The Relationship between Self-Management and Students Learning Outcome in Physics

Sudirman Sudirman
Department of Physics Education
Faculty of Tarbiyah and Teacher Training
Alauddin State Islamic University of Makassar
Gowa, South Sulawesi, Indonesia

Nurhadifah Amaliyah
Department of Primary School Teacher Education
Faculty of Education and Teacher Training
University of Megarezky, Makassar
Makassar, South Sulawesi, Indonesia

Abstract:- This study is an ex post facto which aims to examine the following: (1) the relationship between self-regulation and physics learning outcomes in students (2) the relationship between time management and physics learning outcomes in students (3) the relationship between self-regulation and time management with physics learning outcomes in students. The study design used is correlational. The population of this study were all students of class XI which totalled 85 students divided into 3 classes. The results showed that; 1) based on Correlation Coefficient = 0.013 there is a very weak relationship between self regulation with physics learning outcomes and obtained = 0.4659 = 3.9, which indicates there is no significant relationship between self regulation with physics learning outcomes in students 2) based on self regulation and time management with physics learning outcomes in students. The results showed that; 1) based on Correlation Coefficient = 0.013 there is a very weak relationship between self regulation with physics learning outcomes and obtained = 0.4659 = 3.9, which indicates there is no significant relationship between self regulation with physics learning outcomes in students because the value obtained at from 0.05. 2) based on Correlation Coefficient = 0.074 there is a very weak relationship between time management and physics learning outcomes and obtained = 0.4659 = 3.9, which indicates there is no significant relationship between time management and physics learning outcomes in students because the value obtained at 0.05. 3) There is no significant relationship between self-regulation and time management with the learning outcomes of students with sig value. 0.281 and obtained = 0.0024 = 3.1. Because the value obtained at from 0.05. The research implications of the results of this study are expected to be tried again in depth with a larger sample in order to provide more relevant information about the relationship between self regulation and time management with physics learning outcomes for further research.

Keywords:- Self Management; Self Regulation; Time Management; Learning Outcome; Learning Physics.

I. INTRODUCTION

Education as a human effort to build his personality in accordance with the values in society and culture. The term education or *pedagogy* means guidance or help that is given deliberately mature so that he becomes mature and as an effort carried out by a group of other people to reach a higher level of life or livelihood in a mental sense [1].

It should be noted that humans can live interacting with other humans because of the cooperation with other people who are harmonious, harmonious and balanced in the world of education. Education will be able to help humans to realize themselves and humanize humans. Education will try to assist humans in discovering the secrets of nature, developing human nature which is the potential for development, directing their inclinations and guidance for the good of themselves and society.

Teachers as professionals in the field of education, apart from understanding philosophical and conceptual matters, know and carry out technical matters. These technical matters, namely the activity of managing and carrying out learning interactions both at school and outside of school. The learning process can be closed, that is, everything has been determined relatively strictly. While it is open, that is, the material and procedures to be taken to achieve it are determined while the learning activities are taking place. Senior High School (SMA) is a formal educational institution that aims to prepare students for higher education. The success of the study of high school students is influenced by two factors, namely external factors and internal factors. External factors include: learning methods during lectures, lecturer abilities and competencies in teaching, availability of references and learning resources and others. Meanwhile, internal factors come from within students who can motivate learning, learning styles, physical health, attitudes in learning, the nature or characteristics of these students [2].

Based on initial observations through interviews with physics teachers at SMA Negeri 6 Takalar, it was stated that some students lacked *self-management*. Where *self-management* of students is very necessary in taking education. The *self*-management referred to here is the *self-regulation* of students and *time management*. Because the time management of students is lacking, such as: often arriving late when the learning process has taken place in the classroom and also low self-regulation of students such as being lazy to follow subjects and not even being present

in the learning process. So there is a need for efforts that can be taken to improve student learning outcomes.

Research Adebayo [3] there is a relationship between time management and learning achievement. The higher the time management, the higher one's learning achievement. Vice versa, the lower the time management, the lower the learning achievement of a person. As for the relationship or link between time management variables and learning achievement, it can be seen from the effective contribution given by time management to learning achievement of 51.7%. For one's academic or study achievements it shows that there is a relationship between time management and student learning or academic results where students need appropriate and effective use of time to complete tasks and activities related to academics.

Based on the description above, the authors will conduct research to find out the relationship between *self regulation and time management* and physics learning outcomes with the title**.** This study aims to obtain information about:

- The relationship between *self-regulation* and physics learning outcomes in students of class XI MIASMA Negeri 6 Takalar.
- The relationship between *time management* and physics learning outcomes in class XI MIASMA Negeri 6 Takalar students.
- The relationship between *self-regulation and time management* and physics learning outcomes in class XI MIASMA Negeri 6 Takalar students.

II. LITERATURE REVIEW

A. Learning Concept

Learning according to psychological understanding is a process of change, namely changes in behaviour as a result of interaction with the environment in meeting their life needs, this opinion is supported by Slameto's explanation that: "Learning is a process of effort by a person to obtain a new change in behaviour as a whole, as a result of his own experience in interaction with the environment" [4]. Learning occurs when there is a change in behaviour in students, both in cognitive, affective and psychomotor meanings. Changes in behaviour are very likely, even certain, cannot be observed directly. Changes in behaviour as a result of learning activities are the result of a person's interaction with their environment. The presence or absence of individual learning activities can be seen from changes in one of the fields:

- The way of looking at the environment
- The ability to think or reason
- Physical behaviour or motor skills
- Emotional reactions or attitudes and
- Vision of the future.

Meaningful learning activities refer to these five types of changes, where the changes occur as a result of the experience gained [5].

Based on the above description of learning, it can be concluded that learning is an activity carried out by a person to obtain a change in behaviour where, learning is not only obtained from the school bench but from experiences gained from the results of environmental interactions.

B. Learning Outcome

According to Sudjana [6] that in the national education system the formulation of educational goals, both curricular goals and instructional goals. With these objectives, Benyamin Bloom classifies learning outcomes broadly into three domains, namely:

- The cognitive (intellectual) domain which consists of six aspects, namely knowledge or memory, understanding, application, analysis, synthesis, and evaluation. Where aspects of knowledge and understanding are called low-level cognitive, while aspects of application, analysis, synthesis, and evaluation include high-level cognitive.
- The effective domain (attitude), which consists of five aspects namely internalization, acceptance, assessment, answer or reaction, and organization.
- The psychomotor domain is a domain that is concerned with learning outcomes of skills and abilities to act, which includes this psychomotor domain, namely reflex movements, basic movement skills, perceptual abilities, harmony or accuracy, complex skill movements, and expressive and interpretative movements.

The three domains become the object of learning outcomes assessment. Among the three domains, it is the cognitive domain that is most widely assessed by teachers in schools because it is related to the ability of students to master the content of teaching materials [6]. According to Sudjana [6] there are several types of learning outcomes based on the cognitive domain, namely:

- Knowledge. The term knowledge is intended as a translation of the word knowledge in Bloom's taxonomy. Even so, the meaning is not entirely correct, because the term also includes factual knowledge in addition to memorized knowledge or to remember. The type of knowledge learning outcome includes the lowest low-level cognitive. However, this type of learning outcome is a prerequisite for the next type of learning. Memorization is a prerequisite for understanding.
- Comprehension. The type of learning outcome that is higher than knowledge is understanding. In Bloom's taxonomy, the ability to understand is a level higher than knowledge. However, this does not mean that knowledge does not need to be asked because, in order to understand, it is necessary to first know or recognize. Understanding can be divided into three categories: the lowest level is translation understanding, the second level is interpretation understanding, and the third or highest level is exploratory understanding.
- Application. Application is the use of abstracts in concrete situations or special situations. The abstract may be an idea, theory, or technical instruction. Applying an abstraction to a new situation is called application. Repeatedly applying it to old situations will turn into memorized knowledge or skills. A situation will still be

seen as a new situation if the problem-solving process continues. Except that, there is one more element that needs to be included, namely that the abstraction is in the form of a principle or generalization, namely something general in nature to be applied to a special situation.

- Analysis. Analysis is an attempt to select an integrity into elements or parts so that the hierarchy or arrangement is clear. Analysis is a complex coverage, which utilizes the skills of the three previous types. with analysis it is hoped that someone will have a comprehensive understanding and be able to separate the integrity into parts that remain integrated, for some things understand the process, for other things understand how it works, for other things understand its systematic.

- Synthesis. The integration of elements or parts into a whole is called synthesis. Thinking based on rote knowledge, comprehension thinking, application thinking, and analysis thinking can be viewed as convergent thinking which is one level lower than divergent thinking. Synthesis thinking is one of the terminals to make people more creative. Creative thinking is one of the results to be achieved in education. In the ability to synthesize, people may find causal relationships or certain sequences, or find abstracts or operations.

- Evaluation. Evaluation is a decision about the value of something that may be seen in terms of goals, ideas, ways of working, solutions, methods, materials, and others. Judging from this aspect, evaluation requires the existence of certain criteria or standards. Developing evaluation skills based on understanding, application, analysis, and synthesis will increase the quality of evaluation

Learning outcomes are a description of what students should explore, understand, and do. These learning outcomes reflect the breadth, depth, complexity and must be clearly described and can be measured with certain assessment techniques [7].

According to Agus Suprijono [8] "Learning outcomes are patterns of actions, values, notions, attitudes, appreciation and skills. Furthermore, Dimyati [9] states that "learning outcomes are the result of an interaction of learning and teaching actions".

Based on the foregoing, student learning outcomes can be formulated as follows:
- Student learning outcomes are the results achieved by students after experiencing learning activities.
- The learning outcomes of these students are mainly assessed from their cognitive aspects because they are concerned with the ability of students in knowledge or memory, understanding, application, analysis, synthesis and evaluation.
- The learning outcomes of students will be proven and shown through grades or numbers. The value is obtained from the results of the evaluation carried out by the teacher on the students' assignments and the tests or exams taken.

According to Munadi in Rusman [10] Factors that affect learning outcomes include internal factors and external factors:

a) Internal Factors
- Physiological Factors. In general, physiological conditions, such as excellent health, not in a state of fatigue and fatigue, not in a state of physical disability and so on. This can affect students in receiving subject matter.
- Psychological Factors. Every individual in this case students basically have different psychological conditions, of course this also affects their learning outcomes. Some psychological factors include intelligence (IQ), attention, interest, talent, motive, motivation, cognitive and reasoning power of students.

b) External Factors
- Environmental Factors. Environmental factors can influence learning outcomes. These environmental factors include the physical environment and the social environment. The natural environment such as temperature, humidity and others. Learning in the middle of the day in a room that lacks air circulation will be very influential and will be very different from learning in the morning where conditions are still fresh and with enough room to breathe freely.
- Instrumental Factors. Instrumental factors are factors whose existence and use are designed in accordance with the expected learning outcomes. These factors are expected to function as a means for achieving planned learning objectives. These instrumental factors are in the form of curriculum, facilities and teachers.

Physics is one of the branches of science, and is a science that was born and developed through the steps of observation, problem formulation, hypothesis formulation, hypothesis testing through experiments, drawing conclusions, and discovering theories and concepts. So it can be said that the nature of physics is a science that studies symptoms through a series of processes known as the scientific process which is built on the basis of scientific attitudes and the results are realized as scientific products composed of the three most important components in the form of concepts, principles, and theories that apply universally [11]

Physics learning outcomes are the results achieved by a student after following the learning process within a certain period of time obtained from the measurement results using measuring instruments in the form of tests. Physics is a process, product, attitude, and physics as technology so that high school physics learning must be preceded by adequate learning planning, then implemented properly, and assessed objectively.

C. Self Regulation

Self-regulation is the process by which a person can regulate their own achievements and actions: setting targets for themselves, evaluating learners' success in achieving the desired targets, and rewarding themselves for achieving the desired goals [12]. The standards and goals we set for ourselves, the way we monitor and evaluate our cognitive processes, and the consequences we set for our successes and failures are all aspects of self-regulation. If our thoughts and actions are under our control, not the control of others or the conditions around us, we are said to be self-regulating individuals [13]. Self-regulation in learning is self-regulation of behavior covering various fields, including self-regulation in school learning (self-regulated academic learning, hereinafter referred to as self-regulated learning and shortened to SRL) [14].

D. Time Management

According to Taylor [15] time management is the achievement of life's main goals as a result of setting aside meaningless activities that often take up a lot of time. Time management is planning, organizing, tightening and monitoring time productivity. One of the work resources that learners must manage effectively and efficiently is time. Effectiveness will be seen from the achievement of goals using a predetermined time. While efficient has the meaning of reducing the specified time. Time management is the ability to allocate time and resources to achieve goals. Time management does not only refer to time management, but more likely to how to utilize time. Individuals who are able to manage time will prioritize the various tasks at hand [16]. According to Atkinson [17], aspects of time management include the following:

- Setting Goals

  Setting goals can help individuals to focus attention on the work to be carried out, focus on the goals and objectives to be achieved and be able to plan a job within the time limit provided.

- Setting Priorities

  Prioritizing needs to be done considering the limited time available and not all jobs have the same importance value. The order of priorities is made based on rank, namely from the lowest priority to the highest priority. This priority order is made by considering which things are considered important, urgent, or vital that must be done first.

- Developing a Schedule

  Another aspect of time management is making a schedule. A schedule is a list of activities that will be carried out along with the time sequence in a certain period. The function of making a schedule is to avoid clashes of activities, avoid forgetfulness, and reduce haste.

- Be Assertive

  Assertiveness can be defined as a firm attitude to say "No" or refuse a request or task from others in a positive way without having to feel guilty and become aggressive. Being Assertive, is a strategy applied to avoid infringing on rights and ensuring that others do not reduce the effective use of time.

- Avoid Procrastination

  Procrastination is the deferral of something until it is too late. Procrastination in carrying out tasks can lead to unsuccessful completion of work on time, then damage the schedule of activities that have been neatly arranged and interfere with the achievement of predetermined goals.

- Minimize Wasted Time

  Time wastage includes all activities that take up time and do not provide maximum benefits. It is often a barrier for individuals to achieve their success because it often makes individuals delay doing important activities.

- Control over Time

  Relates to the feeling of being able to manage time and control over things that can affect the use of time.

People who apply the principles of time management, with characteristics, namely, knowing life goals, avoiding doing urgent things, making schedules to achieve results (organizing activities), being able to do work in an organized manner, being able to filter information from outside, mastering technology, being able to minimize interruptions, being able to be assertive, being able to manage stress, and being able to use time efficiently [18].

E. Theoritical Framework

A framework is a temporary explanation of a symptom that becomes the object of research problems. The framework is compiled from literature review and relevant or related research results. The framework is an argument in formulating hypotheses that use deductive logic by using scientific knowledge as the basic premise. Self regulation is the ability of students to control themselves or efforts made by students systematically to focus on their own behavior to achieve a goal. Self regulation owned by each learner will be reviewed and then associated with the learner's learning outcomes.

Time management is a strategy for choosing the right time for students in planning, organizing and mobilizing an individual in this case students in the productivity of time to do a job in order to be able to achieve what is expected by the students. Time management of each learner will be reviewed and then linked to the learner's learning outcomes.

Based on the theory above that self regulation and time management is one of the potentials that can be developed by each individual included in self management. Furthermore, the relationship between the two potentials will be seen on the self management of each learner. After determining the relationship of these potentials, the two potentials will be reviewed for their relationship to student learning outcomes.
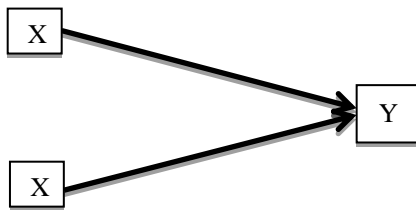
Fig. 1: Research Theoritycal Framework

III. METHODOLOGY

A. Types and Research Design

This type of research is *ex post facto research* using a quantitative approach. The research design is correlational, namely studying the relationship between variables or more, namely the extent to which variations in one variable are related to variations in other variables. Degrees connection the el variable is declared in one that index is called the correlation coefficient . Coefficient correlation could used for test hypothesis about connection between variables or for state big its small connection between second variable [19].
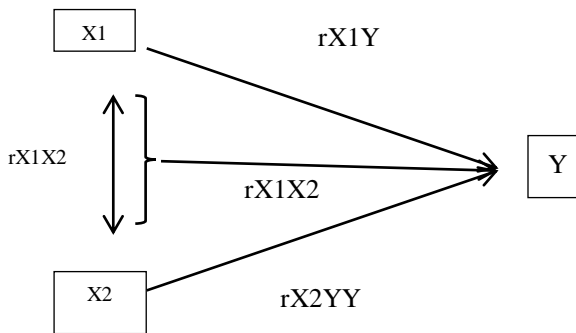

Fig. 2: Research Design

Information:

X1   = *Self Regulation*

X2   = *Time Management*

Y   = Student Learning Outcomes

rX1Y   = Relationship between *self regulation* and learning outcomes

rX2Y   = Relationship between *time management* and learning outcomes

rX1X2   = Relationship between *self regulation and time management*

rX1X2Y   = relationship between *self regulation and time management* and `learning outcomes.

B. Population and Sample

The population in this study were 100 students in class XI IPA SMA Negeri 6 Takalar.

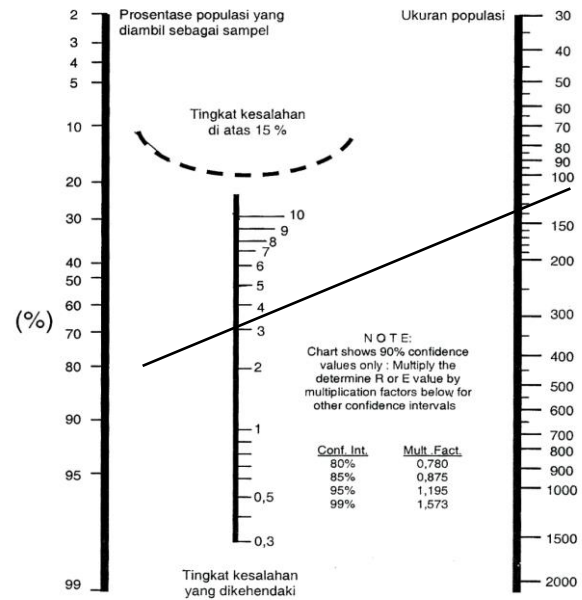| No	Class XI IPA	Number of students
1	XI IPA 1	34
2	XI IPA 2	34
3	XI IPA 3	32
	Total	100

Table 1: number of students

Fig. 3: Harry King's nomogram for determining the sample size of a population of up to 100 [20]

In this study, the population is 100. If you want a sample confidence in the population of 95% or an error rate of 5%, the number of samples taken is:

$$\text{XI IPA 1} = \frac{34}{100} \times 84 = 25.08 = 29$$

$$\text{XI IPA 2} = \frac{34}{100} \times 84 = 25.08 = 29$$

$$\text{XI IPA 3} = \frac{32}{100} \times 84 = 25.8 = 27$$

No	Class	Amount
1	XI IPA 1	29
2	XI IPA 2	29
3	XI IPA 3	27
	Total	85

Table 2: Sample

C. Data Collection Method

a) Questionnaire

The research instrument used in collecting data is a questionnaire/questionnaire. The indicators used in the questionnaires in this study are *self regulation* and *time management* where the indicators of *self regulation* and *time management* are:

No	Indicator
1	emotional regulation
2	self instruction
3	self monitoring
4	attention control (focusing attention)
5	self evaluation

Table 3: Indicators *of self regulation*

No	Indicator
1	always on
2	organize activities
3	avoid doing urgent things
4	able to do work in an organized manner
5	can use time efficiently

Table 4: Indicators of Time management

There are two types of statements in this questionnaire, namely *favorable* and *unfavourable statements* . *Favorable* statements are statements that contain positive things about the attitude object and vice versa *unfavorable* statements are statements that contain negative things about the attitude object, which are not supportive or contra to the attitude object to be expressed.

For the purposes of quantitative analysis, the answers can be scored as follows:

Respondents	Statement	
	Favorable	*unfavorable*
Perfect fit	4	1
In accordance	3	2
Not suitable	2	3
It is not in accordance with	1	4

Table 5: Statements of respondents

While negative statements *(unfavorable)* are scored in the opposite way. The total score of all items for each respondent represents the score achieved by that respondent.

b) Learning outcomes test

The physics learning outcomes test is obtained by giving tests to students in order to find out how much students are capable. The learning outcomes test used is in the form of a test in the form of multiple choice questions which total 20 items and the score for each question is 20 if correct.

c) Validity test

Before using the instrument, the researcher first conducted an instrument test. The test instrument used is the validation test. Before conducting research related to identifying teacher difficulties regarding the implementation of a scientific approach to physics subjects, the entire research instrument will be measured for the validity level of the instrument to be used . The instruments made were analyzed using *Aiken's V formula* . *Aiken's V* is formulated as follows:

$$V = \frac{\sum S}{[n(c-1)]}$$

[2]

Information :

$S = r - I_0$

I_0 = The lowest validity rating score (in this case = 1

c = The highest validity rating score (in this case = 4

r = Number assigned by an appraiser

To determine the category of validity coefficients, standard expert validity coefficients are used, namely as follows.

No.	Value Intervals	Information
1.	< 0.4	Low
2.	0.4 - 0.8	Currently
3.	< 0.8	Tall

Table 6: Standard Category Coefficient of Expert Validity

IV. RESULTS

A. Research result

a) Descriptive Analysis

In the descriptive analysis the processed data is the result of the physics learning achievement test and the *self-management questionnaire* , namely *self-regulation and time management,* where descriptive analysis is used to provide an overview of the scores of students' physics learning outcomes and the *self-regulation and time management* score obtained is the highest score , the lowest score is the average score (*mean*), standard deviation and variance which aims to find out a general description of students' physics learning outcomes and *self regulation and time management.*

- The results of the descriptive analysis of self-regulation of class XI MIA students at SMAN 6 Takalar

Based on the *self-regulation scale* distributed to class XI Mia students, the data obtained is presented in the form of a descriptive distribution table as shown in table 4.1

Parameter	Score
Number of samples	85
Maximum value	49
Min value	25
Average	40,61
Standard deviation	4,10
Variance	16.88

Table 7: Descriptive Statistics of *Self Regulation*

Based on table 7 above, it is explained that the maximum value of *self-regulation* of students is 49. Meanwhile, the minimum score obtained by students is 25, with an average value of 40.61, a standard deviation of 4.10 and a variant value of 16.88. *self-regulation* categorization is used to make it easier to find out students ' *self-regulation* . Based on the data obtained from the results of

the descriptive analysis, the *self-regulation* of the XI MIA class students at SMA Negeri 6 Takalar is grouped into the *self-regulation category* in table 4.2.

Categorization	Score	Fi
Very high	$x \geq 2{,}33$	85
Tall	$2{,}33 \geq 1{,}5$	0
Low	$1{,}5 > x \geq 0{,}67$	0
Very low	$x < 0{,}67$	0

Table 8: Distribution of *self regulation categorization*

Based on table 8, the data on *self-regulation* of students was obtained in several categories, namely 85 students in the very high category and 0 students in the high, low and very low categories. This means that there are no students who belong to the high, low and very low categories, all belong to the very high category. *Self Regulation* categorization of students can be illustrated in the histogram in Figure 4.1 below:
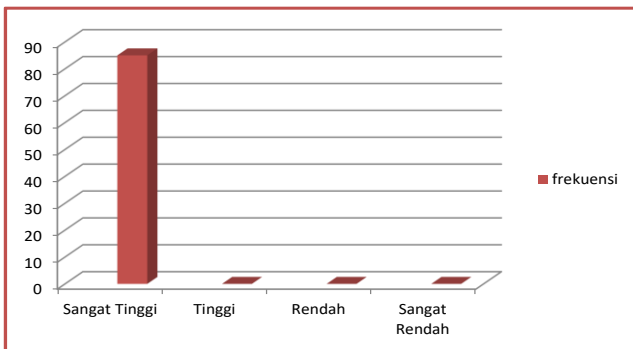

Fig. 4: Self Regulation categorization histogram

Based on the histogram in Figure 4.1, it shows the categorization of values, namely that there are 85 students in the very high categorization and there are no students in the high, low and very low categorization.

- *The results of the descriptive time management analysis of students in class XI MIA at SMA Negeri 6 Takalar*

    Based on the *self-regulation scale* distributed to students of class XI MIA, the data obtained is presented in the form of a descriptive distribution table as shown in table 4.3

Parameter	Score
Number of samples	85
Maximum value	43
Min value	25
Average	32,41
Standard deviation	3.70
Variance	13.74

Table 9: *Time Management* Descriptive Statistics

Based on table 9 above, it is explained that the maximum value of *time management* for students is 43. Meanwhile, the minimum score obtained by students is 25, with an average value of 32.41, a standard deviation of 3.70 and a variant value of 13.74.

Time management categorization is used to make it easier to know student *time management*. Based on the data obtained from the results of the descriptive analysis, the *time management* of class XI MIA students at SMA Negeri 6 Takalar is grouped into the *time management category* in table 10.

Knowledge			
Predicate	Average score	Letter	Fi
SB (Very Good)	3.85 - 4.00	A	40
	3.51 - 3.84	A-	-
B (Good)	3.18 - 3.50	B+	17
	2.85 - 3.17	B	6
	2.51 - 2.84	B-	-
C (Enough)	2.18 - 2.50	C+	12
	1.85 - 2.17	C	9
	1.51 - 1.84	C-	-
K (Less)	1.18 - 1.50	D+	1
	1.00 - 1.17	D	-

Table 10: distribution of *time management categorization*

Categorization	score	Fi
Very high	$x \geq 2{,}33$	85
High	$2{,}33 \geq 1{,}5$	0
Low	$1{,}5 > x \geq 0{,}67$	0
Very low	$x < 0{,}67$	0

Table 11: distribution of students' physics learning outcomes categorization

Based on table 11, it was obtained the *time management data* of students in several categories, namely 85 students in the very high category and 0 students in the high, low and very low categories. This means that there are no students who belong to the high, low and very low categories, all belong to the very high category. The categorization of student *time management* can be illustrated in the histogram in Figure 5 below:
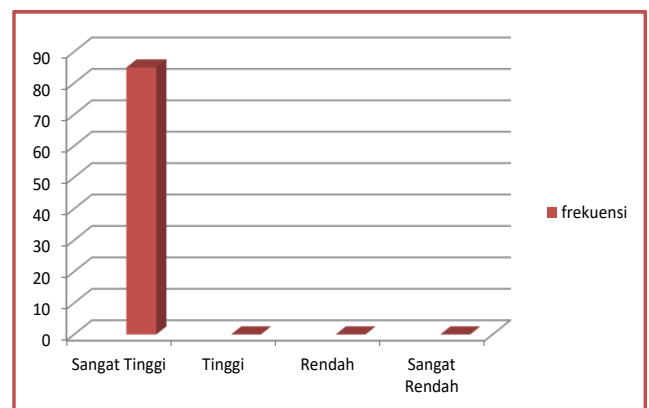

Fig. 5: *Time Management* categorization histogram

Based on the histogram in Figure 5, it shows the categorization of values, namely that there are 85 students in the very high categorization and there are no students in the high, low and very low categorization.

- *The results of the descriptive analysis of the physics learning outcomes of students in class XI MIA SMA Negeri 6 Takalar*

Based on the physics learning outcomes test, namely in the form of multiple choice questions distributed to students of class XI MIA, the data obtained is presented in the form of a descriptive distribution table as shown in table 12

Parameter	Score
Maximum value	65
Min value	15
Average	38.94
Standard deviation	13,43

Table 12: Descriptive Statistics of Student Physics Learning Outcomes

Based on table 12 above, it is explained that the maximum score of students' physics learning outcomes is 65. While the minimum score obtained by students is 15, with an average value of 38.94 and a standard deviation of 13.43.

The categorization of physics learning outcomes is used to make it easier to find out students' physics learning outcomes. Based on the data obtained from the results of descriptive analysis, the learning outcomes class XI MIA students at SMA Negeri 6 Takalar are grouped into learning outcomes categories.

Based on table 12, the learning outcome data is obtained physics students in several categories, namely 40 students in the very good category (A), 17 students in the good category (B+), 6 students in the good category (B), 12 students in the sufficient category (C+), 9 students in the sufficient category (C) and 1 student in the less category (D+). Categorization of learning outcomes can be described in the form of a histogram as shown in Figure 6 below:
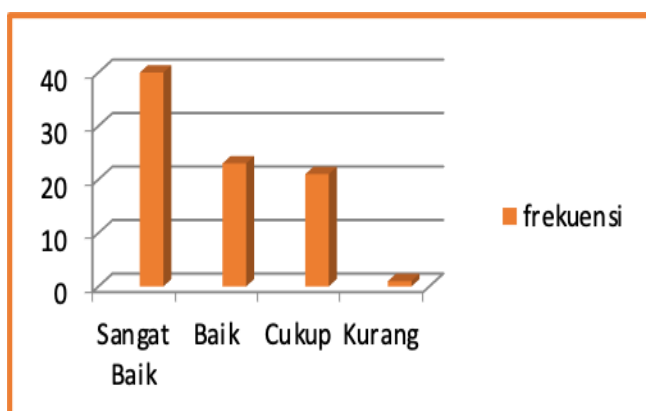

Fig. 6: Histogram Categorization of learning outcomes

Based on the histogram in Figure 6, it shows the categorization of values, namely that there are 40 students in the very good categorization, 23 students in the good categorization, 21 students in the sufficient categorization and there is 1 student in the less categorization.

b) Prerequisite Test

a. Normality test

In the analysis of the data normality test in this study, it was processed using the *Kolmogorov Smirnov formula* with analysis using the *SPSS application* . The data normality test was carried out to find out whether the data taken came from a normally distributed population or not. The data normality test with the *Kolmogorov-Smirnov test* of each variable can be seen in the table below as follows:

Tests of Normality						
	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
self regulation	,091	85	.082	,956	85	,005

a. Lilliefors Significance Correction

Table 13: *self regulation*

Based on table 13 above it can be seen that the output value on *self regulation* has the *Kolmogorov-Smirnov value is* 0.082. On *self regulation* shows that the value of sig. Normal distribution, because in decision making if the significant value $\geq$ is 0.05, then the residual value is normally distributed. The score of the results of *self regulation* can be shown in the following figure:
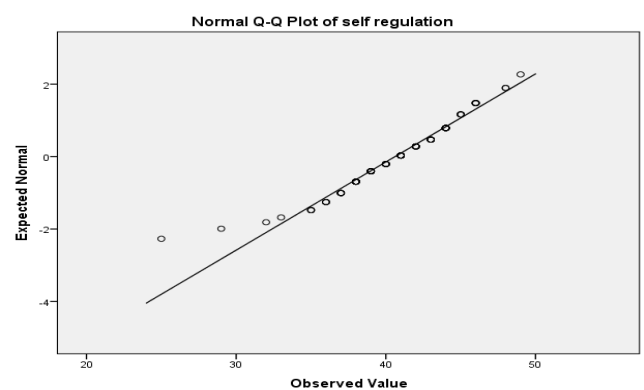

Fig. 7: Graph of Normal Distribution of Students *' Self Regulation Scores Shows Normal.*

Based on Figure 7 above, it shows a normal distribution graph in *Self Regulation* where a point and a straight line, the point represents the data, this shows that the more dots, the more varied the data will be, and vice versa. In addition to the point there is also a straight line that describes a normal curve line. The data is said to be normally distributed if the points are parallel to the normal curve or close to each other or the distance between the points and the normal curve line is not far apart. So it can be concluded that the farther the distance of the points from the normal curve line, the data obtained is not normally distributed. On the graph it can be seen that the points are close together or have a close distance so that the data is said to be normally distributed.

Tests of Normality						
	Kolmogorov-Smirnov a			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
time management	,131	85	,001	,973	5	,069

Table 14: Time Management

Based on table 14 above it can be seen that the output value in *time management* has the *Kolmogorov-Smirnov value is* 0.001. In *time management* it shows that the value of sig. Not normally distributed, because in decision making if the significant value ⊲is 0.05, then the residual value is not normally distributed. The time management score can be shown in the picture:
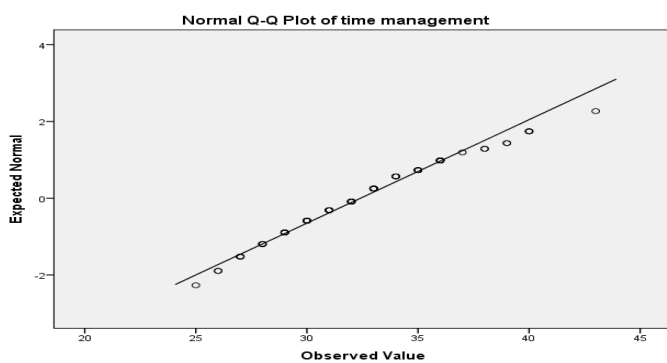

Fig. 8: Graph of Normal Distribution of Student *Time Management* Scores Shows Abnormal

Based on Figure 8 above, it shows an abnormal distribution graph in *Time Management* where a point and a straight line, the point represents the data, this shows that the more dots, the more varied the data will be, and vice versa. In addition to the point there is also a straight line that describes a normal curve line. The data is said to be normally distributed if the points are parallel to the normal curve or close to each other or the distance between the points and the normal curve line is not far apart. So it can be concluded that the farther the distance of the points from the normal curve line, the data obtained is not not normally distributed and vice versa. In the graph above it can be seen that there are points that are far apart or have large distances so that the data is said to be not normally distributed.

Tests of Normality						
	Kolmogorov-Smirnov a			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
learning outcomes	,145	85	,000	,936	85	,000

a. Lilliefors Significance Correction

correlations			self regulation	time management	learning outcomes
Kendall's tau_b	self regulation	Correlation Coefficient	1,000	,246 **	,013
		Sig. (2-tailed)		,002	,872
		N	85	85	85
	time management	Correlation Coefficient	,246 **	1,000	-.074
		Sig. (2-tailed)	,002		,357
		N	85	85	85
	learning outcomes	Correlation Coefficient	,013	-.074	1,000
		Sig. (2-tailed)	,872	,357	
		N	85	85	85
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 15: Learning Outcomes

Based on table 15 above it can be seen that the output value on learning outcomes has the *Kolmogorov-Smirnov value is* 0.000. On learning outcomes shows that the value of sig. Not normally distributed, because in decision making if the significant value ⊲is 0.05, then the residual value is not normally distributed. The score of learning outcomes can be shown in the following figure:
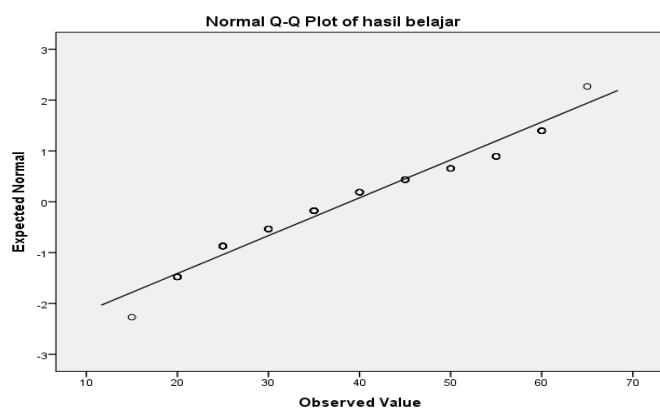
Fig. 9: Graph of Normal Distribution of Student Physics Learning Outcomes Scores Shows Abnormal

Based on Figure 9 above, it shows an abnormal distribution graph in physics learning outcomes where a point and a straight line, the point represents the data, this shows that the more dots, the more varied the data will be, and vice versa. In addition to the point there is also a straight line that describes a normal curve line. The data is said to be normally distributed if the points are parallel to the normal curve or close to each other or the distance between the points and the normal curve line is not far apart. So it can be concluded that the farther the distance of the points from the normal curve line, the data obtained is

not not normally distributed and vice versa. In the graph above it can be seen that there are points that are far apart or have large distances so that the data is said to be not normally distributed.

    b.Hypothesis testing

After testing the normality of the data above, the analysis is continued with testing the hypothesis which aims to prove the truth or answer the hypothesis presented in this study. The hypothesis test used is non-parametric *gamma correlation* because it will be seen the relationship between *self-regulation* and student learning outcomes whether there is a significant relationship. In the analysis of hypothesis testing the results of this study used the *SPSS version 20 application for Windows* . Then the data obtained is presented in tabular form as below:

Based on table above, namely the relationship between *self-regulation* and physics learning outcomes shows that there is a very weak relationship that is equal to 0.132, the relationship between *time management* and learning outcomes shows that there is a very weak relationship that is equal to 0.074.

ANOVA [a]						
Model		Sum of Squares	Df	MeanSquare	F	Sig.
1	Regression	461,738	2	230,869	1,288	, 281b
	residual	14692,968	82	179,183		
	Total	15154,706	84			
a. Dependent Variable: de (y) learning outcomes						
b. Predictors: (Constant), time management (x2), self regulation (x1)						

Table 16: relationship between self regulation and time management and physics learning outcomes

Based on table 16, namely the relationship between *self regulation and time management* and learning outcomes show that there is a weak relationship that is equal to 0.281.

No.	Correlation Value	Relationship Level
1.	0.00 – 0.199	So weak
2.	0.20–0.399	Weak
3.	0.40–0.599	Enough
4.	0.60 – 0.799	Strong
5.	0.80 – 1.00	Very strong

Table 17: degree of correlation and strength of relationship [22].

V. DISCUSSION

This section will discuss the data that has been analyzed using descriptive analysis and correlation analysis, namely to see how the relationship between *self* -regulation and students' physics learning outcomes, the relationship between *time management* and students' physics learning outcomes, and the relationship between *self-regulation and time management* with student outcomes. learning physics of

students, the results of learning physics of students are taken from giving multiple choice tests on static fluid material as many as 20 items. In this case it will be concluded the results of research data processing that has been done.

A. *The relationship between self-regulation and the physics learning outcomes*

Based on the *self-regulation questionnaire* , there are five indicators and fifteen statements to assess students' self-regulation, based on descriptive analysis the maximum value of students' *self-regulation is* 49. Meanwhile, the minimum score obtained by students is 25, with an average value of 40.61, the standard deviation 4.10 and variance value 16.88. Based on the *time management categorization* , it is known that the students' scores are in the very high category because all students (85 people) get a score of $x \geq 2,33$.

Based on the normality test obtained using the SPSS application *with the Kolmogorov Smirnov* normality test , it shows that the data on student self- *regulation* is normally distributed at 0.082.

The hypothesis test used in this study is the Non-Parametric test with *Kendall correlation* because it will be seen the relationship between *self-regulation* and students' physics learning outcomes whether there is a significant relationship. Whether there is a correlation can be seen from the probability value listed on the sig line. If the probability is $>$0.05 then there is no correlation, if the probability is $<$0.05 then there is a correlation between variables. In the hypothesis test using Kendall's correlation test using the SPSS *application ,* there is a *correlation coefficient* r_{hituna}= 0.013 based on the interpretation table, the r value is between 0.000 - 0.199 with a very weak category (no correlation). Testing significant correlation in this study based on calculations, obtained F_{hituna} = 0.4659 $\leq$ F_{tabel} = 3.9, so it can be concluded that there is no significant relationship between *self-regulation* and physics learning outcomes in class XI MIA participants at SMAN 6 Takalar.

Based on research in the field there are several factors that cause self-regulation and learning outcomes so that there is no significant relationship because the value on *self-regulation* of students is the highest 46 only 1 person, namely internal factors how to know the best way to learn and learning styles study what he likes. From internal factors, to the child's psychology, that is, at the time of giving the test there were some students who did not have their own initiative without the help of friends and the researcher himself, in the sense that these students were not confident about what they experienced themselves. There are also some attitudes that some students have where, during the learning process some students are always changing seats (paying less attention), disturbing friends and going in and out of class because of going to the bathroom. This is in line with the theory expressed by Terry et al. [23], where learning achievement is influenced by internal and external factors, internal consisting of physical factors (vision, hearing, body structure); Psychological factors include factors of intelligence, interest, attitude and patience. While external factors are in the form of social factors such as parents, schools and teachers as well as physical environmental factors such as the learning facilities themselves. Good *self-regulation* ability will also have an impact on the learning outcomes they get, because students who are at the level of good *self-regulation ability* mean that they can regulate themselves in learning.

This is supported by Nining Dharma Putry's research [24], namely the relationship between *self-regulated learning abilities* and science learning outcomes for SMPN 3 Padang students. Where there is no significant relationship between the ability of *self-regulated learning and learning* outcomes because self-regulation that is done well will also have a good impact on the learning outcomes that will be obtained by students and vice versa. Based on the research results of Zereyak, et al [25], namely the relationship between *self-efficacy* and academic performance where there is no significant relationship between *self-efficacy* and other variables, therefore, we can say that self-efficacy is more efficient on academic performance than social variables. Ochteria [26], concluded that regulation in learning is a process within students that can regulate and manage thoughts, feelings, desires, and determine actions to be taken

and can regulate achievements and actions from action plans, so that they can then evaluate success, reward the achievements obtained and can set higher achievement targets.

B. The relationship between time management and physics learning outcomes of students

Based on the *time management response,* there are five indicators and fourteen statements to assess students ' *time management , based on descriptive analysis the maximum value of students' time management is* 43. Meanwhile, the minimum score obtained by students is 25, with an average value of 32.41 standard deviation 3.70 and the variant value is 13.74. Based on the *time management categorization ,* it is known that the students' scores are in the very high category because all students (85 people) get a score of $x \geq 2,33$.

Based on the normality test obtained using the SPSS application *with the Kolmogorov Smirnov* normality test , it shows that the data on student self- *regulation* is not normally distributed at 0.001. The hypothesis test used in this study is the Non-Parametric test with Kendall correlation *because* it will be seen the relationship between *time management* and students' physics learning outcomes whether there is a significant relationship and whether there is a correlation between these variables. In the hypothesis test using Kendall's correlation test using the SPSS *application ,* there is a *correlation coefficient* r_{hituna}= 0.074 based on the interpretation table, the r value is between 0.000 - 0.199 with a very weak category (no correlation). Testing significant correlation in this study based on calculations, obtained F_{hituna} = 0.000000125 $\leq$ F_{tabel} = 3.9, so it can be concluded that there is no significant relationship between *time management* and physics learning outcomes of class XI MIA students at SMAN 6 Takalar.

Based on the data above, it shows that there is no significant relationship between *time management* and physics learning outcomes. This study is in line with Terry and Doolittle [14] saying that for general time management behavior it does not produce a significant difference between the subject of the main effect, namely self-efficacy through time management in an online learning environment with results (achievement). This is because there are several factors that cause the timing of students who have not shown learning outcomes. One of them is the learning environment factor because where, the factors that support student learning achievement are the ability to manage time/manage their study time properly. Based on research in the field there are external factors, namely delays made by some students and some also like to disturb friends and like going in and out of class. So it can be concluded that if students have good time management it will result in high learning achievement and vice versa if students have poor time management it will result in less learning achievement. Monika [27], the role of time management is indispensable in learning activities because time management is one of the *internal factors* that influence learning. Good time management is the driving force and driving force for individuals to learn so that in learning individuals will be more enthusiastic and not easily bored with the subject matter being studied and at the same time can increase motivation to achieve and complete studies.

C. The relationship between self regulation and time management and physics learning outcomes

The results of this study indicate that there is no significant relationship between *self-regulation and time management* and the physics learning outcomes of class XI MIA students at SMAN 6 Takalar. This can be seen in the non- *prametric* test analysis of Kendall's correlation test that has been carried out where the number of samples in this study was 85 students. The average obtained from *self-regulation* was 40.61 with a standard deviation obtained of 4.10 and the variance obtained was obtained was 16.88, while the average obtained from *time management* was 32.41, with a standard deviation of 3.70 and the variance obtained was 13.74 and for the average learning outcomes obtained was 38.94 and the standard deviation value obtained was 13.43.

Based on the categorization of *self-regulation and time management* where the total sample of 85 students is in the very high category because the score obtained is $x \geq 2,33$. For learning outcomes, 40 students obtained very good predicates and 45 others spread out on good predicates as many as 23 people, 21 people on sufficient predicates and 1 person on poor predicates.

Based on the results of this study which showed that there was no significant relationship between *self-regulation and time management* and physics learning outcomes in class XI MIA students. From the hypothesis test used, namely the Kendall correlation non-parametric test *using the SPSS* application of *0.281* this indicates that there is no relationship because the sig. obtained >0.005. Testing significant correlation in this study based on calculations, obtained $F_{hituna} = 0.0024 \leq F_{tabel} = 3.1$, so it can be concluded that there is no significant relationship between *self regulation* and *time management* and the learning outcomes of XI MIA students at SMAN 6 Takalar.

This research is not in line with Muttaqin [28], namely the relationship between time management and self-regulation in studying status of students at the Al-Barokah Islamic Boarding School, Yogyakarta, which shows that there is a positive relationship between time management and regulation in student learning.

Based on the results of Suharsono's research [29], there is a very significant relationship between SRL (*Self Regulated Learning*) and academic procrastination in accelerated students, where students with low *Self Regulated Learning* will be followed by high procrastination and vice versa if *Self Regulated Learning* is high then it will be followed low procrastination.

Based on the results of research in the field, there are factors that are the cause, namely internal factors and external factors which involve parental encouragement, environmental factors and several other factors that can lead to student achievement. From these two factors a learner greatly influences his learning. From the internal factors themselves, namely physical factors, fatigue and child psychological factors, where in the learning process takes place some students do not pay attention (always joking) and are late to enter the main class during the hours after the break students are still outside while the learning hours will take place so, when giving the test they still ask questions and when answering the questions they don't answer questions that they don't understand. So that the standard value obtained is only 65 which is the highest. while the external factors that affect children's learning are family factors which include the way parents educate a child, the atmosphere of the house, economic conditions and cultural background. Because the researcher did not know whether the atmosphere in the family, like the atmosphere at home at that time, he did not like so that his learning was less and the school environment made him happier outside the classroom. The school factors include the teacher's teaching methods and the students' own learning methods.

Based on the results of this study, the difference from previous studies is that in this study there was no significant relationship between self-regulation and students' physics learning outcomes, there was no significant relationship between time management and students' physics learning outcomes and there was no significant relationship between self-regulation and time management and learning outcomes in class XI MIA students at SMA Negeri 6 Takalar.

VI. CONCLUSION AND RECOMMENDATIONS

A. Conclusions

Based on the results of the analysis and discussion above, the following conclusions can be drawn: (1) There is no significant relationship between *self-regulation* and the physics learning outcomes of XI MIA students at SMA Negeri 6 Takalar based on the value obtained from $F_{hituna} = 0.4659 \leq F_{tabel} = 3.9$, because the value obtained is $F_{tabel} >$ from 0.05. (2) There is no significant relationship between *time management* and the physics learning outcomes of XI MIA students at SMA Negeri 6 Takalar based on the value obtained from $F_{hituna} = 0.4659 \leq F_{tabel} = 3.9$, because the value obtained is $F_{tabel} >$ from 0.05. (3) There is no significant relationship between *self-regulation and time management* and the physics learning outcomes of XI MIA students at SMA Negeri 6 Takalar with a sig. 0.281 and obtained $F_{hituna} = 0.0024 \leq F_{tabel} = 3.1$. Because the value obtained is $F_{tabel} >$ from 0.05.

B. Recommendations

Based on the results of this study, the authors will put forward some suggestions that are expected to provide benefits. The suggestions are addressed to: (1) Schools have a very important role in the development of students because students tend to spend a lot of time every day at school compared to other places, thus the school should be good teachers or school leaders can help in improving *self-regulation and time management* and physics learning outcomes of students. (2) It is hoped that parents will pay more attention to, supervise and guide their children in the following matters: Parents must be consistent in applying discipline and instilling positive values, Providing opportunities for children to prove or carry out the decisions they have made. (3) It is hoped that students of SMAN 6 Takalar can improve *self-regulation and time management*

and better physics learning outcomes. (4) It is hoped that this research can open up broader theoretical and practical insights, then it is hoped that future researchers will try again in more depth with more samples to provide more relevant information about the relationship between *self-regulation ant time management* and physics learning outcomes.

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