Relationship of Intellectual Property and the Basic Movement Ability in Elementary School Students

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Abstract: Physical education is not only required to develop psychomotor aspects, but physical education must be able to develop the cognitive, affective and psychomotor aspects of a learner. One of the materials in physical education is basic movement. In fact, this is the main material that should be developed by physical education in elementary schools. Because physical education should be able to develop human as a whole, then in the development of basic movement abilities are not only psychomotor aspects that must be considered but two other aspects of cognitive and affective must also be considered. The purpose of this research is to find out how much the relationship between intellectual intelligence with basic motion capabilities. This research is motivated by the interest of researchers to know that in physical education, especially learning basic movement abilities require not only the psychomotor aspect alone, but there is another determinant factor that is cognitive aspect. The research method used in this research is quantitative correlational descriptive method. The population and sample in this study were students of grade 3-B SD Labschool UPI which amounted to 29 people, it was obtained through technique of non-probability sampling with saturated sampling type. The instrument used as a measuring instrument for collecting data is the application of neuronation and TGMD-2. The data have been analyzed and processed through statistical software SPSS 20 for windows. Based on the results of the processing data, it was found that the relationship of intellectual intelligence with basic motion capability of 0.063 means the level of relationship is very low. It is also known that intellectual intelligence contributes 0.4% to basic movement ability while the rest is influenced by other factors.

1 INTRODUCTION

Physical education is one of the subjects in every school. Physical education aims to educate students through physical activity (Bailey et al., 2009). Nurjaya and Mulyana (2016) reveal that "Physical education is an educational process that deals with efforts to develop all student's potential". While the meaning of education itself according to *Kamus Besar Bahasa Indonesia (KBBI)* is "A learning process for every individual to achieve higher knowledge and understanding about certain and specific objects". Formally acquired knowledge that results in each individual that has a mind-set, behaviour and morals in accordance with the education obtained.

Intellectual intelligence is commonly called intelligence. The term was first popularized by Francis Galton, a leading English scientist and mathematician. Intelligence as the general capacity of the individual appears in the individual's ability to face the demands of life rationally (Engle, 1999). According to Galon (in Swandhana, 2015) intelligence is "the cognitive ability that organisms possess to adapt effectively to complex and ever-changing environments and influenced by genetic factors."

The learning of movement in physical education cannot be separated by the cognitive abilities of the students, because in every process of learning the motion in physical education requires the processing of information received and stored in the student's memory, which is essentially included to the cognitive ability, Riyadi said (2011) The process of mastering movement skills, not apart from the mastery and processing of information received during the learning process by learners. Information received during the learning of motion will be stored in the information storage system, which consists of sensory memory, short term

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memory, and long term memory. To generate a feedback or response from a stimulus (information) that is present in the learning process of motion, it takes several stages of information processing including stimulus identification, response selection and response programming as action. (p.11) The essence of education is not only to develop one aspect of human, but all the aspects that exist in human beings, the education is briefly aimed to humanize humans or help humans find their identity as human beings. Since physical education is one of education, physical education not only develops one or more aspects, but the three aspects developed in physical education are cognitive, affective and psychomotor. Therefore, in physical education these three aspects are needed to support successful students in undergoing physical education process. But in reality some societies think that physical education requires only psychomotor skills, or the society usually assumes that physical education is just a sport done at school.

Based on the problem, the researcher who is a physical education student feels the need to examine that physical education is not only using the ability of muscle or psychomotor ability, but physical education requires cognitive ability also to support the process of physical education. To prove it, the researcher conducted a research entitled "Intellectual Intelligence Relationship with Basic Movement Ability on Elementary School Students".

2 METHODS

The research method used in this research is descriptive correlational method by using quantitative approach, which means this study is trying to describe the relationship between intellectual intelligence with long service learning outcomes in badminton. According to Sudjana and Ibrahim (2007), merriam (1998), descriptive research is "a study that attempts to describe a phenomenon, event, event occurring in the present moment". This approach is used to test the predefined hypothesis. Sugiyono (2010) explains that:

Quantitative research methods can be interpreted as a research method based on philosophy positivism, used to examine the population or a particular sample, sampling techniques are generally done randomly, data collection using research instruments, quantitative / statistical data analysis with the aim to test the hypothesis has been established. Correlation study is a research that is studying the presence or absence of relationship between variables one with other variables (Riley, 2007). This is in line with what Sudjana and Ibrahim (2007) explain about the notion of correlational research methods, "correlation studies studying the relationship of two or more variables, i.e. the extent to which variations in one variable relate to variation in other variables".

2.1 Intelligence Test

The intelligence test is a test used to measure one's intelligence level (Cattel, 1940). The intelligence test used by researchers is the application software contained in the android smartphone that is Neuronation. Neuronation is an application published by Freie University Berlin and also in cooperation with other universities.

2.2 Basic Motion Skills Test

The basic motion capability test used by researchers is a second edition of Test of Gross Motor Skill (TGMD) compiled by Ulrich, DA of the School of Kinesiology University of Michigan in 2000. TGMD-2 is a test used to measure roughness since early age.

3 RESULTS

Table 1: description of intellectual intelligence test results data (mean, standard deviation, highest and lowest score).

	N	Minimum	Maximum	Mean	Std. Deviation
Intellectual Intelligence	29	57	1019	410,10	243,926
Basic Movement	29	46	88	69,90	10,157
Valid N (listwise)	29				

Based on table 1 it can be concluded that the intellectual intelligence test results have the lowest value = 57, the highest value = 1019, average = 410.1 and standard deviation = 243,926. While the result of basic motion ability has the lowest value = 46, the highest value = 88, average 69,9 and standard deviation = 10,157. After the description of data from each variable then the next step is the normality test of each variable.

Table 2: Result of Test of Normality Using Kolmogorov Smirnov dan Shapiro-Wilk.

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Basic Movement	,159	29	,058	,961	29	,350
Intellectual Intelligence	,154	29	,076	,937	29	,083

a. Lilliefors Significance Correction

Based on the above table it can be seen that the significance value of basic movement test on Kolmogorov-Smirnov test = 0,058 and at Shapiro-Wilk test = 0,350. As for the significance value of the intellectual intelligence test on the Kolmogorov-Smirnov test = 0.076 while in the Shapiro-Wilk test = 0.083. Based on the normality test it can be concluded that the data from basic movement test and intellectual intelligence test are normally distributed because all significance value> (α) = 0,05.

Based on the above table it can be concluded that the value of correlation coefficient between intellectual intelligence and basic movement ability = 0.063. This means that the correlation between intellectual intelligence and basic movement ability has a very low level of relationship. While the positive value contained in the correlation coefficient shows that the greater the intellectual intelligence the greater the value of basic movement abilities.

After the correlation test, then the next stage is hypothesis test. As the authors have mentioned before that the test of this hypothesis is done to test whether the hypothesis that the researchers submitted accepted or not. In addition, this hypothesis test is also done to see the relationship between two significant variables or not, here are the stages.

3.1 Determining the Hypothesis

- H0: There is no significant relationship between intellectual intelligence and basic movement skills;
- Ha: There is a significant relationship between intellectual intelligence and basic movement skills.

3.2 Determining the Basis of Decision Making

If the probability value is> 0.05, then H0 is accepted. If the probability value <0.05, then H0 is rejected.

3.3 Make a Conclusion

From result of correlation analysis at table 4.6 got probability value = 0,747. So based on it because the value of probability or significance value> 0.05 then the conclusion H0 accepted or means there is no significant relationship between intellectual intelligence with basic movement abilities.

3.4 Determinant Test

Determinant test is done to know the size of the contribution of variable X to variable Y. Especially for this determinant test the authors do not use SPSS application but the authors calculate it manually by using the formula as follows:

$$KP = r2 \times 100\% \quad (1)$$

Notes:
KP : Determinant Coefficient Score
r : Correlation Coefficient Score

After the calculation to determine the value of the coefficient determinant then obtained a result of 0.4% which means that intellectual intelligence contributes to basic movement of 0.4% and the remaining 99.6% influenced by other factors.

4 DISCUSSION

As the authors previously described that the purpose of this research is to determine whether or not there is a relationship between intellectual intelligence with basic movement capabilities. Based on the processing and the results of data analysis the researchers found some inventions. For the greatest score of the intellectual intelligence test is 1019 and the lowest score is 57 with an average value of 410. While for the largest score of basic movement capability is 88 while the lowest score is 46 with an average value of 70. In addition, the authors also found that after conducted processing and data analysis to determine whether or not there is a relationship between intellectual intelligence with basic movement capability in students of UPI Class 3 Pilot Laboratory then it can be concluded that there is no significant correlation between level of intellectual intelligence with basic movement ability.

This is due to the low correlation coefficient value is 0.063 which means the relationship between intellectual intelligence and basic movement ability is very low, when the relationship between two or more variables is said to be very low or low then the automatic relationship between the two variables is

not significant it is marked with the value of probability from result of correlation analysis using application of SPSS = 0,747, this probability value higher than with α which is determined that is = 0,05 meaning there is no significant relation between intellectual intelligence with basic movement ability. This means that the hypothesis proposed by the author is rejected. This may be due to the insufficiency of the students being sampled during the test, especially the basic movement ability tests so that the demonstrated abilities of the test results may not match the actual capabilities, other than that the lack of accuracy and competence of the author in terms of testing the ability of basic movement can be a factor which results in inaccurate results of basic motility tests, or indeed in basic movement ability, the psychological aspect, especially intellectual intelligence, is not a very influential factor in supporting basic movement skills well. In addition, based on data analysis in this study, intellectual intelligence contributes only 0.4% and the rest is 99.6% influenced by other factors. This proves that intellectual intelligence does not greatly contribute to basic movement skills. The discussion on the influence of intellectual intelligence on one's performance is expressed by Goleman (2007), he says that "Intellectual intelligence accounts for only 20 percent in performance improvement, while 80 percent is influenced by other factors." This proves that intellectual intelligence provides the effect that is not too large on a performance in general. Because that is meant to be a general performance it can also be equated with basic movement ability, that intellectual intelligence has little effect on basic movement ability (Mikolajczak, 1940).

The same thing is expressed by Dakir (1977) that "People will never achieve success in any field unless they like the field. So to optimize the intellectual intelligence commonly called accelerated learning, cannot be achieved without the help of positive emotional activity. "This means that intellectual intelligence is not only the only determinant in one's success, but there is another psychological factor that determines one's success in one way. This may also apply to one's success in mastering basic movement ability, that intellectual intelligence is not a major determinant of good or bad movement ability. In addition, research conducted by Muhaimin S. Si conducted in 2015 on the analysis of the relationship of intellectual intelligence with playing skills in badminton. Muhaimin (2015) proves that intellectual intelligence affects only 10.8% of badminton playing skills and 89.2% is influenced by other factors. In line with Muhaimin, another study conducted by Maryadi in 2015 on the analysis of intellectual intelligence relationship with the success of penalty kicks in the game of football. Maryadi (2015) concludes from her research that there is no significant relationship between the level of intellectual intelligence and the success of penalty kicks in soccer games. It can also be a supporter that intellectual intelligence does not exert too much influence on ability, in this case more specifically to one's psychomotor skills.

When viewed from the side of pedagogy, based on facts in the field that the authors see, that the learning of physical education in the primary laboratory of UPI Laboratory dominantly focuses on one aspect only the development of psychomotor aspects of students, in addition the way of teaching physical education teachers at the time of the learning process is still teacher centre and lack of opportunities for students to explore themselves. So based on the fact this field can be concluded that the learning of physical education in the Labschool UPI has not maximally developed the three aspects that should be developed in physical education, so the authors assume this is one cause of very low intellectual intelligence relationship with basic movement skills in elementary students of Labschool UPI class 3-B.

5 CONCLUSIONS

After conducting a series of stages ranging from the collecting of theory, researching, data collecting and data analyzing hence obtained results that can answer the formulation of problems that have been formulated that there is no significant relationship between intellectual intelligence with basic movement skills in elementary students of Labschool UPI Class 3-B academic year 2016/2017 and the great relationship between intellectual intelligence with basic movement ability is 0.063 or means the relationship between intellectual intelligence and basic movement skills in elementary students of Labschool UPI Class 3-B is very low.

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