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## MULTIFUNCTION TOOLS OF PHYSICAL EDUCATION, SPORTS AND HEALTH AT ELEMENTARY SCHOOL

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### Abstract

This research is aimed at developing and resulting a multifunction tool and an example of effective learning which is acceptable for Physical Education, Sports and Health learning for Elementary students. This research is model development of the learning tool for elementary students. This research is conducted in several stages: 1) designing draft of initial product, 2) expert validation, 3) small scale trial, 4) First stage revision, 5) Large scale trial, and 6) Second Stage revision (Final revision). The results of the research are: 1) development of multifunction tools. 2) the result of product effectiveness test at SD Negeri 2 Trimodadi, SD Negeri 2 RatuAbungdan SD Negeri 1 RatuAbung is obtained at the average of pulse increase about 62,81%. 3) The test result of product acceptability on internal and external aspect is at the average of 94,58%.

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## INTRODUCTION

Physical Education, Sports and Health is an integral part of education because of its existence in participating to educate the nation. The subject matter on Physical Education, Sport and Health has pedagogical target and movement as the activity. Physical education has education goals such as 1) the development of body organs to improve health and physical fitness, 2) neuromuscular development, 3) mental and emotional development, 4) social development, and 5) intellectual development. The final goal of sport and physical education lies in its role as a unique container in improving the character, and as a vehicle to obtain and to shape strong personalities, good characters and noble attitude in accordance with the goal of national education.

Given the importance of Physical Education, Sports and Health in forming students physiologically and psychologically it needs to be supported by various factors in learning process. In learning process, the things that play important role in it are teachers who give the learning process and students who experience the learning process. According to Hamalik (2009:57) Learning is a structured combination covering the elements of human, material, facility, equipment and procedures which interplay to obtain the learning goal. To obtain the learning goal, the first thing that needs to be built is : improving students' interest in learning.

Given the importance of Physical Education, Sports and Health in forming the students physiologically and psychologically thus it needs to be supported by various factors supporting the learning process. To obtain the learning goal, the first thing that needs to be built, namely: improving the students' interest in learning. Interest is an inner will to do something. In Kamus Besar Bahasa Indonesia (KBBI) (2007:744) interest is inner high tendency toward something. Besides, external factors may also influence interest, including facilities and infrastructure, relationship with parents and perceptions of society. One of the

problems which often occur in Physical Education, Sports and Health lesson is the lack of school facilities. According to Suryobroto (2004:4) the goal of facilities and infrastructure in Physical Education, Sports and Health learning process, namely:

- 1) To facilitate the course of learning because by sufficient facilities and infrastructure the learning process will run well, like : no need to stand in line or waiting other students doing sport activity.
- 2) To ease movement.
- 3) To complicate the movement, because by a tool it will complicate a movement compared by doing it without a tool.
- 4) To spur the students to move.
- 5) Continuity of activity. By the facility, it is hoped that the learning process of Physical Education, Sports and Health will continue well.
- 6) The students are not afraid to make activity which is done in Physical Education, Sports and Health learning.

The observation has been carried out in 3 (three) schools located in North Lampung Regency, South Abung Sub-District, namely: SD Negeri 2 Ratu Abung, SD Negeri 2 Trimodadi, and SD Negeri 1 Ratu Abung. From the result of observation, it may be concluded that the lack of insufficient facilities so that not all of the subject matters can be taught there , for example: basket ball, badminton, high jump, volley ball, even football is taught by simple facility. The following is the result of observation concerning the number of students, facilities and infrastructure and learning output effectiveness which is measured by students' pulse index.

According to Permendiknas (Ministerial Regulation of National Education) No.15 Year 2010 on minimum service standards in elementary school that the number of students in one classroom is not more than 32 students. From the above table for SDN 2 Ratu Agung the number of students is over capacity, for example: Grade 1(one), 2 (two), 3 (three), 4 (four), 5 (five) except for Grade 6 (six). The

number of students in each classroom in SDN 2 Trimodadi is adequate except for Grade 6 (six) which has 60 students. At the same time, the number of students in SDN 1 RatuAbung does not exceed the capacity set by the government. By knowing the number of students in 3 (three) schools then it will be discovered how many facilities to be provided in each school. Of course, It must refer to Permendiknas Republik Indonesia (Ministerial Regulation of National Education The Republic of Indonesia) No.24 Year 2007 on the standard facilities and infrastructure for Elementary School / Islamic Elementary School (SD / MI), Junior High School / Islamic Junior High (SMP / MTs) and Senior High School / Islamic Senior High School (SMA / MA).

The learning effectiveness on movement may be seen from the students who are actively move by motor components. Students who actively move will increase their pulse after learning process. From the data above, the average pulse before doing the activity is 84.66 and after doing the activity is increasing to 122.743. Then the average increase of pulse experienced by students in those three school is not significant yet because the average increase is about 38%. This is caused by the lack of students' movement activity in Physical Education, Sports and Health learning process. According to Joko Pekik Irianto (2004:23) "the level / intensity of fitness exercises is 60% - 90% of the maximum pulse for 20 - 60 minutes. Maximum pulse is obtained from  $220 - \text{age}$ ". Therefore, the exercise intensity for Grade V (five) in joining Physical Education, Sport and Health learning in Elementary School, namely :  $220 - 11 = 209$ . The proposed exercise intensity is 125-188 (DN per minute).

For that purpose, this research will develop learning model tool of Physical Education, Sports and Health to improve students' learning interest in Elementary School which can be used in various sports events, like: foot ball, volley ball, basket ball, high jump, body hanging, single beam. Moreover, the tool can also be used for badminton, tennis pole and tonis. This tool is made of iron bar consisting 2

pieces which can be made into a pair of goalpost, a pair of volley ball pole, a pair of basket ball pole, a pair of badminton pole, a pair of high jump pole, and single beam in athletics. Multifunction tool of Physical Education, Sports and Health (Types of poles, among others: Basket Ball, Foot Ball, Volley Ball, Badminton, Takraw, High Jump, and Pull Up). The form development of multifunctional tool as seen below:

Multifunction poles, Basket Ball Poles, Foot Ball Goalpost and Pull Up, Volley Ball Poles, High Jump Poles, Badminton Poles, Takraw & Tonis

To improve learning process on Physical Education, Sports, and Health, it needs a learning which is in accordance with the students' characteristics and school condition. According to Mutohir (2002:173) modification can be carried out on tools, field size, rules of the game, etc. On this modification approach, a teacher should be able to utilize existing environment optimally so that it can foster situation and condition that makes students happy to learn. Thus, by using TGFU it can be answered that teaching skill games for tactics and tactics for skills.

*The purpose of modifying the learning in school soccer is an effort to influence student teaches for ease in learning to play soccer, although the infrastructure is owned by the school was minimal. The method or methods used by teachers in the delivery of learning in school soccer is the creativity of teachers in modifying lessons soccer because of lack of facilities an infrastructure that exist in schools in general, and to create an optimal learning strategies to encourage initiative and facilitate students' learning. Modification of learning soccer in question was modification of the tooling infrastructure and facilities and modification to the rules in the game. The results are models of learning a new style of soccer (Boladiator), four soccer goal, soccer castle, soccer and soccer dhogdhog, triangle.*

<http://staff.uny.ac.id/sites/default/files/131791/modification%20o%20learning%20in%20school%20soccer.pdf>

For the implementation of Physical Education, Sports and Health in Elementary School, thus it needs an implementation guidelines. According to Lutan (2002: 16) there are 9 basic guidelines in implementing Physical Education, Sports and Health program in Elementary School, among others:

- 1) Developing the fitness accompanied by the development of skill.
- 2) No using task execution or a kind of exercise to punish students, for example, when students come late or make mistakes by breaking rules.
- 3) Implementing the assessment by focusing more on process than solely on result.
- 4) No cornering the position of Physical Education, Sports, and Health program as an activity which can bring negative impacts toward other subject matters which are judged underachievers.
- 5) Giving assistance to students to achieve the desired standard (criterion)
- 6) Presenting the activity by paying attention to local culture
- 7) Presenting physical fitness program must be accommodated in a program fulfilling the rules of health.
- 8) Giving encouragement, and avoiding mockery.

It often happens the misuse of language between *physical education* and *physical activity*. According to Michigan (2005:13) there are things that distinguish between Physical Education, Sports, and Health and Physical Activity, namely:

*Physical education program teach developmentally and sequentially appropriate skills and knowledge and confidence needed to establish and sustain an active lifestyle in a safe, supportive environment. Physical education teachers evaluate student knowledge, motor and social skills, and provide feedback for student improvement. Physical activity is bodily movement of any type and may include recreational, fitness and sport activities as well as daily activities like walking to school. Physical education is the foundation for physical activity. Here some ways to introduce physical activity into your school and students' day.*

Furthermore, according to Chunlei LU and Amanda De Lisio (2009:7) there are three categories of fundamental movement, namely:

- 1) Locomotor / travel, a skill which involves moving the body to any direction from one point to another, for example: *walking, running, hopping, skipping, galloping /sliding, leaping, chasing, fleeing, dodging.*
- 2) Manipulative skill which involves handling and controlling a thing by part of a tool or body, for example: *Propulsion, throwing, batting, kicking, punting, striking, dribbling, Receipt: catching, collecting, volleying.*
- 3) Stability skill involves body balance either in one place (static) or moving (dynamic), for example: *bending, stretching, twisting, turning, rolling, balancing, weight transferring, curl-up, jump landing, pushing, pulling, rocking, swaying.*

It is of course that in Physical Education, Sports and Health can not be separated from the growth and development of the students related to cognitive, affective and psychomotor, health and the formation of physical fitness.

*The goal of physical education is to assist every child in the development of a healthy life style (Pangrazi & Gibbons, 2008; Ring, 2006). More specifically, CAHPERD (2005) highlights the importance of physical education in assisting student to: (a) acquire skills that enable them to perform a variety of physical activity; (b) acquire skills that will have them become physically fit; (c) participate regularly in physical activity because they find it enjoyable and exhilarating; (d) understand and value physical activity ; (e) understand with others; (f) display responsible and social behavior during physical activity; and (g) display an understanding of and a respect for all people during physical activity. (Chunlei LU & Amanda De Lisio, 2009:6).*

Besides learning Physical Education, Sports and Health which is practical in nature , the learning Physical Education is also theoretical. The subject matters which are theoretical, among others: 1) the culture of healthy living, 2) History and rules in games. In teaching philosophy of theoretical subject

matters on Physical Education, Sports, and Health, the presentation is organized as follows:

10 percent from what we read  
20 percent from what we listen  
30 percent from what we see  
50 percent from what we see and listen  
70 percent from what we speak  
90 percent from what we read, listen, see, speak and do Edgar Dale (in Harvey Grout and Gareth Long, 2009: 180)

The learning Physical Education, Sports, and Health will not succeed without a teacher, because he or she has a very central role in education. A teacher is an important element in education because he or she is an intellectual factor who makes this nation proceed and able to compete with other nations. A teacher is a professional educator whose main jobs are educating, teaching, guiding, directing, training, assessing, and evaluating learning participants (Undang-undang Republik Indonesia No.20 Tahun 2003 Bab I Pasal 1:2). About the teacher, Mudjiono and Dimiyati explain that a teacher is a professional educator.

There are 6 (six) activities in teaching, among others: activities, management, organization, planning, instruction, and evaluation, in line with the basic experience of a Physical Education, Sports, and Health teacher which must be mastered by a physical education teacher in Elementary School. According to Mutohir (2002: 15) the teacher of Physical Education, Sports, and Health in Elementary School must have following characteristics, for example:

- 1) Having the capacity to identify the characteristics of Elementary School students on: a) physical growth, b) mental development, c) social and emotional development in accordance with phases of children growth of Elementary School students.
- 2) Able to encourage and provide opportunities to Elementary School students to be creative and active in learning process of Physical Education, Sports, and Health and able to develop

potential ability and motor skills of Elementary School students.

- 3) Able to provide guidance and development to Elementary School students in learning process to achieve the goal of Physical Education, Sports, and Health.

In learning process, a teacher needs facilities and infrastructure that support for the smooth of teaching process. Based on National Sports System No.3 Year 2005 article 1: sport facilities are equipment and supplies which are used for sport activities while sport infrastructure is a place or a room including the environment that is used for sport activity or organization of sport events.

In relation to facilities and infrastructure which Elementary School has, of course there are still some constraints in their availability. Based on survey by:

*In the joint Oireachtas Report on the Status of PE 2005 it was noted that there was never a period of significant funding in the area of PE nor had it ever been seen as worthy of serious investment or concentration either in them of resources or planning.*

<http://into.ie/ROI/publications/PhysEdinthePrimarySchool.pdf>

The following is the result of survey on facilities and infrastructure which are very important factors in learning Physical Education, Sports, and Health.

*According to a recent INTO survey carried out in 2005, the situation in school in relation to PE facilities was still unsatisfactory. While the vast majority (88%) of respondent indicated that their school had a suitable – surfaced school yard which could be used for PE, only 39% indicated that their school had a general – purpose (GP) room, though a small majority of respondents (68%) indicated that they had access to a hall for PE. However, as indicated in previous surveys, such facilities are not always adequate. Therefore, it's quite clear that very high percentage of primary school either don't have PE halls or are relying on inadequate and unsatisfactory hall. A significant minority (23%) did not have access to a playing field. Although PE facilities in schools include astrotruf, a shared assembly place, all weather pitch and access to a local sport center.*

*http://www.into.ie/ROI/Publications/PhysEdinthePrimarySchool.pdf*

According to Sukintaka (2004:15) there are several requirements in provision of facilities and infrastructure of Physical Education, Sports, and Health in schools, among others:

1) Safe

Safety is the most important element in implementing the learning of Physical Education, Sports, and Health. Safety will reduce injury during learning process. Safety element is the top priority before other elements.

2) Easy and Cheap

It means that facilities and infrastructure are easily obtained and prepared, or it is easily obtained with relatively low price (unexpensive). It has good durability.

3) Interesting

4) Spurring to move

The facilities and infrastructure spur students to move.

5) Fit to the need. In provisioning the facilities and infrastructure are adapted to the students' need and the user.

6) Fit to the goal.

7) Tough. Not easily broken

Facilities and infrastructure should not be easily damaged although it is cheap to make them.

8) Fit to environment

## METHOD

This research is a developmental research. This model development is descriptive quantitative, that is, a procedure which describes steps that must be taken to generate products. In developing the product, he, the writer, refers to a developmental model Borg and Gall quoted by Ardhana (2002: 9). The following are steps that may be fully followed:

- 1) Conduct a research and gather information
- 2) Planning
- 3) Developing the initial product form
- 4) Conducting expert validation
- 5) Conducting first stage of the field test

6) Conducting revision of the initial product.

7) Conducting second stage of the field test

8) Conducting revision of the main product

9) Conducting trial of the final product

10) Conducting revision of the final product

11) Disseminating and implementing the final product

The trial subjects to be tested are the students of Elementary School in 3 (three) Elementary Schools located in South Abung Sub-District, North Lampung Regency, namely, SD Negeri 2 RatuAbung, SD Negeri 2 Trimodadi and SD Negeri 1 RatuAbung. The data used on this research is the students' acceptability toward the developed product, the data on the students' learning interest, the data on the effectiveness of generated product. The instrument used in developing this product is questionnaire and observation. The technique of analysis used to calculate the pulse uses T-test with 5% level of significance.

## DISCUSSION

Based on the steps of the developmental research to generate product that has been done, thus it is obtained a final product in the form of developing learning facilities of Physical Education, Sports, and Health to improve students' learning interest in Elementary School. The use of product modified model on basket ball subject matter has given the impact or influence to the increase of the students' pulse for SDN 2 Trimodadi 58.93%, SD N 2 RatuAbung 63.51% and SD N 1 RatuAbung 66%.

Students' responses toward the internal aspect after using the development of learning tool of Physical Education, Sports, and Health to improve students' learning interest in Elementary School indicate that of 66 students, including in internal category of the students who answer "Yes" 97.63% and students who answer "No" 2.37%. Seen from the result of students' response toward the internal aspect after using the learning tool above, it can be concluded that most of the students will have

encouragement on the basis of awareness on the benefit of joining Physical Education, Sports, and Health subject matter, interest of curiosities to conducted Physical Education, Sports, and Health lesson, and like the safety and comfort while joining Physical Education, Sports, and Health lesson, improve activity in learning process. Therefore, after students join Physical Education, Sports, and Health lesson, the students' fitness increases. They get the attention and pleasure in Physical Education, Sports, and Health learning process.

The students' responses toward external aspect after using developmental product of learning tool for Physical Education, Sports, and Health to improve students' learning interest in Elementary School indicate that of 66 students, it is found that 91.53% of students answer "Yes" and 8.47% of students answer "No". Seen from the result of students' response on internal aspect after using the development of learning tool for Physical Education, Sports, and Health to improve the students' learning interest in Elementary School that the quality and quantity of the facilities and infrastructures support the learning process very much, then with the existing facilities and infrastructures, all of the material can be taught and students are pleased by the tool used. Then the factor of professional teacher of Physical Education, Sports, and Health is very helpful in learning process.

Based on the description of students' respondent toward internal and external factors above, it can be concluded that the developmental product of learning tool for Physical Education, Sports, and Health to improve students' learning interest in Elementary School provides a good impact on the students' interest in joining Physical Education, Sports, and Health learning and is able to improve the students' pulse so that it will influence to the improvement of students' physical fitness.

## CONCLUSION

- 1) The result of this research is the form of a developmental learning tool for Physical

Education, Sports, and Health to improve students' learning interest in Elementary School.

- 2) The result of a developmental learning tool for Physical Education, Sports, and Health can improve the students' pulse so that it is found that the effectiveness of learning Physical Education, Sports, and Health through basket ball game. The average of pulse increase in SDN 2 Trimodadi is 58.93%, SDN 2 RatuAbung is 63.51%, and SDN 1 RatuAbung is 66%.
- 3) The development of learning tool for Physical Education, Sports, and Health can improve students' learning interest in Elementary School with the average increase on internal factor 97.63% on option "Yes" and 2.3% on option "No" meanwhile on external factor it is 91.53% on option "Yes" and 8.4% on option "No".

## Suggestion

- 1) For Physical Education, Sports, and Health teachers in Elementary School, they can use this developmental learning tool at school in various learning, for example volley ball, foot ball, badminton, takraw, high jump, and pull up.
- 2) The researcher hopes that in using the learning tool for Physical Education, Sports, and Health needs to be accompanied with appropriate learning method.
- 3) For Physical Education, Sports, and Health teachers in Elementary School it is hoped to develop other interesting learning tools to be used in Physical Education, Sports, and Health learning.

## REFERENCES

- Borg, Walter R. dan Gill, Meredith, Damien. (1993). *Educational Research: An Introduction Fourth Edition*. New York: Longman Inc
- Chunlei LU and Amanda De Lisio. 2009. *Specifics for generalists: Teaching elementary physical education*. International Electronic Journal of Elementary Education Vol.1, Issue 3, June,

- 2009.[http://www.iejee.com/1\\_3\\_2009/lu.pdf](http://www.iejee.com/1_3_2009/lu.pdf) (29-3-2013)
- ErlinaListyarini. *Modification Of Learning In School Soccer*. Yogyakarta State University.
- <http://staff.uny.ac.id/sites/default/files/131791768/MODIFICATION%20O%20LEARNING%20IN%20SCHOOL%20SOCCER.pdf>
- Harvey Grout and Gareth Long. 2009. *Improving Teaching and Learning in Physical Education*. New York. Open University Press
- Michigan. 2005. *Tips And Tools To Promote Physical Education And Physical Activity*. Amerika Serikat: [http://www.michigan.gov/documents/mde/TipsandToolsToPromotePEPA290404\\_7.pdf](http://www.michigan.gov/documents/mde/TipsandToolsToPromotePEPA290404_7.pdf)
- Mudjiono dan Dimiyati. (2002). *Belajar dan Pembelajaran*. Jakarta: Rinieka Cipta.
- Oemar Hamalik. (2007). *Proses Belajar Mengajar*. Bandung: Bumi Aksara
- Rusli Lutan. (2002). *Menuju Sehat Bugar*. Jakarta Pusat: Dirjen Olahraga, Depdikbud.
- Sukintaka. 2001. *Teori Pendidikan Jasman*. Solo: Esa Grafika
- Suryobroto, B. 2004. *Manajemen Pendidikan Sekolah*. Jakarta: PT Renika Cipta
- Sutrisno Hadi. (1990). *Analisis Butir untuk Instrumen Angket, rest dan Skor Nilai dengan Basica*. Yogyakarta: Andi Offset.
- Toho Cholik Mutohir. 2002. *Gagasan-gagasan tentang Pendidikan Jasmani dan Olahraga*. Surabaya: UNESA.
- Undang Undang Republik Indonesia No 20. 2003. *Sistim Pendidikan Nasional*. Jakarta: Asa Mandiri.