

Adversity Quotient (AQ): Effect of Physical Education On Adversity Quotient Levels

¹Zainur, ²Rola Angga Lardika, ³Novri Gazali, ⁴Daharis, ⁵Agus Sulastio

ABSTRACT--- *The purpose of this study was to determine the significance of the effect of physical education toward problem-solving skills to survive the problems (Adversity Quotient). This research was conducted to students SMAN 1 Teluk Kuantan Kabupaten Kuantan Singingi. The method applied was experiment with non-equivalent one group pretest posttest design. The procedures of this research were observation, interview, treatment program preparation, analysis and conclusion. The result showed a significant between inquiry learning in physical education with value (sig.), $000 < \alpha = 0.005$. Based on the data, we can conclude the inquiry learning gives a significant to the level of students' adversity quotient (AQ).*

Keywords--- *Physical education, adversity quotient.*

I. INTRODUCTION

Physical education is an important aspect in building the nation's character. Through physical activities a person will be able to maintain the quality of motion, besides physical education also indirectly affects the physical and mental development of students because of the close relationship with real life. It is believed that physical education integrated into the learning model is expected to be able to improve the psychomotor, cognitive and affective aspects of students. Education can be obtained from anywhere, from anyone, and under any circumstances, whether formally, informally, or informally (Huda & Mulyana, 2017). One model that is expected to be able to develop students' abilities in overcoming their problems is Inquiry Teaching (Learner as Problem Solver). Through inquiry, it encourages students to know and motivate students to solve problems independently and have critical skills in analyzing information. Inquiry provides students with real and active learning experiences. Students are trained on how to solve problems, make decisions, and acquire skills. The teacher's actions do not provide learning material to be memorized, but rather design learning that allows students to find their own material that must be understood. Learning is a person's mental process toward intellectual development, emotional mentality, and the ability of the whole individual as well as readiness in dealing with problems that come to him (adversity quotient).

¹ Universitas Riau-Riau-Indonesia. zainur@lecturer.unri.ac.id

² Universitas Riau-Riau-Indonesia. rolaanggalardika@lecturer.unri.ac.id

³ Universitas Islam Riau-Riau-Indonesia. novri.gazali@edu.uir.ac.id

⁴ Universitas Islam Riau-Riau-Indonesia. daharispentras@edu.uir.ac.id

⁵ Universitas Riau-Riau-Indonesia. agus.sulastio@lecturer.unri.ac.id

Various problems facing the nation are moral decline and student behavior. In nation developments, one of the crucial aspects is quality of human resources (Sunan, 2015). *A student needs to have a high AQ to achieve success in learning and can gain high learning achievement* (Hastuti, Sari & Hariyadi, 2018). *Despite exposure to stress, some people can withstand, overcome, be strengthened and successful by the negative experience* (Yakoh, Chongrukasa & Prinyapol, 2015).

Based on the data obtained by the authors from interviews with sports teachers, the teachers considered that generally there was a lack of strong will to overcome the weakness of big ball and athletic abilities that made children with individual characteristics who always gave up easily and were weak in dealing with problems that came to him, so with individual character makes physical activity less likeable and even shunned by students. A weak state of students' ability to overcome problems can reduce the quality of life of individual students and of course can be a worrying problem for national education. Constructive steps are needed to change the character of the individual so as to avoid undesirable actions. *The existence of motivation can increase one's resistance to facing difficulties (Adversity Quotient) and self-fighting power* (Hastuti et al., 2018). *In psychology, besides spiritual quotient, emotional quotient, and intelligence quotient, the adversity quotient can also determine the success* (Wardani & Mahmudi, 2019).

One intelligence in humans that is still rarely considered is the intelligence of Adversity Quotient (AQ) (Purnamasari, Sujadi & Slamet, 2019). *AQ is the power of facing difficulties* (Dina, Amin & Masriyah, 2018). *Adversity quotient also plays a very important role in one's life* (Parvathy & Praseeda, 2014). *Adversity is a difficult situation or event that brings challenges in the lives of people. The reaction of individuals towards the adversity determines whether it will bring disappointment, sadness, despair and hopelessness or happiness, growth and success for them* (Singh & Sharma, 2017). *The concepts of both of Paul G. Stoltz and others' definition emphasize or highlight transformation that is turning dilemma or adversity into opportunity* (Bingquan, 2019). *Individuals with a high AQ level view challenges as temporary and they exert control over these challenges* (Khairani & Abdullah, 2018). *The ability to solve problems requires not only knowledge, skills, experience, but also the resilience or resilience of facing difficulties* (Napis, 2018). *Self-control has been related to positive student outcomes including academic performance of elementary students. However, the changing nature of learning organizational environments has become a threat for most teachers. The purpose of this paper is to investigate the teachers' (Mwivanda & Kingi, 2019). Animal models also suggest that early adversity has a negative impact on the development of prefrontal cortex-based cognitive functions* (Hostinar, Stellern, Schaefer, Carlson & Gunnar, 2012).

In the educational perspective, AQ is the ability that is needed to keep fighting when students face difficulty in achieving their performance (Matore, Khairani & Razak, 2015). *The concept of AQ helps us in understanding how people react to challenges and different adversities in all the aspects of life* (Verma, Aggarwal & Bansal, 2017). *From some of the explanations above, to help improve adversity quotient (AQ) students need physical education in schools that is applied into a learning.*

II. METHODOLOGY

2.1. Types of research

In this study the writer wants to reveal the effect of physical learning on adversity quotient. The method that the writer deems most appropriate is the experimental method. Before being given the first treatment will be given a pretest to see the initial picture of adversity quotient. After the treatment for the group is finished again a test will be given to determine the extent of its development. After that the data obtained will be analyzed using formulas or computer software and after that it can be concluded how the different levels of influence from the model.

Table 1: Aspects of Measuring Adversity Quotient

No	Aspect	Instrument
1	<i>Control (C)</i>	Questionnaire
2	<i>Origin and Ownership (O2)</i>	
3	<i>Reach (R)</i>	
4	<i>Endurance (E)</i>	

III. RESULTS AND DISCUSSION

1. Adversity Quotient Normality Test Results

Adversity quotient normality test used by the author refers to the Shapiro-Wilk test with the assumption that testing data for large sample groups or above 30 people, Shapiro-Wilk has a better degree of testing.

a. Pre-Test Adversity Quotient Data Normality Test Results

The following will explain the results of the normality test results of the results of the pre-test adversity quotient using the Statistical Product and Service Solution (SPSS) realization program 20 can be seen in table 2.

Table 2: Pre-Test Adversity Quotient Data Normality Test Results

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Inquiry	,115	31	,200*	,939	31	,075

Table 1 shows the normality test results for the inquiry learning model group, the statistical value is 0.939 with dk 31 and the probability value (sig.) 0.075. Based on the results of testing the normality of the inquiry learning model group, the probability value (sig.) Is 0.075, it can be said that the pre-test data for the inquiry learning model group is at the normal distribution level. It can be concluded that the pre-test adversity quotient data for the learning group directly has a normal distribution level.

b. Post-Test Adversity Quotient Data Normality Test Results

The results of the normality of the post-test adversity quotient data for the inquiry learning model based on the Shapiro-Wilk test can be seen in Table 3.

Table 3: Post-Test Adversity Quotient Data Normality Test Results

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Inquiry	,106	31	,200*	,957	31	,250

The results of normality test post-test adversity quotient obtained statistical values for the sample group inquiry learning model is 0.957 with df 31 and a probability value (sig.) Of 0.250. Probability value (sig.) 0,250 which means that the post-test adversity quotient data for the inquiry learning model group is at the normal distribution level.

2. Homogeneity Test Results

Homogeneity test data is performed to determine whether the data comes from homogeneous populations or not. In addition homogeneity tests are also conducted to determine the statistical tests that will be used in testing hypotheses; whether parametric statistics or non-parametric statistics. Because the requirement to test parametric statistics is that data must be normal and homogeneous.

a. Homogeneity Test Results for Pre-Test Adversity Quotient

In this case, the authors use the statistical test used is Lavene statistics. Homogeneity test results of the pre-adversity quotient test can be seen in table 4.

Table 4: Homogeneity Test Results for Pre-Test Adversity Quotient Data

Levene Statistic	df1	df2	Sig.
,654	1	62	,422

The results of homogeneity testing for the pre-test adversity quotient data as illustrated in table 3 above, based on the Lavene statistical test obtained an average value of 0.654 with df2 62 and a probability value (sig.) Of 0.422.

b. Homogeneity Test Results of Post-Test Adversity Quotient

Testing homogeneity in the post-test group, researchers also used Lavene statistics. Homogeneity test results of the pre-adversity quotient test can be seen in table 4.

Table 5: Results of Post-Test Adversity Quotient Homogeneity Test Results

Levene Statistic	df1	df2	Sig.
,690	1	62	,409

Based on the post-test adversity quotient homogeneity test, the average probability value (sig.) Of 0.690 is greater than 0.05. Homogeneity test results can be concluded that the data post-test adversity quotient group inquiry

learning model comes from populations that have the same variance, meaning that the results of research are homogeneous.

3. Hypothesis Test

a. Test for Differences in the Effect of Inquiry Learning Models

Testing to find the difference between the effect of adversity quotient between groups of pretest and posttest inquiry learning models used gain-score data. Testing is done through two stages of testing, namely the variance similarity test and the average test. The variance similarity test refers to the Lavene statistical f-test, while the average test uses a one-party t-test.

To see the difference in influence between inquiry learning models on the level of student adversity quotient, testing is done by testing the average of one party's t-test. Following are the results of tests conducted by one-party t-test can be seen in table 6.

Table 6: Difference Test Results of the Effect of Inquiry Learning Models

	Uji Levene		Uji-t for Average Similarity			Keterangan	
	F	Sig.	t	dk	Sig. (2-tailed)		
<i>Adversity Quotient</i>	Assumption of the Same Variance	1,390	0,243	4,518	62	0,000	Signifikan
	Assumptions of Variance Are Not Same			2,489	57,891	0,000	Signifikan

In the table above it is known that the value of fcount is 1.390 with a probability (sig.) Of 0.243. Probability (sig.) $0.243 > 0.05$. This means that there is no difference in variance between the two sample groups. Thus the average test (t-test) is done by referring to the numbers or values listed in the same assumption variance column line. In the row column assuming the same variance is known; t value of 4.518 with a probability (sig.) of 0,000. Probability $0,000 < 0.05$ which means that there is a significant difference between the adversity quotient in the inquiry learning model group.

A model that is closely related to the process of analysis and critical thinking in solving any problem is the inquiry learning model. According to (Ku, Ho, Hau, & Lai, 2013)

“Inquiry is the process by which we utilize what we know to formulate new answer to problem we have. In essence we develop new knowledge for ourselves. inquiry is one of the primary methods of problem solving employed by social scientists to develop the ideas of their discipline; concepts and generalizations are the result of the utilization of this scientific methods”.

The inquiry learning model provides many opportunities for students to find learning solutions by analyzing and demonstrating the results in accordance with their conclusions. Impact when someone is accustomed to being

trained with the stages of inquiry learning process, students are expected to apply it in the thought process of daily life so that when faced with a concrete problem students do not use illogical ways of thinking in solving it such as calming themselves with drugs, alcohol, or other harmful substances and are more likely to think smart in taking a stand. When students can apply the process of logical thinking and analysis in solving any problems they find, then there is an indication that they have the intelligence to overcome the problem or known as Adversity Quotient. In a broader sense Adversity Quotient is the ability or intelligence of a person in overcoming problems that come to him with self-control, recognizing the origin of the problem, predicting life that can be influenced, and surviving the problem.

Stolz indirectly explains the link between the activities carried out repeatedly in this case the process of analysis and critical thinking (inquiry) with a habit that "as we do and think things over and over again, the brain will adjust to create neural pathways which is denser and more efficient in our brain " (Stoltz, 2000). As we repeat a thought or behavior, the strength of the synapses (nerve connections) in our brain increases and literally creates more transmitters and receptors for these nerve pathways (Stoltz, 2000).

Inquiry learning model is a finding activity done by students to develop themselves, talents, find answers to problems given to them (Ku et al., 2013). In physical education inquiry learning models can be applied with appropriate steps and will be able to achieve the expected learning goals. Lebih lanjut penelitian "*The Adversity Quotient Levels of Female Grade School Teachers of a Public and a Private School in Rizal Province*" by Villaver (2005) The purpose of this study is to examine the significant differences of the levels of Adversity Quotient of female elementary school teachers and private schools. The study involved 105 female elementary school teachers, of which 74 came from public schools and 31 from private schools. Researchers used Adversity Response Profile 7.0 and demographic questionnaires to obtain relevant background information about teacher respondents. Findings about the AQ and their demographic profile show that the majority of respondents who fall under the category of early stages of adulthood have a moderate AQ, while their older counterparts have a fairly low AQ. With regard to civil status, findings indicate that respondents who are single are found to have the same percentage for moderate and fairly low AQ. This also shows that the majority of respondents who are married have a moderate level of AQ. Evidence is provided that teachers who have taught experience of ten years or lower are found to have moderate AQ, while a large number of respondents with fairly low AQ are those with 11-20 years experience. The results of the study revealed also that female and private primary school teacher respondents had a moderate level of Adversity Quotient. The study also showed that there were no significant differences between the levels of Adversity Quotient of public and private female elementary school teachers. This study is useful for understanding the relationship between AQ and the demographic characteristics of teachers.

The above findings explain the teacher's response to students will affect student achievement, both in academic and non-academic achievements such as adversity quotient. The various treatments that teachers apply to students certainly affect the development of students. This has been proven by conducting this research which concluded that the direct learning model and inquiry learning model have an influence on the level of student adversity quotient, but differ in the amount of influence. The inquiry learning model has a greater effect on the level of adversity quotient of students compared to the direct learning model.

IV. CONCLUSIONS AND SUGGESTIONS

Based on the results of data processing and analysis obtained answers to the research questions asked. From the research results obtained a significant effect between inquiry learning models in physical education with a value (sig.), $000 < \alpha = 0.005$. From these data it can be concluded that inquiry learning models have a significant influence on the level of student adversity quotient.

Based on the results of research and findings during the course of the study, the authors provide recommendations for physical education teachers and sports sector approvals:

1. Physical education seeks to be carried out by physical education teachers as an aid and delivery of educational values to improve student quality.
2. Submission of learning material through inquiry models conducted by the teacher will give positive meaning to physical education activities. Collaboration and variations in models provided in physical education in schools will be able to foster motivation to learn, provide movement experience, thought processes and obtain educational values.
4. The selection of learning models in the implementation of physical education must be truly in accordance with the characteristics and development of students because then the learning objectives will be more easily achieved.
5. This research still needs to be validated and must be developed, yet it has not yet developed research in physical education studies that adds to this finding.

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5. Headmaster SMAN 1 Teluk Kuantan, Kuantan Singingi Regency, Riau Province
6. Teacher and student SMAN 1 Teluk Kuantan, Kuantan Singingi Regency, Riau Province

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