Survey of Motoric Ability of Class I Elementary School Students in Makassar City

Wahyudin
Faculty of Sports Science
Universitas Negeri Makassar
Makassar, Indonesia
wahyuddin@unm.ac.id

Saharullah
Faculty of Sports Science
Universitas Negeri Makassar
Makassar, Indonesia
ullah_fik@yahoo.com

Muhammadong
Faculty of Sports Science
Universitas Negeri Makassar
Makassar, Indonesia
muhammadong@unm.ac.id

Abstract—**This study aims to determine the level of students motoric abilities of class 1 at Bawakaraeng 1 Elementary School, Makassar City. This study is a quantitative descriptive study. The subjects of this study were all class 1 students of Bawakaraeng 1 Elementary School, Makassar City, with a total number of 68 children divided into 2 (two) classes namely class IA and class IB. The data collection technique uses tests to measure motoric abilities, which consist of 5 test items, namely running back and forth, running a short distance of 20 meters, kicking the ball into the wall, throwing tennis balls at the wall, and throwing softballs. Data analysis techniques used descriptive analysis. The results of the study obtained motoric abilities of class 1 students at Bawakaraeng 1 Elementary School, Makassar District, Makassar City as a whole were different. In detail, as many as 5 students (7.35%) have very poor motoric abilities, 20 students (29.41%) have poor motoric abilities, 26 students (38.25%) have moderate motoric abilities, 11 students (16.17%) have good motoric abilities, and 6 students (8.82%) have very good motoric abilities. Most of the motoric abilities that possessed by the class 1 students at Bawakaraeng 1 Elementary School, Makassar City are in the moderate category.**

Keywords—motoric abilities, class 1 students

I. INTRODUCTION

The facts show motoric abilities affect at 1 student in elementary school as a basis for changing their lifestyle later after they grow up, because of the basis of abilities and skills that are motion or increased exercise skills with lots of movement (practicing). In this activity, it can be seen that children have various nuances of motion and very influence the children's motoric abilities.

The ability of each student to master various nuances of gross motoric abilities is not the same; this makes each student have different motoric abilities, so surely each student has a difference in gross motoric abilities.

The location of the Bawakaraeng 1 Elementary School, Makassar District, Makassar City is in a residential area a superior school that its students come from quite high socio-economic conditions. It is not uncommon for every parent to take their children to go to school. Some parents use the shuttle service provided by the school. So, it is rare to find students from Bawakaraeng 1 Elementary School, Makassar District, Makassar City walking when they go to school, even when they go home, they go straight into the house so that the children cannot play freely. With the development of technologies such as mobile phones, Playstations and social media such as Facebook, Twitter, which are very popular, make some individuals lazy to do any movement activity and prefer to play social media and also games. They are also tired of the learning routines in school and additional lessons outside of the school such as tutoring, etc.

Basically, elementary school students can already see how far their motoric abilities are. By knowing the students' motoric abilities accurately is one of the keys to successful education efforts. It means the teacher will understand the abilities and needs of the students so that the teacher can determine the material and method of delivery according to the condition of the students. Based on observations, the researchers were interested in examining the level of motor abilities of class 1 students at Bawakaraeng 1 Elementary School, Makassar City.

According to Payne & Isaacs, motoric development is the development of physical movement control through coordinated central nerve activity, nerves, and muscles [1]. While motoric development according to Kadir et al. is a developmental ability of someone in displaying more complex motion abilities [2]. Kadir et al. also stated that motoric development ability is a general ability of a person which is related to the appearance of various movement abilities or movement tasks.

The function of motor skills according to Cureton in Mutohir is to develop the ability of each individual that is useful for enhancing work power [3]. By having good motoric abilities, the individuals have the foundation to master the tasks of specific motor skills. All motoric elements in each student can develop through the sports activities and play activities that involving muscles. The more children experience motion, the elements of their motoric abilities getting more trained with a lot of motoric experience that will increase their maturity in performing motoric activities.

The formation of the physical quality of human being is basically a process that must be empowered from an early age. To produce the expected physical quality, it's not only supported by excellent productivity but also must be able to produce better performance, through education, especially elementary school education, teachers need to create conducive conditions in the teaching and learning process with regard to age, providing exercise facilities which are in accordance with the age of anatomical, psychological, biomechanical, motoric, and socialization development as well as reliable teaching staff which is capable of developing students' motoric abilities properly.

From the description above it can be seen that motoric abilities have an important role in the process of growth and development at an early age. Exercise activities that are trained will increase maturity in movement activities, especially motoric abilities. Therefore there is a need for a continuous process of good training through evaluation by taking measurements, so that the tests can be carried out to measure motoric abilities in grade 1 students of elementary school.

II. RESEARCH METHODS

This study is a descriptive study that one of its characteristics is that it does not require a hypothesis. The variable depicted is the level of motor skills of class 1 students at Bawakaraeng 1 Elementary School, Makassar City. The method that used in this study is a survey with test techniques and measurement of motoric abilities. With the subject of study are grade 1 students in elementary school.

The population in this study were all grade 1 students at SDN Bawakaraeng 1, Makassar Regency, Makassar City, that consist of Class IA and Class IB with 34 children per class, so the number of samples was 68 children. After all the data is collected, the data is analyzed by descriptive statistical analysis with percentages, so the conclusions can be drawn. The steps to classify are as follows:

A. Results

Results are each item test that is achieved by each student who has taken the test. The level of children's motoric abilities cannot be assessed directly based on the results of the tests that have been achieved, because the unit of measurement that used for each item of the test is not the same, namely:

1. The speed test item is measured by 20 meters (short distance) run using unit time (seconds).
2. The agility test item is measured by a shuttle run or run back and forth using the unit of time (seconds).
3. The eye-foot coordination test item is measured by kicking the ball into the wall that calculated in frequency.
4. The eye-hand coordination test item is measured by throw a tennis ball to the wall that calculated in frequency.
5. Explosion power test item is measured by softball throwing uses a unit of length measure (cm and m).

B. Test Value

Rough results with different units of each test item need to be changed to the same size. This replacement unit of measure is a T score. Furthermore, the T score of each type of ability test is summed and divided by the number of ability test items to obtain the total T score. The results of this T score form the basis for determining the classification of students' motoric abilities. To determine the value limit for the T score for each category, the raw score (T score) is used.

TABLE I.   T SCORE FOR EACH CATEGORY

Score	Category
≥ 65	Very Good
$55 < 65$	Good
$45 < 55$	Moderate
$35 < 45$	Poor
≤ 35	Very Poor

III. RESULTS AND DISCUSSION

A. Student Motoric Ability for Each Component

1) Speed

The results of data analysis obtained the maximum value of 66.43 and a minimum value of 33.61. The mean obtained is 50.00, and the deviation standard is 10.00. The following is the frequency distribution of motoric abilities of grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City based on a 20-meter run test (Fig. 1).
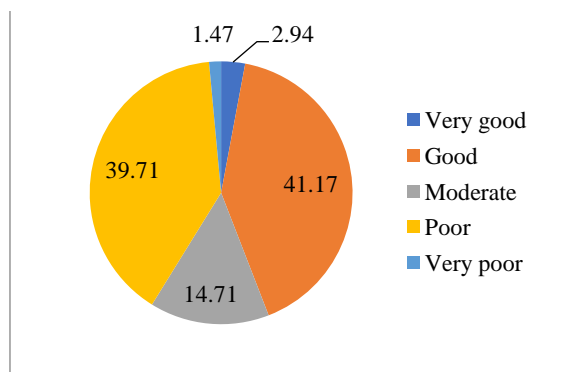

Fig. 1. Speed frequency distribution for grade 1 students in elementary school

Based on Fig. 1, it was found that 1 student (1.47%) had very poor running speed, 27 students (39.71%) had poor running speed, 10 students (14.71%) had moderate running speed, 28 students (41.17%) had good running speed, and 2 students (2.94%) had very good running speed. So it can be concluded that the level of motoric abilities of class 1 students at Bawakaraeng 1 Elementary School, Makassar District, Makassar City based on a 20 meters run test is different. So it can be concluded that the majority of the 20 meters running ability possessed by grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City is in the good and poor category.

2) Agility

The results of data analysis obtained the maximum value of 70.72 and a minimum value of 31.71. The mean obtained is 50.00, and the deviation standard is 10.00. The following is the frequency distribution of motoric abilities of grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City based on a shuttle run test (Fig. 2).
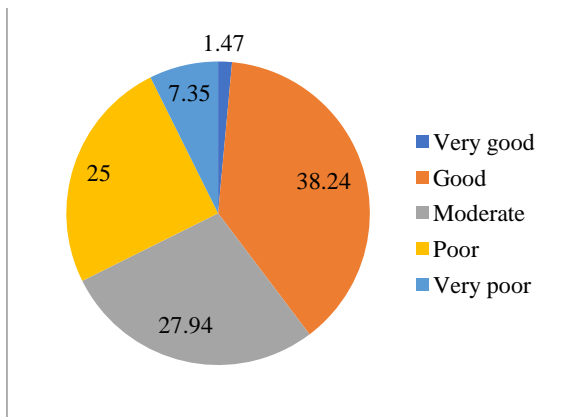
Fig. 2. Agility frequency distribution for grade 1 students in elementary school

Based on Fig. 2, it was found that 5 students (7.35%) had very poor agility, 17 students (25.00%) had poor agility, 19 students (27.94%) had moderate agility, 26 students (38.24%) had good agility, and 1 student (1.47%) had very good agility. So it can be concluded that the majority of the agility abilities using the shuttle run possessed by grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City is in a good category.

3) Eye-Foot Coordination
The results of data analysis obtained the maximum value of 72.18 and a minimum value of 37.71. The mean obtained is 50.00, and the deviation standard is 10.00. The following is the frequency distribution of motoric abilities of grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City based on an eye-foot coordination test (Fig. 3).
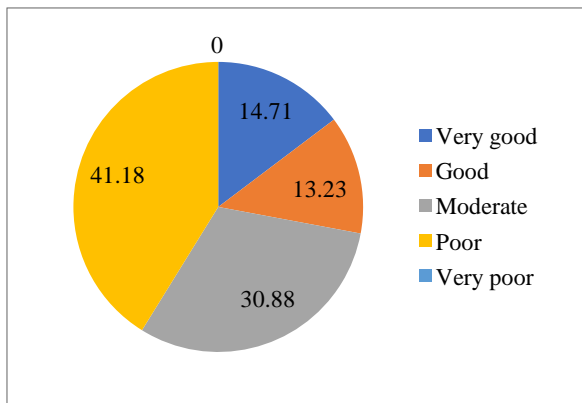

Fig. 3. Eye-foot coordination frequency distribution for grade 1 students in elementary school

Based on Fig. 3, it was found that 0 students (0.00%) had very poor eye-foot coordination, 28 students (41.18%) had poor eye-foot coordination, 21 students (30.88%) had moderate eye-foot coordination, 9 students (13.23%) had good eye-foot coordination, and 10 students (14.71%) had very good eye-foot coordination. So it can be concluded that the majority of the eye-foot coordination possessed by grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City is in the poor category.

4) Eye-Hand Coordination
The results of data analysis obtained the maximum value of 68.14 and a minimum value of 33.32. The mean obtained is 50.00, and the deviation standard is 10.00. The following

is the frequency distribution of motoric abilities of grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City based on an eye-hand coordination test (Fig. 4).
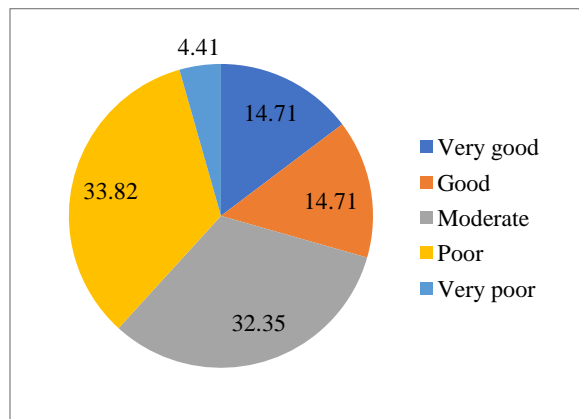

Fig. 4. Eye-hand coordination frequency distribution for grade 1 students in elementary school

Based on Fig. 4, it was found that 3 students (4.41%) had very poor eye-hand coordination, 23 students (33.82%) had poor eye-hand coordination, 22 students (32.35%) had moderate eye-hand coordination, 10 students (14.71%) had good eye-hand coordination, and 10 students (14.71%) had very good eye-hand coordination. So it can be concluded that the majority of the eye-hand coordination possessed by grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City is in the poor and moderate category.

5) Explosion Power
The results of data analysis obtained the maximum value of 82.38 and a minimum value of 38.08. The mean obtained is 50.00, and the deviation standard is 9.99. The following is the frequency distribution of motoric abilities of grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City based on an explosion power test (Fig. 5).
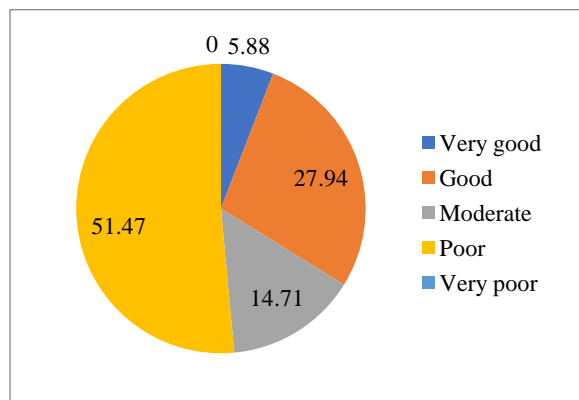

Fig. 5. Explosion power frequency distribution for grade 1 students in elementary school

Based on Fig. 5, it was found that 0 students (0.00%) had very poor explosion power, 35 students (51.47%) had poor explosion power, 10 students (14.71%) had moderate explosion power, 19 students (27.94%) had good explosion power, and 4 students (5.88%) had very good explosion power. So it can be concluded that the majority of the explosion power possessed by grade 1 students of

Bawakaraeng 1 Elementary School, Makassar District, Makassar City is in the poor category.

B. Student's Physical Condition

Overall, the results of data analysis obtained the maximum value of 291.10 and a minimum value of 213.65. The mean obtained is 250, and the deviation standard is 16.11. The following is the frequency distribution of motoric abilities of grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City based on an explosion power test (Fig. 6).

Based on Fig. 6, it was found that 5 students (7.35%) had very poor motoric abilities, 20 students (29.41%) had poor motoric abilities, 26 students (38.25%) had moderate motoric abilities, 11 students (16.17%) had good motoric abilities, and 6 students (8.82%) had very good motoric abilities. So it can be concluded that the level of motoric abilities of class 1 students at Bawakaraeng 1 Elementary School, Makassar District, Makassar City based on a 20 meters run test is different. So it can be concluded that the majority of the motoric abilities possessed by grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City is in the moderate category.
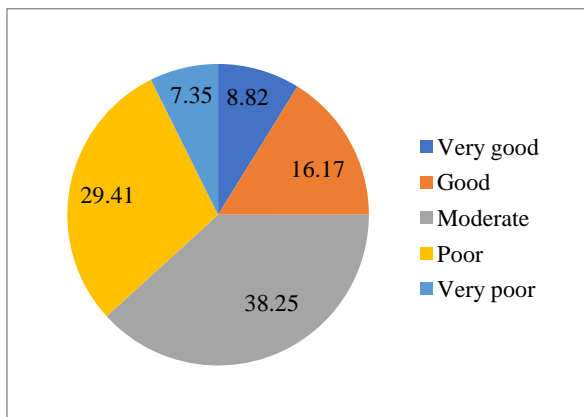

Fig. 6. Motoric abilities frequency distribution for grade 1 students in elementary school

C. Discussion

1) Environmental Stimuli

The influence of the environment on students' motoric abilities is not the same because students in grade 1 at Bawakaraeng 1 Elementary School, Makassar District, Makassar City have different environmental stimuli and habits. The children who live in a residential environment tend to have two possibilities, to be active or just passive. The children have good motoric abilities because they are affected by activities that carried out on a daily basis, for example, children usually go to school and go back home on foot. The active children also do a lot of other physical activities such as playing chases, ball games, traditional games and so on.

2) Nutritional Status

Nutritional status is the condition of every child that is influenced by the food consumed by the child every day. The children who have a good nutritional status will grow and develop in a balanced and healthy manner. If the child is healthy, the child will be able to carry out daily tasks well (learning and playing). Good nutritional status is one of the important conditions in achieving optimal health, not only

characterized by a good appearance physically but also mentally and emotionally.

Another impact of unbalanced or excessive nutritional status is the problem of malnutrition and overweight. As a result, children who have poor nutrition tend to have difficulty capturing information provided by the teacher. Usually, the concentration of children in learning is lacking and has a weakness in doing a movement. While the children who are overweight tend to have difficulty moving because they have excessive burdens that will interfere with their motoric abilities. In addition, in doing motion, the balance between the body and the center of gravity is lacking and also requires a lot of energy, so the child gets tired quickly. So as to ensure children's health and good motor development, a balanced nutritional status is needed.

3) Gender

Gender differences are very influential in children's motoric abilities; this is evident from various studies conducted by experts that boys tend to be stronger and gain more experience in completing motion tasks, but not always like that. With the changing times and the environment of society, there is no difference at all between boys and girls now. It is seen from the same nutritional status, almost the same experience of movement, better posture, and a balanced lifestyle.

The physical development of the child will determine the good and bad of the child's ability, but motoric development will greatly influence the differences in place of residence, community environment, daily life, and gender differences. So in planning the physical education, the teacher should consider the things that will affect the child's physical and mental development. So in undergoing education in school, children will get a better and more appropriate development of physical and personality competencies.

4) Maturity Stage

Motoric development depends on the maturity of the nerves and muscles of the child, no matter how much effort to improve child's motor abilities, if they do not pay attention to this stage of maturity there will be a failure and even personal damage or deviation of the child. Therefore, in an effort to develop a child's motoric abilities, the stage of growth and development of the child is very important.

5) Heredity and Genetics

The level of motoric abilities depends on a person's physical condition. Maybe it's because of different backgrounds in life. Besides that, the difference between races is very determined by heredity and disposition. For example, a race has a high and large shape while the other one is short and small. There are also those who have long bones while others are short, there are races that are sturdy, but other races are weak. Therefore, the differences in background can also determine the differences in the level of motoric abilities.

IV. CONCLUSION

Based on the results of the research that has been obtained, it can be concluded that the level of motoric abilities of students in grade 1 of Bawakaraeng 1 Elementary School, Makassar District, Makassar City as a whole is different, 5 students (7.35%) had very poor motoric abilities, 20 students (29.41%) had poor motoric abilities, 26 students

(38.25%) had moderate motoric abilities, 11 students (16.17%) had good motoric abilities, and 6 students (8.82%) had very good motoric abilities. the majority of the motoric abilities possessed by grade 1 students of Bawakaraeng 1 Elementary School, Makassar District, Makassar City is in the moderate category.

REFERENCES

[1] V. G. Payne and L. D. Isaacs, *Human motor development: A lifespan approach*. Routledge, 2017.

[2] M. R. Kadir, I. Irfanuddin, Y. Fediani, B. Santoso, and M. R. Dewi, "The Recommended Aerobic Gymnastics Has Better Effects on Improving Cognitive and Motoric Ability in Children," *Biosci. Med.*, vol. 2, no. 3, pp. 25–34, 2018.

[3] T. C. Mutohir, "Perkembangan Motorik pada Masa Anak-Anak," *Jakarta Proy. Pengemb. dan Keserasian Kebijak. Olahraga, Direktorat Jenderal Olahraga, Depdikanas*, 2004.