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Original Article

Physical fitness profiles of lower-level students in elementary schools based on observation guidelines

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Abstract:
The performance test was implemented by the Physical Education teachers to evaluate the physical fitness of the students even though the test could potentially harm the students either physically or psychologically. This research was conducted to overcome the emergence of the problems (physical and psychological) during the physical fitness test of the lower-level elementary school students. This study is a descriptive quantitative research that uses one variable – the physical fitness profile. The observation guidelines consist of enthusiasm, excitement, and discipline. All of these aspects were used as the instrument of data collection. The objective of the research is to determine the physical fitness profile of the lower-level elementary school students. Thus, in this research, the physical fitness profile is assessed using observation guidelines to avoid the physical and psychological stresses. Based on the observation guidelines, the results of the research show that the physical fitness profile of the first graders from the chosen elementary school is as follows: (1) very good, none (0 %), (2) good, four students (15.4 %), (3) average, 16 students (61.5 %), (4) poor, six students (23.1 %), and (5) very poor, none (0 %). The results of the second graders are as follows: (1) very good, none (0 %), (2) good, six students (22.2 %), (3) average, 17 students (63.0 %), (4) poor, four students (14.8 %), and (5) very poor, none (0 %). The results of the third graders are as follows: (1) very good, four students (13.8 %), (2) good, eight students (27.6 %), (3) average, 15 students (51.7 %), (4) poor, two students (6.9 %), and (5) very poor, none (0 %). According to the results of the research, and based on the observation guidelines, it can be concluded that the physical fitness profile of the assessed lower-level elementary school students is average.
Key Words*:* physical fitness profiles; elementary school; lower-level students; non-test assessment; observation guidelines

Introduction

To this day, the performance test is used as the primary instrument for the Physical Education teachers to evaluate the physical fitness of the students. This test is used not only in senior and junior high schools, but also in elementary schools, even to test the lower-level students. The performance test, which is usually used by the Physical Education teachers, is the Indonesian Physical Fitness Test (IPFT). This test is adaptable to the age of the student under evaluation. For example, IPFT for the 16-19 year old students is used in a senior high school. IPFT for the 13-15 year old students is used in a junior high school. IPFT for the 10-12 year old students is used for the upper-level elementary school students. IPFT for the 6-9 year old students is used for the lower-level elementary school students.

The main consideration for using the performance test, such as IPFT, is the practicality of the test because it provides the implementation guidelines that make it easier to be implemented. Additionally, IPFT provides the assessment guidelines that make it easier to process the raw data to produce the score. Physical Education teachers have never before thought as comprehensively when considering the safety factor of the students during the physical fitness test.

The performance test becomes the primary instrument for evaluating the physical fitness of the students because the Physical Education teachers lack the information. Physical Education teachers from senior high schools, junior high schools, and elementary schools have been using the performance test, such as IPFT, the 2.4 km run test, or the 12 minute run test as the instrument for evaluating the physical fitness of the students. Physical Education teachers lack the capability of using various types of physical tests. This has constrained the use of other physical fitness tests.

Physical education teachers do not realize that the performance test can cause physical and psychological stress to the students especially the lower-level elementary school students (first, second, and third graders). The physical stress that is experienced by the students during the performance test can cause injury because the physical abilities of the students are still weak and cannot withstand the heavy loads. Furthermore,

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the performance test can cause psychological stress. Specifically, when the students are afraid of performing the test, they start crying or even urinate during the test.

Based on the unpleasant empirical evidence, Thomas, Lee, and Thomas (1998, p.186) suggest that the Physical Education teachers should not implement the performance test to evaluate the physical fitness of the lower-level elementary school students. They suggest that the Physical Education teachers should conduct multiple observations when the students are performing physical activity to evaluate their physical fitness. However, the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD) (2005, p.224) states that the authentic test is appropriate for the lower-level elementary school students.

According to Rink (2009, p.26), teachers are the most responsible people for developing and preserving the physical fitness of students through physical activities and sports. Lutan (2001, p.26) states that Physical Education teachers have very strategic roles and are one of the main aspects that form the attitude towards active lifestyle. Physical Education teachers, as educators in this case, are expected to create and try different strategies to maximize the competence and responsibility of their students (Hortiguela-Alcala, Perez-Pueyo, and Moncada-Jimenez, 2015, p.203), specifically towards their own fitness. There are many factors that determine fitness of a person. One such factor is the concern for his/her own physical activity. Physical activity is widely recognized as an important behavioural characteristic for promoting health and preventing disease (Marta, Marinho, and Marques, 2012, p.446). Siedentop (2002, p.394) argues that a nation that is able to encourage its people to perform physical activity is bound to significantly reduce the healthcare cost.

Nevertheless, Lu and Lisio (2009, p.175) remind that the overall objective of Physical Education is not only to improve the physical fitness of students but to instil the sense of affection towards physical fitness and activities throughout their lives. Similar argument is stated by Pangrazi (2010, p.2) and Rink (2009, p.26). Specifically, the main objective of Physical Education is to encourage students to develop active lifestyle to achieve and maintain their physical fitness. This means that physical fitness is not the final result but a continuous process that has to be sustained (Hinson, 1995, p.4). Furthermore, the National Association of Sport and Physical Education (NASPE) (2005, p.14) suggests that fitness is a journey, not a destination.

Physical fitness is a very important aspect of Physical Education. It has become one of the goals that has to be achieved by the students during the teaching-learning process by choosing various physical activities and sports (Department of Education, 2006, p.143). Healthy lifestyle and physical fitness have to be preserved throughout life. Thomas, Lee, and Thomas (2000, p.xx) suggest that physical fitness is a reflection of a physically active lifestyle. Students who are physically active will have their bodies in good shape and will be able to maintain their fitness (Rink, 2009, p.27). The result of the research shows that there is a significant correlation between the physical fitness and involvement in physical activities. Students who are more active during a physical activity will be more fit and slim and have fewer health risks (Thomas, Lee, and Thomas, 1998, p.10). The involvement in a physical activity by the students is influenced by their growth and development.

For a normal students' body, the height grows fast until three years of age. Then, the growth will remain constant until nine years of age. During this age, boys are slightly taller than girls. However, during puberty (10-13 years of age), girls will grow faster, which makes them taller than boys. When boys reach puberty, they will experience a rapid growth, which makes them taller and bigger than girls of the same age.

In relation to body weight, fast development occurs in babies but it becomes relatively constant during childhood. Boys will have higher weight than girls. When girls experience fast development at 9-10 years of age, they will have higher weight than boys. On the other hand, boys will have a fast growth at 13-14 years of age. Girls will have their body weight mature between 15-16 years of age. The same will occur for boys at 20 years of age (Thomas, Lee, and Thomas, 1998, p.16). Body size, including body height, weight, and muscle-fat ratio, affects the motor skill performance of the students. For example, students who are taller and weigh less are able to jump farther and have a better capability to perform various physical activities that require muscular endurance such as pull-ups and sit-ups (Thomas, Lee, and Thomas, 1998, p.17).

Physical fitness implies physical skill. A person is considered fit to perform a task if that person is able to perform it efficiently without experiencing exhaustion and quickly recover after performing the task. Corbin, Masurier, and Lambdin (2007, p.9) argue that physical fitness is the ability of the body systems to work together efficiently. According to Wikgren (2010, p.22), physical fitness is a way to measure the ability of the body to perform a physical activity ranging from moderate to high intensity without experiencing exhaustion. According to these boundaries, it can be concluded that physical fitness is the ability of a person to perform physical activity efficiently without experiencing exhaustion and quickly recover to the normal state.

Physical fitness is one of the physical aspects of the total fitness that makes a person able to live productively and able to adapt to physical burden. A person with a good physical fitness does not get exhausted easily and is able to continue the activity even during the exhaustion (Prastiwi and Suharjana, 2014, p.25). Thus, physical fitness involves a person's physical adaptation skill towards the physiological change in the body due to certain work. Furthermore, physical fitness describes a person's degree of health for performing various physical activities from moderate to high intensity.

According to Schmottlach, McManama, and Hicks (2010, p.16), physical fitness can be divided into two categories, which are health-related fitness and skill-related fitness. Hinson (1995, pp.6-7), Summerford

(2000, p.135), and Wikgren (2010, p.5) argue that health-related fitness includes five components, which are cardiorespiratory endurance, muscle strength, muscle endurance, flexibility, and body composition. On the other hand, skill-related fitness includes six components such as agility, balance, coordination, speed, power, and reaction time. The discussion of this research emphasizes the health-related fitness.

Among the five components of health-related fitness, cardiorespiratory endurance is the most essential. This shows that cardiorespiratory endurance is a sufficient representative indicator that describes a physical fitness status of a person. Additionally, a person with a good fitness status has a good cardiorespiratory endurance. If a person has a good cardiorespiratory endurance, this also means that the person has a high maximum aerobic capacity (VO_2 max). VO_2 max is considered as the best criterion of the cardiorespiratory endurance capacity or physical fitness. According to Thomas, Lee, and Thomas (1998, p.26), the average VO_2 max of an active student is approximately 40-50 millilitre/kilogram of body weight/minute. This means that every kilogram of body weight consumes 40-50 millilitres of oxygen per minute during an intense physical activity. Cardiorespiratory endurance is the ability of the heart, circulatory system, and lungs to supply oxygen to the working muscles for a long period of time and to remove metabolic residue (Hinson, 1995, p.6; Schmottlach, McManama, and Hicks, 2010, p.16).

Physical fitness development should always be a priority if a person (i.e., a student) does not want to experience difficulty in life. The development of physical fitness implies training of physical fitness components such as cardiorespiratory endurance, muscle strength, muscle endurance, and flexibility. Thus, to improve or maintain physical fitness, a person has to exercise regularly and measurably. In addition, a person has to consume healthy food with balanced nutrients such as carbohydrates, proteins, fats, vitamins, minerals, and water. Another important factor is relaxation to achieve recovery because human body has its limits. This needs to be instilled into students by Physical Education teachers as early as possible for students to have a strong foundation for healthy life (Kumar, 2011, p.573).

The effectiveness of the implementation of the training program or physical fitness development can be determined via evaluation. Various tests have been developed to measure a person's physical fitness. There are simple tests and series of tests. Simple tests are easy to conduct using simple equipment, which is cheap and easy to obtain, but that allows to assess physical fitness. The results are equal to the laboratory measurement. Simple tests include the Harvard step test, 12 minute walk-run test, 2.4 km walk-run test, 15 minute walk-run test, and multi-staged test. A series of tests to measure the physical fitness include Indonesian Physical Fitness Test (IPFT) for various age groups (e.g., IPFT 6-9 years of age category, IPFT 10-12 years of age category, IPFT 13-15 years of age category, IPFT 16-19 years of age category), Teenage Physical Fitness Test, American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD) test, and Physical Fitness and Health Test for Indonesian Armed Forces. In addition, there is a series of physical fitness tests that are standard for Asia such as the Asian Committee on the Standardization of Physical Fitness Test (ACSPFT). Another series of physical fitness tests with international standards is the International Committee on Standardization of Physical Fitness Test (ICSPFT).

The equipment that is used to measure the physical fitness components mentioned earlier is called a fitnessgram. Fitnessgram is primarily oriented and related to physical fitness exercises. Furthermore, there is an activitygram. It is used to assess the physical fitness of students using an activity note to determine the level of daily activity for a long period of time. Activitygram is primarily oriented and related to the physical fitness lifestyle (Rink, 2009, p.29).

Materials and methods

This study is a descriptive research to determine the independent variable value (either one or more variables) without comparing or relating the variables (Sugiyono, 2004, p.11). The variable of this research is the physical fitness profile.

The subjects of this research were 82 lower-level students from the SD Negeri Ambarukmo (Ambarukmo Elementary School). There were 26 first-grade students, 27 second-grade students, and 29 third-grade students. This was a census research because every subject was used as a research sample. Therefore, there was no generalization in this research, and the result was applicable only to Ambarukmo Elementary School, which was the subject of the research.

The instrument that was used to collect the physical fitness data from the Ambarukmo Elementary School students was a non-test, which includes the observation guidelines that consist of four aspects such as enthusiasm, excitement, discipline, and totality of students' performance. Each aspect has five descriptors. The instrument that was used to evaluate the physical fitness of the lower level students has been validated by competent experts in this field and has a validity coefficient of 0.904. The observation guidelines that were used as the research instrument are enclosed in this paper as the appendix. Therefore, it is recommended to look at the Appendix. The technique of descriptive quantitative with percentage was used as the data analysis technique for this research (Suharsimi, 2006, p.215). Because there was no hypothesis in this research, the analysis was directed to answer the problem formulations. The analysis steps were as follows: (1) the aspect score of each student was summed, (2) the total aspect score of each student was divided by the total aspect observed, (3) the

quotient result was converted to the assessment standard, (4) and the physical fitness score of a student was converted into percentage.

Results

The research data obtained from authentic scoring using the observation guidelines during the physical education teaching-learning process has been analysed, and the results are shown in Tables 1-6.

Table 1. Total physical fitness score of the first grade students

No.	Aspects	Score				Note
		I1	Cl	I2	Cl	
1.	Enthusiasm	3.1	M	3.1	M	No Change
2.	Excitement	3	M	3.1	M	Increased
3.	Discipline	2.8	M	3	M	Increased
4.	Totality	3.0	M	3.1	M	Increased
Average		**3.0**	**M**	**3.1**	**M**	**Increased**

Table 1 shows that for two implementations (I1 and I2) of the physical fitness data collection, the measured aspects for the first-grade students have scores between 2.8 to 3.1. Moreover, there is no significant change in the score, the difference is between 0.1 and 0.2, and there is even no change in the score of the enthusiasm aspect. The category (C1) of the average aspect score is moderate (M). This shows that the physical fitness of the first-grade students from the Ambarukmo Elementary School is moderate.

Table 2. Total physical fitness score of the second-grade students

No.	Aspects	Score				Note
		I1	Cl	I2	Cl	
1.	Enthusiasm	3.2	M	3.2	M	No Change
2.	Excitement	3.1	M	3.2	M	Increased
3.	Discipline	3	M	3.1	M	Increased
4.	Totality	3.1	M	3.2	M	Increased
	Average	**3.1**	**M**	**3.2**	**M**	**Increased**

Table 2 shows that for two implementations of the physical fitness data collection, the measured aspects for the second-grade students have scores between 3 to 3.2. Moreover, the score change is relatively small. The score increased by 0.1, and there was no change in the score of the enthusiasm aspect. The score change was insignificant. The average of the aspect score can be categorized as moderate. This shows that the physical fitness of the second-grade students from the Ambarukmo Elementary School is moderate.

Table 3. Total physical fitness score of the third-grade students

No.	Aspects	Score				Note
		I1	Cl	I2	Cl	
1.	Enthusiasm	3.2	M	3.6	M	Increased
2.	Excitement	3.2	M	3.6	M	Increased
3.	Discipline	3.1	M	3.5	M	Increased
4.	Totality	3.2	M	3.6	M	Increased
	Average	**3.2**	**M**	**3.6**	**M**	**Increased**

Table 3 shows that for two implementations of the physical fitness data collection, the measured aspects for the third-grade students have scores between 3.1 and 3.6. Furthermore, the score change is relatively small (only 0.4 for the overall aspects measured). There is no significant increase of the score. The average of the aspect score can be categorized as moderate. This shows that the physical fitness of the third-grade students from the Ambarukmo Elementary School is moderate.

Table 4. The physical fitness percentage of the first-grade students

No.	Categories	Meeting 1		Meeting 2		Note
		∑	%	∑	%	
1.	Very Good	0	0	0	0	No Change
2.	Good	4	15.4	4	15.4	No Change
3.	Average	10	38.5	16	61.5	Increased
4.	Poor	12	46.1	6	23.1	Decreased
5.	Very Poor	0	0	0	0	No Change
	Total	**26**	**100**	**26**	**100**	–

Table 4 shows that for two implementations of the physical fitness data collection, there are no first-grade students (0 %) whose physical fitness can be categorized as very good and very poor. There are four first-grade students (15.4 %) whose physical fitness can be categorized as good (both on the first and on the second

meeting). Regarding the average category of the first-grade students, there are 10 students (38.5 %) on the first meeting and 16 students (61.5 %) on the second meeting. Thus, there is an increase of six students (23 %) in the average category. There are first-grade students whose physical fitness can be categorized as poor, 12 students (46.1 %) on the first meeting and six students (23.1 %) on the second meeting. Thus, there is a decrease of six students (23 %) in the poor category.

Even though the number of first-grade students, whose physical fitness is categorized as average, has increased, and the number of students, whose physical fitness is categorized as poor, has decreased, these changes are within the poor-average range. Furthermore, 10 first-grade students (38.5 %) on the first meeting and 16 first-grade students (61.5 %) on the second meeting are categorized as average. Therefore, the physical fitness of the first-grade students from the Ambarukmo Elementary School is average.

Table 5. The physical fitness percentage of the second-grade students

No.	Categories	Meeting 1		Meeting 2		Note
		∑	%	∑	%	
1.	Very Good	0	0	0	0	No Change
2.	Good	6	22.2	6	22.2	No Change
3.	Average	12	44.5	17	63.0	Increased
4.	Poor	9	33.3	4	14.8	Decreased
5.	Very Poor	0	0	0	0	No Change
Total		**27**	**100**	**27**	**100**	–

Table 5 shows that for two implementations of the physical fitness data collection, there are no second-grade students (0 %) whose physical fitness can be categorized as very good and very poor. There are six second-grade students (22.2 %) whose physical fitness can be categorized as good both on the first and second meeting. Regarding the average category of the second-grade students, there are 12 students (44.5 %) on the first meeting and 17 students (63.0 %) on the second meeting. Thus, there is an increase of five students (18.5 %) in the average category. Regarding the poor category of the second-grade students, there are nine students (33.3 %) on the first meeting and four students (14.8 %) on the second meeting. Thus, there is a decrease of five students (18.5 %) in the poor category.

Even though the number of second-grade students, whose physical fitness is categorized as average, has increased, and the number of students, whose physical fitness is categorized as poor, has decreased, these changes remain within the poor-average range. Furthermore, 12 second-grade students (44.5 %) on the first meeting and 17 second-grade students (63.0 %) on the second meeting are categorized as average. Therefore, the physical fitness of the second-grade students from the Ambarukmo Elementary School is average.

Table 6. The physical fitness percentage of the third-grade students

No.	Categories	Meeting 1		Meeting 2		Note
		∑	%	∑	%	
1.	Very Good	3	10.3	4	13.8	Increased
2.	Good	9	31.0	8	27.6	Decreased
3.	Average	13	45.0	15	51.7	Increased
4.	Poor	4	13.7	2	6.9	Decreased
5.	Very Poor	0	0	0	0	No Change
Total		**29**	**100**	**29**	**100**	–

Table 6 shows that for two implementations of the physical fitness data collection, there are no third grade students (0 %) whose physical fitness can be categorized as very poor. There are three third-grade students (10.3 %) on the first meeting and four third-grade students (13.8 %) on the second meeting whose physical fitness can be categorized as very good. Thus, there is an increase of one student (3.5 %) in the very good category. Regarding the good category of the third-grade students, there are nine students (31.0 %) on the first meeting and eight students (27.6 %) on the second meeting. Thus, there is a decrease of one student (3.4 %) in the good category. Regarding the average category of the third-grade students, there are 13 students (45.0 %) on the first meeting and 15 students (51.7 %) on the second meeting. Thus, there is an increase of two student (6.7 %) for the average category. On the other hand, there are four third-grade students (13.7 %) whose physical fitness can be categorized as poor on the first meeting and two students (6.9 %) on the second meeting. Thus, there is a decrease of two students (6.8 %) in the poor category. Even though the number of the third-grade students, whose physical fitness is categorized as very good, has increased, and the number of students, whose physical fitness is categorized as good and poor, has decreased, the changes are insignificant. Furthermore, 13 third-grade students (45.0 %) on the first meeting and 15 third-grade students (51.7 %) on the second meeting are categorized as average. Therefore, the physical fitness of the third-grade students from the Ambarukmo Elementary School is average.

Discussion

Overall, the physical fitness of the first, second, and third-level students can be categorized as average. However, upon closer examination, a significant difference in physical fitness percentage is observed between the first and second-grade students on the one hand and the third-level students on the other hand. In the first and second grades, there are no students (0 % of students), whose physical fitness can be categorized as very good. However, in the third grade, there are 3 students (10.3 %) on the first meeting and four students (13.8 %) on the second meeting, whose physical fitness can be categorized as very good. Furthermore, Tables 4-6 show that with the increase in level, there are more students whose physical fitness can be categorized as average to good and very good. The third grade has a higher physical fitness percentage than the second grade, and the second grade has a higher physical fitness than the first grade.

Physical fitness is influenced by the person's lifestyle including dietary habits, activity pattern, rest pattern, and mindset. The most important factor is the activity pattern. Thomas, Lee, and Thomas (2000, p.xx) suggest that physical fitness is a reflection of the physically active lifestyle. A student who is physically active tends to have a fit body and will always maintain his fitness (Rink, 2009, p.27). The result of the research shows that there is a significant relation between physical fitness and participation in physical activity. A student who is more active in a physical activity will be fitter, slimmer, and have less health risks (Thomas, Lee, Thomas, 1998, p.10). The participation of students in a physical activity is influenced by their growth and development.

The higher scores of the third-grade students and their physical fitness percentage are reasonable. They already have more time and experience in learning either at school through motion tasks given by the teachers or outside the school through their physical activities with their peers. There is a profound implicit message conveyed by this statement that the process is important for achieving a better learning result. The behavioural changes in students, who are the targets of the teaching-learning process, are not easy to achieve because these changes require time. Schmidt (2004, pp.195-198) suggests that the learning process requires three stages. These stages are verbal-cognitive stage, motoric stage, and automatic stage. During the early stage of learning a motion task, students require information to understand how the task should be performed. Then, the students start to perform the task, and they will finally be able to find the motion patterns that are in accordance with the motion task. After multiple exercises, students will eventually able to perform the motion task automatically. Patience, diligence, and perseverance are key for successfully achieving future goals.

Longer time and more learning experience allows third-grade students to perform activities that involve every organ in the human body. Therefore, they will have a healthier body, stronger muscles, and a better motoric quality (Saputra, 2004, p.7) compared with the first and second-grade students. This is in accordance with the characteristics of the first, second, and third-grade students. Annarino, Cowell, and Hazelton cited by Hidayatullah (2013, p.30) suggest that the first and second-grade students have slower movement reaction, less coordination, softer bones, and lower endurance. However, the third-grade students have better conditions than the first and second-grade students.

Conclusions

According to the results of research and discussion, it can be concluded that the physical fitness profile of lower-level students (first, second, and third grade) from the Ambarukmo Elementary School can be categorized as average based on the use of observation guidelines.

The results of the research have theoretical and practical implications for the Physical Education especially in relation to the physical fitness test. Theoretically, the results of the research can open new horizons for the Physical Education teachers for the physical fitness assessment, particularly in relation to the instruments that are used to measure the physical fitness of lower-level elementary school students. The existence of the observation guidelines for the physical fitness assessment can be a new alternative instrument for the Physical Education teachers to measure the physical fitness of lower-level elementary school students. Practically, the results of the research provide a new solution for the Physical Education teachers to overcome the problem of implementing the physical fitness test for the lower-level elementary school students. The lower-level elementary school students have been physically and psychologically stressed during the physical fitness test due to the performance test that is used as the instrument. Using the observation guidelines, the lower-level elementary school students will no longer experience physical and psychological stresses. This condition will affect the result. The results that the students demonstrate will be more natural and in accordance with the actual condition.

According to the results of the research and the implications towards physical fitness, it is suggested that the lower-level elementary teachers do not use the performance test, such as IPFT, any longer as the instrument to evaluate the physical fitness of the lower-level elementary school students. Instead, the lower-level elementary teachers should use the observation guidelines as the instrument.

References

AAHPERD. (2005). *Physical education for lifelong fitness: The physical best teacher's guide*. Champaign, IL: Human Kinetics.

Corbin, C.B., Masurier, G.C.L., & Lambdin, D.D. (2007). *Fitness for life: Midddle school*. Champaign, IL: Human Kinetics.

Department of Education. (2006). *Kurikulum tingkat satuan pendidikan mata pelajaran pendidikan jasmani olahraga dan kesehatan 2006* [School-based curriculum for the subject of physical education, sport, and health year 2006]. Yogyakarta: Ringinsari Elementary School.

Hidayatullah, M.F. (2013). *Aktivitas gerak pada masa kanak-kanak* [Childhood motor activities] (1st ed.). Solo: Cakra Wijaya.

Hinson, C. (1995). *Fitness for children*. Champaign, IL: Human Kinetics.

Hortiguela-Alcala, D., Perez-Pueyo, A., & Moncada-Jimenez, J. (2015). An analysis of the responsibility of physical education students depending on the teaching methodology received. Journal of Physical Education and Sport, 15(2), pp.202-207. Doi: 10.7752/jpes.2015.02031;

Kumar, A. (2011). Importance of physical education, games, and sports activities. *Visual Soft Research & Development Journal of Technical & Non-Technical Research*, 11(2), 570-573.

Lu, C. & Lisio, A.D. (2009). Specifics for generalists: Teaching elementary physical education. *International Electronic Journal of Elementary Education*, 3(1), 170-187.

Lutan, R., Hartoto, J., & Tomoliyus. (2001). *Pendidikan kebugaran jasmani: Orientasi pembinaan di sepanjang hayat* [Physical fitness education: Long life founding orientation]. Jakarta: Directorate General of Sport, Ministry of Education.

Marta, C., Marinho, D., & Marques, M. (2012). Physical fitness in prepubescent children: An update. *Journal of Physical Education and Sport*, 12(4), pp.445-457. Doi: 10.7752/jpes.2012.04066;

NASPE. (2005). *Physical best activity guide: Elementary level* (2nd ed.). Champaign, IL: Human Kinetics.

Pangrazi, R.P. & Beighle, A. (2010). *Dynamic physical education for elementary school children*. San Francisco, CA: Pearson Benjamin Cummings.

Prastiwi, B., & Suharjana, S. (2014). Pembuatan tes dan norma kebugaran jasmani untuk anak usia dini (4-6) tahun di provinsi DIY [Constructing a test and standard of physical fitness for 4-6 years old children in Yogyakarta Special Region]. *Jurnal Keolahragaan, 2*(1), 22 - 31. doi:http://dx.doi.org/10.21831/jk.v2i1.2600

Rink, J.E. (2009). *Designing the physical education curriculum: Promoting active lifestyles*. New York, NY: McGraw-Hill.

Saputra, Y.M. (2004). *Dasar-dasar keterampilan atletik: Pendekatan bermain untuk sekolah lanjutan tingkat pertama* [Athletics skill bases: Game approach for junior secondary schools]. Jakarta: Ministry of Education Directorate General of Secondary Education.

Schmidt, R.A. & Wrisberg, C.A. (2004). *Motor learning and human performance* (3rd ed.). Champaign, IL: Human Kinetics.

Schmottlach, N., McManama, J., & Hicks, L. (2010). *Physical education activity handbook* (12th ed.). San Francisco, CA: Pearson Education.

Siedentop, D. (2002). Junior sport and the evolution of sport cultures. *Journal of Teaching in Physical Education*, 21(4), 394-410.

Sugiyono. (2004). Metode penelitian administrasi [Administration research method] (11th ed.). Bandung: Alfabeta.

Suharsimi. (2006). Prosedur penelitian: Suatu pendekatan praktik [Research procedure: A practical approach] (8th ed.). Jakarta: Rineka Cipta.

Summerford, C. (2000). *PE-4-ME: Teaching lifelong health and fitness*. Champaign, IL: Human Kinetics.

Thomas, J.R., Lee, A.M., & Thomas, K.T. (1998). *Physical education for children: Concepts into practice*. Champaign, IL: Human Kinetics.

Thomas, K.T., Lee, A.M., & Thomas, J.R. (2000). *Physical education for children: Daily lesson plans for elementary school* (2nd ed.). Champaign, IL: Human Kinetics.

Wikgren, S., Scott, C., & Rinaldi, A (Eds.). (2010). *Health and wellness for life*. Champaign, IL: Human Kinetics.

Appendix

Physical fitness measurement instruments

Observation guidelines

Scoring Guideline

The scoring guideline is as follows:

Score 5 = When the students are able to involve 5 descriptors of enthusiasm/ excitement/ discipline/ totality aspects for performing the motion task.

Score 4 = When the students are able to involve 4 descriptors of enthusiasm/ excitement/ discipline/ totality aspects for performing the motion task.

Score 3 = When the students are able to involve 3 descriptors of enthusiasm/ excitement/ discipline/ totality aspects for performing the motion task.

Score 2 = When the students are able to involve 2 descriptors of enthusiasm/ excitement/ discipline/ totality aspects for performing the motion task.

Score 1 = When the students are able to involve 1 descriptors of enthusiasm/ excitement/ discipline/ totality aspects for performing the motion task.

Observed Aspects and Descriptors

Aspect	Descriptor
Enthusiasm	• Students perform the motion task that is given by the teacher passionately. • Students immediately perform the motion task that is given by the teacher. • Students remain active without being ordered by the teacher. • Students answer questions given by the teacher voluntarily. • Students ask the teacher to make himself clear.
Excitement	• Students perform the motion task with the expression of excitement without feeling pressured. • Students perform the motion task joyfully. • Students are able to relax or experience no pressure when performing the motion task. • Students excitedly reply to the greeting of the teacher at the beginning and at the end of the lesson. • Students excitedly answer the questions of the teacher.
Discipline	• Students arrive on time for the lesson. • Students perform the motion task in accordance with the regulations. • Students ask the teacher's permission upon leaving the lesson. • Students pay attention to the teacher's explanation. • Students do not interfere with other friends during the lesson.
Totality	• Students perform the motion task given by the teacher earnestly. • Students perform the motion task given by the teacher with appreciation. • Students sweat heavily when performing the motion task given by the teacher. • Students perform the motion task given by the teacher tirelessly. • Students perform the motion task consistently until the end of the lesson.

Assessment Standard

No.	Total Score	Category	
1.	5.0	Very Good	(VG)
2.	4.0 – 4.9	Good	(G)
3.	3.0 – 3.9	Average	(A)
4.	2.0 – 2.9	Poor	(P)
5.	1.0 – 1.9	Very Poor	(VP)

Observation Sheet

No.	Name	Aspect Score				Total
		Enthusiasm	Excitement	Discipline	Totality	
1.	Akmalia Putra	4	5	4	4	17
2.	Asalianinda	5	5	4	4	18
3.	Avioraneta	5	5	4	5	19
4.	Dewi Sekararum	5	4	4	5	18
5.	etc.					

Assessment

$$\text{Student's Score} = \frac{\text{Total Aspect Score Observed}}{\text{Total Aspect}}$$

Example:

Dewi Sekararum receives an enthusiasm score of 5, excitement score of 4, discipline score of 4, and totality score of 5. The total score that she receives is 18. Then, the total score is divided by the total aspect, which is 4. Thus, the obtained score is 4.5. This score is compared with the assessment standard. According to the assessment standard, the score of 4.5 can be categorized as good. Therefore, the physical fitness of Dewi Sekararu