gymnastics, doing moderate exercise and stretching. Warming up can also be done in accordance with physical activity in sports that will be done.
3. Non-specific type of body temperature increased with the movements of large muscle groups such as active exercise that is not directly related to the components of the muscles and nerves that will be used at the time of exercise.

4. Spec
 at th
 max
 and

exercise
 lessons
 extend
 training

with a fo
 can adju
 play wil
 tools av
 Impact

WARN

rises. L
 from m
 skeleton
 higher

increas
 caused
 very u

the an
 facilit
 accum
 Some

1. I
2. P
3. I
4. I
5. I
6. I
7. I

- 8.
- 9.
- 10.
- 11.

imp
 the
 inju
 whe
 bloo
 hig

TH

abi
 bu
 pe
 co
 re

nu

In
 D

4. Specific type of warming up is devoted to parts of the body's muscles and nerves that will be used at the time of exercise. For example a weight lifter would prepare capabilities benchpress maximum on the game so he warmed up with a benchpress with a load force from the lightest, and the load gradually increased to near limits.

From the above opinion, it can be concluded that includes warm-up exercise passive exercise, exercise that is active and specific. In general, warming-up exercise before sports or physical education lessons in the form of a series of movements that includes jogging, extending passive, active or extending gymnastics and is followed by a formal activity or movement that resembles the core training will be conducted.

For learning materials or topic game in physical education, warming-up exercises can be done with a form of play. Playing in this exercise can use the tools and without tools. The use of the branches can adjust so well to the introduction of the instruments for students. Warming up in the form of this play will provide variety, innovation and creativity that require teachers to maximize the benefits of the tools available. Besides, it can create different shades of warm-up exercise habits of monotonous. Impact of psychic will lead a fun atmosphere for students.

WARMING UP BENEFITS

In the study, it dissociation of hemoglobin faster and more complete if the body temperature rises. Likewise, the oxidation process will be increased in active muscle work. The release of oxygen from myoglobin, which is an additional source of oxygen contained in the skeleton muscles (muscle skeleton) and the heart muscle is also experiencing an increase in body temperature is higher. (www.pemanasan.pendinginan.blogspot.com).

The increase in body temperature also accelerated nerve impulses (nerve impulses) and increase sensitivity of nerve receptors, which causes a person to move more quickly and this also caused due to improved coordination. Therefore, the system function improvements due pemanasan very useful for athletes or students who will begin teaching physical education activities.

This temperature rise is also a stimulus to the blood vessels to widen (dilate) so that adding the amount of blood flow to the muscles. ([http. / / go. Microsoft. Warming](http://go.Microsoft.Warming)). This mechanism can facilitate the delivery of substances needed by the muscles during exercise and can reduce the accumulation of lactic acid.

Some of the benefits of warming up (Michael J Alter, 1999:17) are good, such as:

1. Increasing the temperature or body temperature and tissues.
2. Raising the blood flow through the muscles active
3. Increasing the heart rate so as to prepare the cardiovascular system operation.
4. Increasing the level of energy expended by the body's metabolism
5. Promote the exchange or the binding of oxygen in the hemoglobin
6. Increasing the speed of nerve signals ordered movement throughout the body
7. Improving efficiency in the process of making it easier reciprocal innervation muscles contract and relax more quickly and efficiently.
8. Increasing physical work capacity of athletes
9. Reduce muscle tension
10. Improving the ability of connective long tissue movement (stretching)
11. An increasing in body condition of the athlete is psychologically

Temperature rise will also reduce the internal protoplasm kekelan muscle so that it can improve the mechanical efficiency of muscle contraction. The muscles can contract faster and harder if the temperature a little more tinggidaripada muscle temperature. Adequate warming up can prevent injury to the muscle, tendon, ligaments and other connective tissue. Muscle elasticity depends on whether or not enough blood in this muscle. So, in the cold muscles, the decrease of the amount of blood that is more susceptible to injury than a hot muscle. Flexibility tendon and ligaments are also highly influenced by temperature.

THE INTENSITY AND THE DURATION OF WARMING UP

The intensity and duration of warming up is very individual depending on the physical abilities of athletes. For example 15 minutes warming up with jogging is enough for ordinary people but not enough for a atlet. The easiest way to find the warming-up is enough or not in the beginning of perspiration. It usually occurs at body temperature rises 1-2 degrees Celsius at normal environmental conditions. Athletes should be aware, if the warming- up too heavy or over-performance, it can be reduced and it's because too tired.

In every branches of sport, duration of warming up should be adjusted to the branches or number. Therefore, warming up should be taken into account when time is not too long distance with a

game or practice. It is considering the body temperature returns to normal after the rest about 45 minutes.

Based on those statements, it can be concluded that in essence warming exercises conducted intensive enough to increase body temperature resulting in sweating, but do not do too much warming-up causing fatigue. In cold weather, exercise warming-up can be done more intensively.

THE PURPOSE OF WARMING-UP EXERCISE

In all types of exercise that the first absolute thing to do is warm-up exercise. This should not be taken lightly because it has a very important goal and may be a determinant of whether you continue to learn a sport or otherwise.

The goals include warm-up exercise:

1. To prepare the physical or mental condition, the relaxed atmosphere of the training zone (training zone)
2. To prevent the occurrence of sports injuries, both physical and psychological injuries.
3. To eliminate the kink in the muscles and joints. ([www.pemanasan and pendinginan.blogspot.com](http://www.pemanasan.and.pendinginan.blogspot.com))

EXERCISE INSTRUCTIONS OF WARMING UP

Warm-up exercise should be done seriously and there is emphasis or specifications. In order to achieve warm-up exercise objectives, then the exercise should be done properly, namely:

1. Perform warm-up exercise approximately within 10-15 minutes without a break
2. Warm-up exercise should be done with the movements slowly, not with movements that tug. Warm-up exercise performed very strongly not healthy and can cause injury, such as sprains, torn muscles, stress on the heart or lungs, as well as psychological trauma that can hinder an athlete is.
3. Warm-up exercise should start from gerkan-light movement toward heavy movement, and the easy movement toward a difficult.
4. Perform warm-up exercise by moving the upper limbs in succession toward the bottom.

COOLING DOWN

Cooling down is a movement intended to restore or stabilize the physical condition and Mental. Cooling down also means a physical activity in the implementation that is done by relaxing effect on muscles that had just used the move. In general, muscles that had just used the move will experience a contraction due to exercise with high intensity. By doing cooling down, the effect of fatigue and muscle contraction can be controlled to normal.

The movement took the form of thermal movements relaxation (relaxation) which is intended to relax tense muscles and psychologically prepare the next activity. The time required to perform the cooling down are also relatively dependent on each individual, but generally less than 5-10% of time training or learning.

COOLING DOWN TYPES

There are two kinds of cooling down of cooling down that are active and passive cooling down.

1. Active cooling down. His movements are performed for example by walking slowly and stretching before exercise as the core of about 10 minutes. In addition to doing bouncing motion in kecil. Bisa added intensity by walking with a set of breath to breath to be back to normal.
2. Passive cooling down. Movement is done partly by sleeping on your back with a set of breath, in doing this cooling down is usually people who do doberi suggestion by the teacher or coach to his spiritual state right again. It also can be done with an attitude to sleep on her back but her feet propped against the wall so that blood circulation smoothly again.

Of the two types of exercise such cooling down, active cooling down is far more effective because the body remains an activity that lactic acid can be eliminated and physically and psychologically ready to resume the next activity. Active cooling down in physical education learning can also be done in the form of play. Selection of play adjust with the cooling down so that the selected destination to play the bentun low intensity, generally carried out by singing a song and looking like the song sung.

The passive cooling down is usually done only by sitting or lying telunjuk both legs is increased, or alternately, massaging friend. In this case the current is not in question but others that are not immediately mengelimir lactic acid, its impact is still felt exhausted relatively longer than conduct active cooling down.

CONCLUSION

Warming up and cooling down are an absolute activities performed by athletes or athlete and student. Warming up and cooling down especially have an important role in safety during sports

activities or playing. Warming up should be done in a systematic, sequential, specifically from low intensity to moderate intensity. Warming up is done properly can also minimize the risk of sports injuries.

As well as the cooling down, because of the infrequently over sports activities are not covered by cooling down. The cooling down benefits, whether they are active or passive nature, are immediately returned to its original state either physical or psychological, but the active cooling down much more quickly eliminate lactic acid. It can be conclude that the cooling down must be done after doing sports or physical education lessons.

REFERENCES

Alter, Michael J. MS (1999). *300 Technical Stretch Sports*. Jakarta: PT Raja Grafindo Persada.
Sadoso Sumosardjono. (1995). *Petujuk Healthy and Fit Practical Exercise that right*. Jakarta: PT. Gramedia.
<http://go.Mocrosoft.pemanasan.com>.
<http://www.pemanasan and pendinginan.blogspot.com>.
Www.jasmani.com.
Www.pendidikan.jasmani.com.



Sekretariat :
FIK UNY Jl. Colombo No.1 Yogyakarta
Telp. (0274) 513092
Email : Semorinter2009@gmail.com



ISBN : 978-602-8429-26-9

THE FACILITY MANAGEMENT OF PHYSICAL EDUCATION

Tri Ani Hastuti

Yogyakarta State University

Abstract

The facility of physical education as a component of learning process is an instrument used by teacher to realize the teaching goal. Equal facility will give concrete experiences and help pupils to integrate last experiences.

The management of facility should be done well to give meaning for the pupils. It consists of planning and supplying, maintaining, using and erasing regulation.

Key words: management, facility

Preface

Physical education as a subject in some education levels from elementary school till college brings consequences accomplish of the learning facility. Agus S. Suryobroto (2004: 1) states that the facility of physical education is an element which determines the success of physical education learning and as the most important problem in everywhere, especially in Indonesia. It is because some schools use same facilities in same time, because of limited field for classroom, library, office, and laboratory. Winarno (1997) in Dimiyati (2003: 4) says that the general problems of physical education are; more pupils than facilities; and learning time are low. It makes teacher must give the lesson using limited facilities that he has with limited time. Most of school has less concern in planning, supplying, using and maintaining. According to Toho Cholic Mutohir (2007: 10) based on the report of sport development index (SDI) that the building of facility is low. It makes the level of pupils fitness is low because there is not enough space to play and to do sport.

To fulfill the target, facility must be managed well. Suharsimi arikunto (1987: 2) states that the management of physical education consists of: planning, supplying, using, management, staffing, and budget. Based on the book of school administration (Dirjen Dikdasmen Depdikbud, 1997: 303) management of physical education consists of: planning, supplying, saving, and

maintaining. Ibrahim Bafadal explains that management process of school equipment consists of: supplying, distribution, using and maintaining, listing and erasing education equipment.

The facility of physical education

Education facility is a part of physical environment in school. In its using there are some differences of various things. It is based on the approximation of the learning process and the facility function of learning.

Education facility means all of the facilities used in supporting the learning activity to improve the education quality (Dirjen Dikdasmen Depdikbud, 1997: 134). Humprey (1986: 166) states that facilities and equipment significantly influence the physical education program physical education requires relatively large amounts of indoor and outdoor space and sufficient equipment in carrying out a well balanced program to meet the need of all pupils.

The other meaning of education facility is seen from the learning process and the supplying. Suharsimi Arikunto (1987: 10) explains that the meaning of education facility seen from learning process can be summed that it is all of directly connected with learning process such as furniture, book, stationary, etc. it is often connected with the indirectly connected with the learning process such as: school building, classroom, library, field, school garden, etc. seen from supplying can be summed that the facility is accomplished after the equipment.

In physical education, facility is as a thing used in doing physical education activity or sport. Facility is divided into two groups: apparatus and device (Soepartono, 200: 6). Apparatus is a thing which is used, such as: jumping box, single barrier, etc. device is to complete the equipment such as: net, flag, coen, etc. And it is a thing to be played or to be manipulated by hand and foot, such as: ball, racket, knocker, etc. then humprey (1986: 187) says that equipment generally concern a variety of items of somewhat less permanent nature than facilities. In other words, such items as gymnasium mats and apparatus might be categorized as equipment in the physical education program. Good facility has standard size based on the sport. But if it is used as a lesson, it can be modified based on the school condition and the characteristic of the pupils.

That statement can be concluded that facility or apparatus is all of needed thing in the learning of physical education, easily moved even by pupil. Example;

ball, racket, knocker, stick, bed, shuttle cock, etc. equipment or device is all needed thing in learning, uneasily moved (might semi permanent) but difficult and weight. According to Agus S. Suryabrata S. (2004: 4) and Soepartono (2005: 5) equipment is a needed thing and to facilitate the task in physical education, it is permanent and unmoved. Example: football field, volleyball, basket ball, etc. as the facility, equipment can be modified, accorded with the school condition and the pupil characteristic.

The general standard of equipment in physical education based on Soepartono (2000: 14) can be looked in the table 1:

Table 1

**The general standard of equipment in physical education
For elementary, junior and senior high school**

Class number Pupil number	The need of equipment in physical education	The available of physical education equipment
(Minimum 5 classes 125-150)	(I) 1100 m ²	Use full physical education field (15 x 30) m Athletic (500 m ²)
6-10 classes (150-250)	(II) 1400 M ²	(1) open hall (12,5 x 25) m ² height 6 m
11-20 classes (250-500)	(III) 200 M ²	Use full physical education field + athletic Open hall Volley or basketball field Other field (15 x 30) m ²
20 classes (more than 500)	(IV) 2700 m ²	(III) Use full physical education field (20 x 40) m ²

Note: - the inserted numbers are the minimum needed standard
- the dimension is based on the local area, it is not totally followed
(Soepartono, 2004: 14)

The function of physical education facility and equipment

Affectivity and efficiency are used to see the goodness and the badness of a facility and equipment I quality and quantity. The role of an apparatus will be connected to a system. Based on Snyder and Catanase (Hendro, 1989: 45) an apparatus is formed by variety parts which have connection each other and make a unity, it make the function of an apparatus has some characteristics:

1. Process. It is an idea of an apparatus process
2. Intention. See from goal aspect
3. Entirely. Understand an apparatus by knowing the use of all its parts.
4. Attitude. It means understand an apparatus from all its parts
5. Connection. The connection between an apparatus with abstract thing

Hadiyanto and Subijanto (2003: 7) says that education facility as a sub system of education in school has un separated learning process, learning goal, and learning process attitude physically and mentally.

Agus S. Suryobroto (2004: 5-6) mentions there are 4 functions of facility and equipment:

- 1) it can spur on the development and the growing of pupils, it can motivate the pupils in behavior, thinking, and doing physical activity.
- 2) It can easily make difficult movement and make easy movement to be difficult. Example roll kip is easier than jumping box
- 3) It can be used to look the success. Example; how tall student can jump, it needs pole.
- 4) It attract the student's attention, example; tailed spear.

Oemar Hamalik (1982: 65) states there are 5 function of education facility:

1. avoid verbalism
2. Overcome the miserable in student's interpretation
3. to make students take concentration
4. To drive on the students in responding lesson
5. support the enjoyable situation

it can also connect the student's understanding from concrete to abstract. (Asri Budiningsih, C., 1995: 74)

The conclusion is that the using education facility is very important in learning process, such as: reduce verbalism, attract student's attention and support the enjoyable, make difficult movement becomes easier, it can be the measurement of success, drive on the pupils in responding the lesson directly has impact in reaching the education goals.

The facility management of physical education

According to Janet B. Parks, DA (1989: 192) facility management is the process of planning, administering, coordinating, and evaluating the day to day operation of facility. There are some stages in facility management: planning, organizing, actuating, controlling (POAC).

Encyclopedia Americana states that the art of coordinating the elements of factors of production towards the achievement of the purposes of organization (Hadi Satyagraha, 2006: 2), in this definition management is a process. Decenzo and Robbin defines management is the process of efficiently achieving the objectives of the organization with and through people. It has a link in education facility that activity process is directed to the administration of learning instruments, braggart instruments and education media to achieve purposes.

Terry G. R. (1997: 4) means the management that it is a distinct process consisting of planning, organizing, actuating, and controlling, performed to determine and accomplish stated objectives by the use of human beings and other resources. In other words management aim to all activity process result all resources to effectively actuate the task and the function in order achieve the organization purpose.

The conclusion is that facility management is a set of activity consisting the needed planning and supplying, the using, saving or maintaining and erasing, and the use of education resource directly and indirectly support the learning process at school to achieve the purposes.

Facility management of physical education aspects

a. Planning and supplying

Planning function encompasses defining an organization's goals, establishing an overall strategy for achieving these goals, and developing a comprehensive hierarchy of plan to integrate and

coordinate activities (Robbins, 1998: 3). In his book Principles and techniques of supervision in physical education, Humprey (1986: 189) explains that supervisors and teachers should certainly be aware of certain factors involving physical education facilities which jeopardize the learning situation and curtail worthwhile aspects of the program.

The conclusion is planning as a determining process and arranging about the next activity systematically by using resources to achieve purposes.

Emery Stoop and Johnson (1968) in Ibrahim Befadal (2004: 28) states that there are some procedures in planning: 1) forming committee; 2) forming the needed devices; 3) forming the specification; 4) determining the device unit cost; 5) testing all possibilities; 6) recommendation; 7) re – evaluation. Supplying is accorded to the selecting criteria.

There are some general criteria of selecting education facility: 1) economic, the price is cheap; 2) simple and practical; 3) easy to get; 4) flexible; 5) the components suit with the goals. The selecting of physical education facility must concern to the use, magnificence practical, economic, save, selected based on the goal.

Suharsimi Arikunto (1987: 40) mentions two ways to get the media: fabricant and hand made. Planning has a connection with the supplying which is whole activity to supply the needed things to support the learning process. There is a procedure to determine facility based on the interest of the physical education. The steps are: the need analysis, inventory, selection, cost accounting, planning (buy, gift/changing), choosing staf in supplying

b. The maintaining of physical education facility and equipment

It is an activity to administrating all facility in good condition and can be used periodically. All facilities should be maintain well since its existence in school. Next is saving or putting the devices in certain place.

Based on Bafadal (2004: 43) there are two kinds in maintaining seen from characteristic and repairing time. There are 4 kinds in maintaining seen from the characteristic:

1. daily maintanance;

2. periodically maintenance.

3. The next step is supplying from big to small.

The saving place is divided into: 1. room; 2, open and closed cupboard; 3. shelves (Suharsimi Arikunto, 1987: 46). Labelling on each device and coding on each shelf or cupboard. It needs some books: 1). Inventory; 2) in and out apparatus or media; 3) special note.

Based on the variety, maintaining is divided into planned maintenance and unplanned maintenance. Planned maintenance is a programmed, organized, scheduled, budgeted, and done maintenance according to the plan and evaluation or monitoring. Planned maintenance is divided into preventive and corrective. Preventive maintenance is to prevent the damage of the facility. Corrective is to repair the unpredicted damage device. Hard damage level is called emergency maintenance.

c. the using administration of the physical education facility and equipment

there two principal in using education facility: effectivity and efficiency. Effectivity principal means the using of facility is only directly indirectly to carry on the education purpose. Efficiency principal means carefully and safety use of the facility. The headmaster should administrate the using well.

There are 3 basic activity in using facility:

1) understand the use direction,

2) ordering the facility continue and

3) periodic maintenance.

d. erasing the facility

erasing is an activity to erase the government properties from the inventory based on the legacy. It can be done by auctioning, gifted, changed with good one. Uneffective and inefficient facility need to be erased. The consequence is the erasing of the device list from the inventory.

In this process, there are some essentials based on Ibrahim B (2004: 46):

1. hard damage and unused

2. unsuitable with the needs

3. ancient, unsuitable use

4. any forbidden
5. any diminishing outside the device staf authority
6. unbalance maintanance cost with the use
7. overload
8. stolen
9. any deviation
10. burnt or lost because of disaster

the conclusion is that erasing can be done by: selecting, estimate the cost factors, announcing letter to the leader, give to other or burn then make report about the execution. Erasing is aprocess to go to the next stage in ordr the facility can be controlled and maximal used.

Closing

In physical education, less concern about facilitiy management, it makes the education purpose has not optomal reached. Teacher is aimed to have good knowledge and skill to achive the goal effectivelly and efficiently and can solve the ristricions because facility has an important role to increase the learning quality.

DAFTAR PUSTAKA

- Agus. S Suryobroo. (2004). *Sarana prasarana Pendidikan Jasmani* (Diktat). Yogyakarta : FIK UNY.
- Ary H. Gunawan. (1982). *Dasar-dasar administrasi pendidikan*. Yogyakarta: Al Hikmah.
- Asri Budiningsih C. (1995). *Strategi menggunakan media pembelajaran bagi pendidikan dasar*. Majalah Ilmiah Cakrawala Pendidikan No. 1 Tahun XIV, Februari.
- Decenzo. David A., Stephen P. robbins. (1999). *Human resource management*. Sixth edition. New York: John Wiley & Sons. Inc.

Depdiknas. (2001). *Manajemen perawatan preventif sarana dan prasarana pendidikan*. Jakarta.

_____. (2002). *Manajemen peningkatan mutu berbasis sekolah*. Jakarta.

Humprey, James H. (1999). *Principles and techniques of supervision in physical education*. Third Edition. New Jersey: Princenton Book Company, Publishers.

Ibrahmi Bafadal. (2004). *Manajemen perlengkapan sekolah teori dan aplikasinya*. Jakarta : Bumi Aksara.

Park, J.B. et all. (1989). *Contemporary sport management*. United States: Bowling green State University.

Robins, Steven P. (1989). *Organizational behavior*. Englewood Cliffs : Prentice hall Internasional. Inc.

Rue, L.W., Lloyd L. (2000). *Management skills and application*. Eighth edition. Boston: McGraw-Hill Companies, Inc..

Soepartono. (2000). *Sarana prasarana dan pendidikan jasmani*. (Diktat). Jakarta: Departemen Pendidikan Nasional.

Suharsimi Arikunto. (1987). *Pengelolaan materiil*. Jakarta: Prima Karya.

Terry, G.R. (1997). *Principples of management*. Georgetown: Richard D. Irwan.

Toho Cholik Mutohir. (2007). *Peran lembaga pendidikan tinggi keolahragaan dalam pembinaan dan pengembangan keolahragaan nasional*. (Makalah dalam Temu Ilmiah Fakultas Ilmu Keolahragaan). Yogyakarta: FIK UNY.

http://www.bpk_penabur.or.id/kps.jkt/2006. *Beberapa isu dalam manajemen pendidikan*