

THE EFFECTIVENESS OF THE IMPLEMENTATION OF THE ACCELERATE LEARNING CYCLE (ALC) LEARNING MODEL IN MATHEMATICS LEARNING FOR SEVENTH GRADE STUDENTS OF SMP MAHAPUTRA TELLO MAKASSAR

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ABSTRACT

This research aims to determine the effectiveness of Accelerate Learning Cycle (ALC) model on the mathematics learning outcomes at the seventh-grade students of SMP Mahaputra Tello Makassar. The type of research was pre-experimental research. The sample of the research was the seventh-grade students of SMP Mahaputra Tello Makassar. Data processing used descriptive statistics, the average score of students' mathematics learning outcomes by applying the Accelerate Learning Cycle (ALC) model of 50.65 was in the less category. Meanwhile, students' mathematics learning outcomes after applying the Accelerate Learning Cycle (ALC) model increased in the medium category after seeing the gain value of 0.6 with an average score of 79.94 mathematics learning outcomes in the medium category. Students' activities during the implementation of Accelerate Learning Cycle (ALC) model were in the active category and student responses after the implementation of Accelerate Learning Cycle (ALC) model were in positive category. Based on these results, it can be concluded that the Accelerate Learning Cycle (ALC) model was effective on mathematics learning outcomes of the seventh-grade students of SMP Mahaputra Tello Makassar.

Keywords: Effectiveness, learning model, Accelerate Learning Cycle (ALC), learning outcomes, learning mathematics.

1. Introduction

The development of the times is closely related to the growth and development of technology as well as the growth and development of education. Education is a process of activity that is universal in human life, because the educational process takes place anywhere at any time Blake (in Hasan et al., 2021: 1). Formal education is one form of education contained in institutions such as schools. In education in schools there are various kinds of subjects, one of which is mathematics.

According to Sumeda (in Bawono, 2015: 69) Mathematics is generally defined as a branch of science that studies patterns in structure, change, and space. The word "mathematics" comes from the Greek "matema" which means "science", or learning, and can also be called "mathematikos", which means "love to learn". Mathematics learning formulated by the National Council of Teachers of Mathematics (NCTM, 2000) stipulates that students must learn mathematics through understanding and actively building new

knowledge from experience and previous knowledge (Retnawati, 2013: 391-392).

This shows that students lack confidence in learning and do not understand the importance of learning mathematics. In general, from the past until now, mathematics is still considered a difficult and boring subject. This assumption can actually be understood because learning mathematics is different from learning Indonesian. Because in addition to memorizing formulas, learning mathematics must also be done systematically, because understanding new concepts requires prerequisites for understanding old concepts (Agustina et al., 2019:152).

The learning model applied by the teacher should be a learning model that can provide opportunities for students to actively participate physically and mentally in learning activities in the classroom. The student-centered method will make students more active and understand the lesson so that student learning outcomes are better. The author views that learning models need to be developed and applied in the mathematics learning

process to deal with mathematics learning problems in schools (Winarno et al., 2015:84). In this regard, one of the student-centered learning models is the Accelerate Learning Cycle (ALC) learning model, the Accelerate Learning Cycle (ALC) learning model is a cooperative learning model where students are the center of learning (student cantered), in the form of a series of stages – stages of activities that are organized in such a way that students can master the competencies that must be mastered in learning by playing an active role

2. Research Methods

- a. Types of research
The method used in this research is pre-experiment
- b. Place and time of research
This research was conducted in the even semester of the 2021/2022 academic year at Mahaputra Tello Middle School Makassar.
- c. Population and research sampel
The population in this study were all seventh grade students of SMP Mahaputra Tello Makassar which consisted of one class. The sample in this study were seventh grade students of SMP Mahaputra Tello Makassar
- d. Data collection technique
 - 1. Instrument grille
The instrument grid was made by researchers based on indicators of teaching materials or syllabus used at Mahaputra Tello Middle School Makassar
 - 2. Instrument type
 - a) The instrument used is a test of mathematics learning outcomes which are arranged based on the instrument grid
 - b) Student activity sheet
The student activity sheet is an illustration used by researchers to find out how much student participation is during learning by applying the Accelerated Learning Cycle (ALC) learning model.
 - c) Student Response Questionnaire
Student response questionnaires were used to find out how much students' responses

and reactions were after applying the Accelerated Learning Cycle (ALC) learning model.

- d) Implementation of learning
The implementation of learning is data about the achievement of researchers in learning treatment in the classroom so that the implementation of learning is really in accordance with the expected conditions and processes.

3. Results and Discussion

Results

Tabel 3.1 Research Desing

Pretest	Treatment	Posttest
O ₁	X	O ₂

- O₁ : Pretest, to measure the initial ability of seventh grade students of SMP Mahaputra Tello Makassar
- X : Treatment in the form of teaching that will be taught through the Accelerated Learning Cycle (ALC) model
- O₂ : Post-test to determine the ability of class VII students of SMP Mahaputra Tello Makassar after treatment

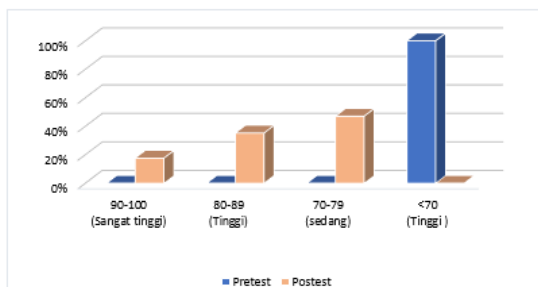
Comparison of students' mathematics learning outcomes before and after applying the Accelerated Learning Cycle (ALC) learning model, can be seen in Table 4.5 below:

Tabel 4.5 Frequency Distribution and Percentage of Students' Mathematics Learning Outcomes Scores Before and After Applying the Accelerated Learning Cycle (ALC) Learning Model

No	Interval	Kategori	Frekuensi		Persentase(%)	
			pretest	Posttest	Pretest	Posttest
1	90 – 100	Very high	0	3	0%	17.65%
2	80 – 89	Tall	0	6	0%	35.29%
3	70 – 79	Currently	0	8	0%	47.06%
4	< 70	Low	17	0	100%	0%
Jumlah			17	17	100%	100%

Based on Table 4.5 above, it shows that before using the Accelerated Learning Cycle (ALC) learning model, 100% mathematics learning outcomes were in the low category and after using the Accelerated Learning Cycle (ALC) learning model, students' mathematics learning outcomes were in the medium category with a percentage of 47.06. % so that the range of categories obtained

has increased. The following is a bar chart to give a clear picture of the improvement of students' mathematics learning outcomes before and after the Accelerated Learning Cycle (ALC) learning



Picture 4.3 Bar chart comparison of students' mathematics learning outcomes before and after the implementation of the Accelerated Learning Cycle (ALC) learning model.

model.

1. Analysis of Student Activity Descriptions on the Implementation of the Accelerated Learning Cycle (ALC) Learning Model

Based on the results of descriptive data analysis of student activity observations for three meetings by applying the Accelerated Learning Cycle (ALC) learning model, the percentage of student activity observation was 81.95% with a maximum score of 72 and the number of questions for each meeting was 6. conducted by the author shows the level of participation and activeness of students during the learning process is in the active category. For more details can be seen in the following table:

Table 4.6 Descriptive Data Analysis of Student Activities Through the Application of the Accelerated Learning Cycle (ALC) Learning Model

Meeting score			Total Score	Maximum Score	Percentage(%)	Category
I	II	III				
19	18	22	59	72	81,95%	Aktif

Based on the student activity data above, it can be concluded that student activities during learning by applying the Accelerated Learning Cycle (ALC) model are in the active category.

2. Descriptive Data Analysis of Student Responses to the Accelerated Learning Cycle (ALC) Learning Model

Based on the student response questionnaire given to 17 students with the number of indicators for each questionnaire sheet totaling 10 positive questions which aim to find out how big the student's response or

reaction to learning is by using the Accelerated Learning Cycle (ALC) learning model. From the results of the processed student response questionnaire data after the implementation of the Accelerated Learning Cycle (ALC) learning model, it was obtained a percentage of 94.70% for answering Yes and 5.30% for answering no, with the total number of question indicators for 17 students was 170, the total number of yes answers from 17 students are 161 and the total number of no answers from 17 students is 9. The results of the analysis of student responses can

Table 4.7 Descriptive Data Analysis of Student Responses After the Implementation of the Accelerated Learning Cycle (ALC) Learning Model

statistics	Statistical grades and categories
Number of Samples	17
Total Questions	10
Total answers Yes	161
Total answers No	9
Answer percentage Yes	94,70%
Percentage of No Answers	5,30%
Answer category Yes	Very Positive
Answer Category No	Not positive

be presented in the following table.

From the student response data above, it can be shown that students are very interested and interested and give positive responses while applying the Accelerated Learning Cycle (ALC) learning model used by researchers with a percentage of 94.70% and is in the very positive category.

3. Descriptive Analysis of Learning Implementation Observation Sheet By Applying Accelerated Learning Cycle (ALC) Learning Model

The results of observing the implementation of the learning process by applying the Accelerated Learning Cycle (ALC) learning model to determine the implementation of learning or teacher activities during the learning

Table 4.8 Descriptive Data Analysis of Student Learning Implementation by Applying the Accelerated Learning Cycle (ALC) Learning Model

Meeting score			Total Score	Implemented indicators	Percentage(%)	Category
I	II	III				
12	12	12	36	36	100%	very good

process can be seen in Table 4.8 below:

Based on Table 4.8 above, it shows that the implementation of the learning process by applying the Accelerated Learning Cycle (ALC) learning model is effective from the first to the

third meeting. Based on the criteria for the implementation of the learning process, it shows that the implementation of the learning process is in the very good category with a percentage of 100%.

B. Description of Students' Mathematics Learning Outcomes Based on Completeness Criteria (KKM).

The results of students' mathematics learning after applying the Accelerated Learning Cycle (ALC) learning model can be presented in the following table:

Tabel 4.9 The percentage of student learning outcomes after the application of the Accelerated Learning Cycle (ALC) learning model to the achievement of KKM

KKM(70)	STUDENT	PERCENTAGE(%)	CATEGORY
Value > KKM	17	100%	Complete
Value < KKM	0	0%	Not Complete
Total	17	100%	

Based on Table 4.9, it shows that individually students who scored above the KKM were 100% or 17 students, thus it can be concluded that classical completeness is fulfilled.

C. Gain Test Analysis Results

The gain test was carried out to find out how much the increase in the learning outcomes of Class VII students of SMP Mahaputra Tello Makasar before (pretest) and after (posttest) applying the Accelerated Learning Cycle (ALC) learning model using the gain test formula obtained a normalized gain value of 0.59. If referring to the criteria for the gain value, it can be concluded that the increase in student learning outcomes before (pretest) and after (posttest) applying the Accelerated Learning Cycle (ALC) learning model is in the medium category.

Discussion

1. Average Student Mathematics Learning Outcomes (Pretest) and (Posttest)

The average mathematics learning outcomes of seventh grade students of Mahaputra Tello Middle School Makassar after applying the Accelerated Learning Cycle (ALC) learning model is 79.94 higher than the KKM 70. Thus, this study has met the second criterion in effectiveness, namely the average score of results. students' learning mathematics after applying the

Accelerated Learning Cycle (ALC) learning model is higher than the KKM 70.

2. Minimal Classical Completeness

The learning outcomes of seventh grade students of Mahaputra Tello Middle School Makassar experienced a significant increase from pretest to posttest, where from the 17 students the number of students achieved mastery learning achievement with students' mathematics learning outcomes after applying the Accelerated Learning Cycle (ALC) learning model classically complete (100 %) reached KKM 70. Thus, the second effectiveness criterion was met.

3. Student Activities During the Implementation of the Accelerated Learning Cycle (ALC) Learning Model

The achievement of student activities during the application of the Accelerated Learning Cycle (ALC) learning model obtained a percentage of 81.95% if interpreted as active because it was between 76% and 85%. the Accelerated Learning Cycle (ALC) learning model is in the minimally good category.

4. Student Response During Implementation of Accelerated Learning Cycle (ALC) Learning Model

Student responses during the application of the Accelerated Learning Cycle (ALC) learning model with a percentage of 94.70% if interpreted as very positive because they are between 85% thus, this study has met the fourth criterion in effectiveness, namely student responses after the implementation of the Accelerated Learning Cycle learning model. (ALC) was in the minimally positive category, the presentation range was 70 Rs < 85.

The use of the Accelerated Learning Cycle (ALC) learning model makes the students' perspective on the scary and boring mathematics to the fun mathematics so that the desire to learn mathematics is getting bigger. Students enjoy learning mathematics if they are divided into small groups because students feel happy if there is interaction between students and other students. Such as doing assignments together, discussing with group friends and comparing

answers with their group friends and with other groups. This Accelerated Learning Cycle (ALC) learning model also makes students more active in solving a problem and during class discussions students do not hesitate and are no longer awkward to provide responses and answers they know. Thus, it will certainly make students prefer to learn mathematics which will have a positive effect on their mathematics learning outcomes.

5. The Implementation of Mathematics Learning After the Implementation of the Accelerated Learning Cycle (ALC) Learning Model

The implementation of mathematics learning after the implementation of the Accelerated Learning Cycle (ALC) learning model with a percentage of 100% if it is presented is in the very good category, thus this study has met the fifth criterion in effectiveness, namely the implementation of mathematics learning during the implementation of the Accelerated Learning Cycle (ALC) learning model. in the minimally good category at the vulnerable percentage $80 < k < 90$

Conclusion

Based on the results of the analysis of research and previous discussions, it can be concluded that through the application of the Accelerated Learning Cycle learning model it is effectively used in class VII students of SMP Mahaputra Tello Makassar by achieving the following effectiveness criteria:

1. The learning outcomes of seventh grade students of Mahaputra Tello Middle School Makassar showed a significant increase from the pretest score of 50.65 to the posttest of 79.94 with a gain value of 0.6.
2. Because all students complete (100% completeness rate) means classical completeness (85% students complete) is fulfilled.
3. Student activities during the application of the Accelerated Learning Cycle learning model are in the active category with a percentage of 81.95%
4. Student responses after the implementation of the Accelerated

Learning Cycle learning model are in the very positive category with a percentage of 94.70%.

5. The implementation of mathematics learning during the implementation of the Accelerated Learning Cycle learning model is in the very good category with a percentage of 100%.

Recommendation

Based on the conclusions above, the authors put forward suggestions as recommendations from this study, as follows:

1. It should involve active students in learning by applying the Accelerated Learning Cycle (ALC) learning model.
2. For teachers, to be able to control students because the Accelerated Learning Cycle (ALC) learning model is more important in student activity.
3. To other writers who want to carry out research, so that they really understand the concept of learning models so that they can prepare the best possible instruments so that the data obtained are truly valid and describe the actual abilities of the respondents.

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