Increasing Affective Field Learning Outcomes Students through the Application of the Model Means Ends Analysis, Combination of Creative Problem Solving and Course Review Horay

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Abstract

The purpose of this study was to improve learning outcomes in the affective domain of students by using the Means Ends Analysis Model, a combination of Creative Problem Solving and Course Review Horay. This study used a qualitative approach with the type of Classroom Action Research (CAR) which was carried out in three cycles. The research setting is the even semester VB students of SDN 1 Guntung Paikat Banjarbaru for the 2020/2021 academic year, with a total of 26 students. Data were collected through observation techniques. Data analysis is calculated based on the percentage scale and indicators of learning completeness that are set. The results of this study indicate that in the first cycle the results of the student attitude assessment are: 19% very good, 35% good, 23% quite good and 23% not good. In cycle II, 31% is very good, 38% is good, 23% is quite good and 8% is not good. In cycle III, 35% is very good, 42% is good, 23% is quite good and there are no students who have poor attitude criteria. Thus, in the third cycle, the research indicators, namely 95% of students, had at least an assessment with fairly good criteria. Thus, it can be said that the application of the Means Ends Analysis model, the combination of Creative Problem Solving and Course Review Horay has been proven to improve students' affective learning outcomes.

Preliminary

In recent years there has been a very fast revolution of the internet or wireless information and communication technology which has resulted in the emergence of various interactive multimedia. Educators integrate information and communication technology into subjects to help students learn to use teaching materials, learning methods, and various learning media. It is the responsibility of educators to have more efficient teaching skills so as to enable students to enjoy learning and grow a new generation of creative, rational, and critical thinking with technology in this digital era (Pai & Tu, 2011).

One of the basic abilities that students must have in developing science and technology is mastering the field of mathematics. In learning mathematics, students are expected to be able toeunderstand concepts and can incorporate these concepts into various patterns or mathematical models with the ability to reason in order to determine mathematical formulas to solve various problem solving and find solutions to these problems. Therefore, it takes an attitude of curiosity, interest in learning, and a high self-confidence in order to be able to solve problems in mathematics.

The self-concept of students as mathematics learners should be instilled as a substructure that comes from the belief structure. One of the basic descriptors of the affective domain in mathematics is closely related to attitudes, emotions, motivations, personal expectations, and attributions (McLeod, 1992). In the context of learning, every educator is responsible for developing a positive attitude towards learning mathematics so that students can solve problems related to their lives (Anghileri, 1995).

The attitude of students in learning mathematics is an internal factor that affects students and is the embodiment of cognitive (knowledge), affective (feelings), and konasi (tendency) to act in mathematics learning, which is presented and developed by educators including learning materials, educator activities, learning aids/media, and evaluation accompanied by positive and negative feelings.

There is strong evidence showing the positive role of attitudes in students' learning styles and academic engagement (Abuet al., 2010; Awang, 2013)Therefore, the behavior of students in learning in all their activities and actions is expected to be observed as a result of the interaction of students with their environment which includes the persistence and activeness of students both in attending lessons and carrying out mathematical tasks with observation activities during mathematics learning (Darmiyati, 2007).

In fact, the expected mathematics learning is not in line with what is happening in Indonesia. Referring to the PISA assessment organized by the OECD, Fathani (2016) stated that based on international studies of student mathematical literacy in Indonesia, it is still not satisfactory. The use of mathematical modeling (contextual problem-taking) with terms that are not familiar in Indonesia, becomes its own difficulties and challenges. The process of associating with mathematical concepts is hampered. According to Gomes, Hirata, & Oliveira (2020), PISA is the most recognized assessment in the world, the results can be used as a benchmark for the position of mathematical literacy of students in Indonesia. Students assume that mathematics is a difficult learning so students feel afraid and are not challenged in learning. This causes students' interest in learning to decrease and students seem unmotivated and bored because learning becomes uninteresting for them.

Students often find it difficult to learn mathematics because of repeated failure experiences when working on math problems. Doubt their own abilities and tend to attribute failure to their lack of ability. This negative attitude towards mathematics affects the emotions of students at the time of learning and will cause feelings of insecurity. Students' attitudes towards mathematics are divided into 4 evaluative processes, namely: the emotions experienced by students during learning mathematics, the emotions of students automatically in associating mathematical concepts, evaluating the situation experienced by students with the hope of following mathematics as a consequence of themselves and values as learning objectives. mathematics (Hannula, 2012).

New problems arose during the COVID-19 pandemic which encouraged students to study at home in accordance with the Circular Letter of the Minister of Education and Culture Number 2 of 2020 regarding the prevention and handling of the Corona virus. These problems include when students study at home, do assignments given by online educators, students find it difficult to accept the learning. Students who still have difficulty in learning mathematics, especially in data processing materials, will have an impact not only on the cognitive and psychomotor aspects but

also on the affective aspects. In the affective aspect, students must prioritize an honest and thorough attitude, especially when studying at home, the tasks given by educators should not be done entirely by parents. This will have an impact on the ability of students to master a competency that is intended for them. Therefore, the honest attitude (integrity) that exists in students' needs to be improved. During the learning process, obstacles in the classroom also began to appear. Students rarely collaborate with their friends in a group even though learning will be easier when students work together in groups, especially in learning mathematics, data processing materials that require more accuracy from students. In connection with data processing material, some students still have many difficulties in understanding the concept of data processing which makes it less precise in solving problems regarding data interpretation. Lack of accuracy by students makes mistakes both when compiling and presenting data. If this problem is not handled and allowed to drag on, it will have an impact on students, it is feared that students will have difficulty in learning the next math subject. Some efforts that can be made by researchers relating to new problems that arise are using the Means Ends Analysis learning model combined with Creative Problem Solving and Course Review. *Horay* which will be implemented in the learning process by blended learning or a combination of online learning through video conferencing and offline through home visits. The Means Ends Analysis model can solve mathematical problems such as interpreting the data that has been presented, collaborating with friends and creating a communication so that in the learning process students are not passive and learning is not one-way. This is also proven in a study conducted by Mrs. Armada, Md. Tegeh, and Wyn. Sudiana's use of the MEA learning model has proven to be able to help students collaborate and groups who are taught using the Means Ends Analysis (MEA) learning model show better learning outcomes compared to groups of students who are taught using conventional learning models (Fleet, Tegeh, & Sudiana, 2013).

After students are able to solve problems related to data processing, students also need to cultivate creativity in processing and presenting data so that the Creative Problem-Solving model is used. This model can help students find possible problem-solving strategies to develop a problem-solving plan more creatively. Meanwhile, to make students feel happy and generate motivation and interest in learning, a fun model is needed, namely the Course Review Horay model. This model will make the learning atmosphere more fun and students will not easily think that mathematics is a difficult and scary lesson. From research conducted by Ni Made Dwi Payani et al. shows that student learning outcomes increase using the Course Review Horay model and it is recommended that it be applied to elementary school students to be more active and motivated in participating in learning activities, educators can also be more innovative with this model so that they can support teaching and learning activities in a better direction (Payani, Pudjawan, & Suarjana, 2013). Some research results state that the Course Review Horay (CRH) learning model has an effect on student learning outcomes, especially in elementary schools. (Nureva, 2019; Ufie et al., 2020; educators can also be more innovative with this model so that it can support teaching and learning activities in a better direction (Payani, Pudjawan, & Suarjana, 2013). Some research results state that the Course Review Horay (CRH) learning model has an effect on student learning outcomes, especially in elementary schools. (Nureva, 2019; Ufie et al., 2020; educators can also be more innovative with this model so that it can support teaching and learning activities in a better direction (Payani, Pudjawan, & Suarjana, 2013). Some research results state that the Course Review Horay (CRH) learning model has an effect on student learning outcomes, especially in elementary schools. (Nureva, 2019; Ufie et al., 2020; Anggraeny, 2018; Siddiq and Reinita. 2019). This is because this model makes the learning atmosphere lively. The problems described above are important to study in order to find out whether the Means Ends Analysis model combination of Creative Problem Solving and Course Review Horay can improve student learning outcomes in the affective aspect. Therefore, it is necessary to do research so that the problems that occur in the Banjarbaru City Elementary School can be overcome.

Research Methods

This research was conducted at SDN 1 Guntung Paikat Banjarbaru City, South Kalimantan. The subjects of this study were 26 class VB students, and the supporting subjects were educators who taught mathematics. The research design that becomes the reference is The Action Research Cycle model which has the steps of Reconnaissance, Action, and Reflecting. The research procedure carried out refers to the Elliott Action Research Model scheme, namely (1) pre-observation, (2) general plan of action, (3) action, (4) observation, and (5) reflection.

The instrument used in assessing aspects of students' attitudes towards learning mathematics is by observing the behavior of students in participating in mathematics lessons. The technique of collecting data is by using observation/observation techniques. The indicator of this research is if 95% of students at least get a fairly good attitude assessment category. The data analysis used in this research is qualitative.

Research Result

During the learning activities in the classroom, observations and assessments were made of the attitude/affective aspects of students. This affective observation and assessment are carried out by observers or observers by filling out the affective assessment observation sheet. The affective aspects observed during learning activities are religious, nationalist, honest (integrity), and conscientious in the components of the Means Ends Analysis learning model steps combination of Creative Problem Solving and Course Review Horay.The data from the observations in the first cycle includes four aspects of attitude (affective) assessment which can be seen from the table below.

Table 1
Aspects of Attitude Assessment (Affective) Cycle I

Aspects that observed	Percentage			
	4	3	2	1
Religious	3 people (11.5%)	11 people (42%)	9 people (35%)	3 people (11.5%)
Nationalist	- (0%)	13 people (50%)	11 people (42%)	2 people (8%)
Honest (Integrity)	2 people (8%)	11 people (42%)	10 people (38%)	3 people (12%)
Be careful	2 people (8%)	12 people (46%)	4 people (15%)	8 people (12%)

Based on the table above, on the religious aspect, the indicators assessed are by observing students when praying with readiness, praying quietly, praying well, and getting used to saying good with good sentences. Students get a score of 4 there are 5 people with percentage 11.5%, score 3 there are 11 people with a percentage of 42%, score 2 there are 9 people with a percentage of 35%, and score 1 there are 3 people with a percentage of 11.5%.
The second aspect that was observed was nationalism, the indicator assessed was by observing students while singing the Indonesia Raya anthem before starting to study, singing the song "Indonesia Raya". uIndonesia Raya solemnly, singing folk songs after studying, and singing folk songs with good manners. Students get a score of 3 there are 13 people with a percentage of 50%, a score of 2 there are 11 people with a percentage of 42%, a score of 1 there are 3 people with a percentage of 12%.
The third aspect that is observed is honesty (integrity), the indicator that is assessed is by observing students when thinking about assignments and their own thoughts to educators, daring declare actual events when communicating with friends and educators, dare to admit mistakes, and convey results properly and correctly. Students get a score of 4, there are 2 people with a percentage (8%), a score of 3 there are 11 people with a percentage of 42%, a score of 2 there are 10 people with a percentage of 38%, and a score of 1 there are 3 people with a percentage of 12%.
The fourth aspect that is observed is thorough, the indicators assessed are by observing students when studying assignments carefully, observing surrounding objects (learning resources) carefully, doing assignments according to procedures, and not rushing in doing assignments. Students get a score of 4 there are 2 people with a percentage of 8%, a score of 3 there are 12 people with a percentage of 46%, a score of 2 there are 4 people with a percentage of 15%, and a score of 1 there are 8 people with a percentage of 31%. The achievement of learning outcomes in the aspect of attitude (affective) above if described in the form of student achievement in each aspect will look like the graph below:
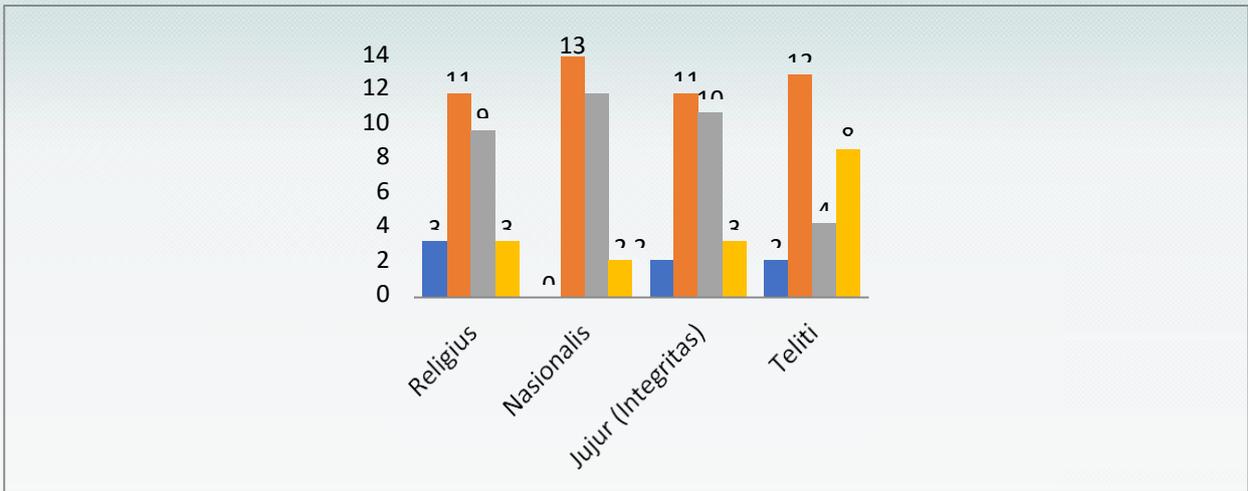
Figure 1 Graph of Each Attitude (Affective) Aspect Cycle I

The data in the graph above can be obtained a total score from each aspect, then criteria are made from the range of scores obtained by individual students. The value of the attitude (affective) of individual students can be seen from the following table.

Table 2.
Attitude (Affective) Aspects of Individual Students Cycle I

Criteria	Frequency	Percentage
Very good	5 people	19%
Good	9 people	35%
Pretty good	6 people	23%
Need Guidance	6 people	23%

More details about the aspects of the attitude (affective) of individual students can be seen in the following graph.
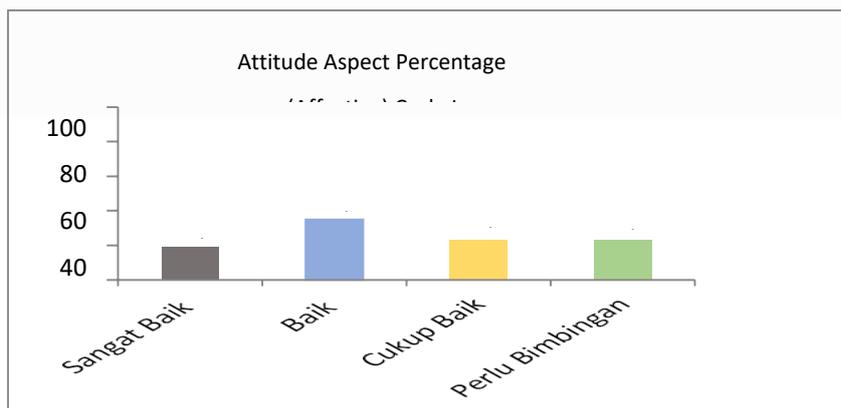

Figure 2 Graph of Students' Attitudes (Affective) Individually Cycle I

In the next cycle, it is expected that students can maximize the indicators that have been determined in each aspect such as preparing themselves when starting to pray and getting used to praying with good manners, singing the anthem Indonesia Raya with solemnity and folk songs with good manners, being brave. admit mistakes made and convey messages properly and correctly, examine data presentation questions carefully and thoroughly so as to reduce small mistakes that often occur and observe surrounding objects that can be used as learning resources

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carefully. Data from observations at the second cycle meeting includes four aspects of attitude (affective) assessment which can be seen from the table below.

Table 3
Aspects of Attitude Assessment (Affective) Cycle II

Aspect observed	Percentage			
	4	3	2	1
Religious	6 people (23%)	14 people (54%)	5 people (19%)	1 person (4%)
Nationalist	3 people (12%)	15 people (58%)	6 people (23%)	2 people (8%)
Honest (Integrity)	3 people (12%)	10 people (38%)	13 people (50%)	- (0%)
Be careful	3 people (12%)	12 people (46%)	10 people (38%)	1 person (4%)

Based on the table above, on the religious aspect, the indicators that are assessed are by observing students when praying ready, praying quietly, praying well, and getting used to saying good with good sentences. Students get a score of 4 there are 6 people with a percentage of 23%, a score of 3 there are 14 people with a percentage of 54%, a score of 2 there are 5 people with a percentage of 19%, and a score of 1 there is 1 person with a percentage of 4%.

The second aspect that is observed is nationalism, the indicator that is assessed is by observing students while singing the Indonesia Raya anthem before starting to learn, singing song Indonesia Raya solemnly, singing folk songs after studying, and singing folk songs with good manners. Learners get a score of 4 there are 3 people with a percentage of 12%. Score 3 has 15 people with a percentage of 58%, score 2 has 6 people with a percentage of 23%, score 1 has 2 people with a percentage of 8%.

The third aspect that is observed is honesty (integrity), the indicator that is assessed is by observing students when thinking about assignments and their own thoughts to educators, daring declare actual events when communicating with friends and educators, dare to admit mistakes, and convey results properly and correctly. Learners get a score of 4 there are 3 people with a percentage (12%), a score of 3 there are 10 people with a percentage of 38%, and a score of 2 there are 13 people with a percentage of 50%.

The fourth aspect that is observed is thorough, the indicators assessed are by observing students when studying assignments carefully, observing surrounding objects (learning resources) carefully, doing tasks according to procedures, and not rushing in doing assignments. Students get a score of 4 there are 3 people with a percentage of 12%, a score of 3 there are 12 people with a percentage of 46%, a score of 2 there are 10 people with a percentage of 38%, and a score of 1 there is 1 person with a percentage of 4%. The achievement of learning outcomes in the aspect of attitude (affective) above if described in the form of student achievement in each aspect will look like the graph below:
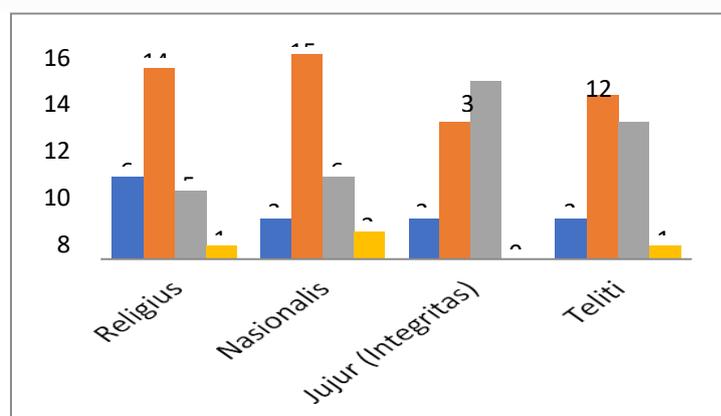

Figure 3 Graph of Each Aspect of Attitude (Affective) Cycle II

The data in the image above can be obtained a total score of each aspect, then criteria are made from the range of scores obtained by individual students. The value of the attitude (affective) of individual students can be seen from the following table.

Table 4
Attitude (Affective) Aspects of Individual Students Cycle II

Criteria	Frequency	Percentage
Very good	8 people	31%
Good	10 people	38%
Pretty good	6 people	23%
Need Guidance	2 persons	8%

More details about the aspects of the attitude (affective) of individual students can be seen in the following graph.
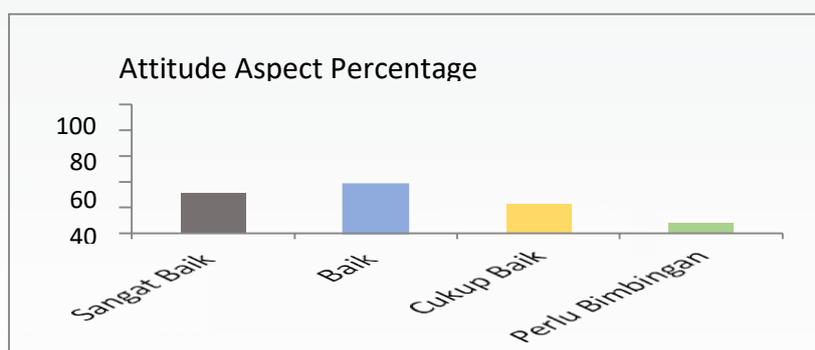

Figure 4 Percentage Graph of Attitude (Affective) Cycle II

In the next cycle, students are expected to be able to maximizing indicators that have been determined in each aspect such as preparing yourself when you want to pray, singing the Indonesia Raya anthem solemnly, daring to admit mistakes made and conveying messages properly and correctly, as well as studying data presentation questions carefully and thoroughly so that reduce the small errors that often occur. Observational data in cycle III includes four aspects of attitude (affective) assessment which can be seen from the table below.

Table 5
Aspects of Attitude Assessment (Affective) Cycle III

Observed aspects	Percentage 4	3	2	1
Religious	11 people (42%)	10 people (38%)	5 people (19%)	- (0%)
Nationalist	7 people (27%)	14 people (54%)	5 people (19%)	- (0%)
Honest (Integrity)	3 people (12%)	15 people (58%)	8 people (31%)	- (0%)
Be careful	4 people (15%)	11 people (42%)	11 people (42%)	- (0%)

Based on the table above, on the religious aspect, the indicators that are assessed are by observing students when praying ready, praying quietly, praying well, and getting used to saying good with good sentences. Students get a score of 4 there are 11 people with a percentage of 42%, a score of 3 there are 10 people with a percentage of 38%, and a score of 2 there are 5 people with a percentage of 19%.
The second aspect that is observed is nationalism, the indicator that is assessed is by observing students while singing the Indonesia Raya anthem before starting to learn, singing song Indonesia Raya solemnly, singing folk songs after studying, and singing folk songs with good manners. Learners get a score of 4 there are 7 people with a percentage of 27%. Score 3 there are 14 people with a percentage of 54%, and score 2 there are 5 people with a percentage of 19.
The third aspect that is observed is honesty (integrity), the indicator that is assessed is by observing

students when thinking about assignments and their own thoughts to educators, daring declare actual events when communicating with friends and educators, dare to admit mistakes, and convey results properly and correctly. Students get a score of 4, there are 3 people with a percentage (12%), a score of 3 there are 11 people with a percentage of 42%, and a score of 2 there are 11 people with a percentage of 42%. Individual students can be seen from the following table.

Table 6
Aspects of Attitude (Affective) of Individual Students Cycle III

Criteria	Frequency	Percentage
Very good	9 people	35%
Good	11 people	42%
Pretty good	6 people	23%
Need Guidance	-	0%

The fourth aspect that is observed is thorough, the indicators assessed are by observing students when studying assignments carefully, observing surrounding objects (learning resources) carefully, doing tasks according to procedures, and not rushing in doing assignments. Learners get a score of 4 there are 4 people with a percentage of 15%, a score of 3 there are 11 people with a percentage of 42%, and a score of 2 there are 12 people with a percentage of 42%. The achievement of learning outcomes in the aspect of attitude (affective) above if described in the form of student achievement in each aspect will look like the graph below:
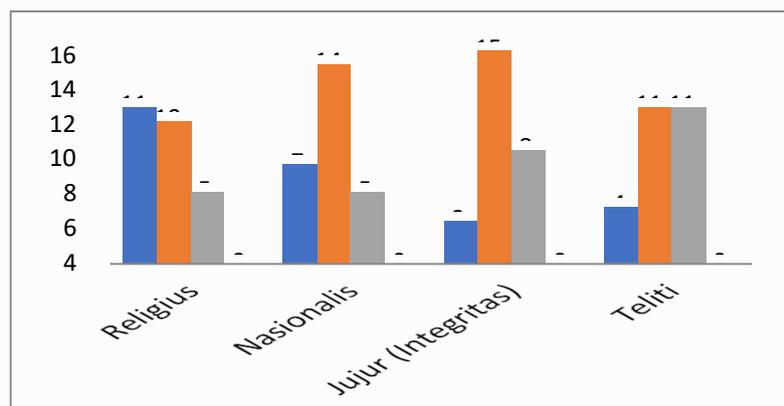

Figure 5 Graph of Each Aspect of Attitude (Affective) Cycle III

The data in the image above can be obtained a total score of each aspect, then criteria are made from the range of scores obtained by individual students. More details about the aspects of the attitude (affective) of individual students can be seen in the following graph.
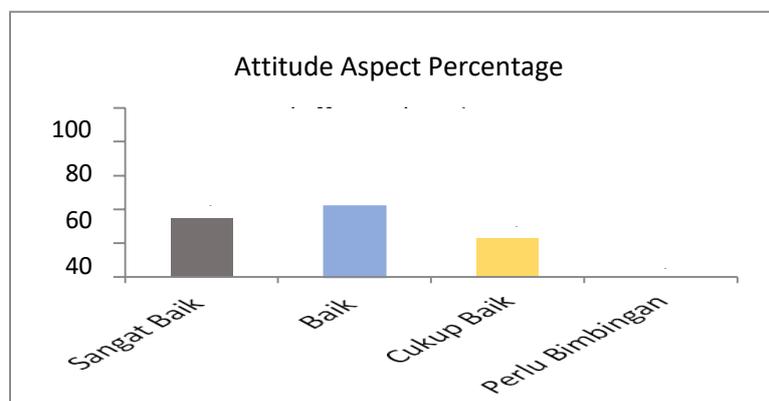
Figure 6 Percentage Graph of Attitude (Affective) Cycle III
From these data, students have been able to show a good attitude, meaning that students have shown the behavior stated in the indicators to be consistent, because in addition to understanding and awareness, they also receive reinforcement from educators. Students continuously demonstrate the behavior stated in the indicators consistently and grow moral maturity both from the environment and the role of an educator. This can be maintained and motivated for students to be better in the future.

Discussion

The results of this study indicate that the application of the model   Means   End   Analysis.   The combination of Creative Problem Solving and Course Review Horay is proven to improve students' affective learning outcomes. This is known from the observations of observers in cycle 1, cycle 2, and cycle 3 which always increase. The comparison of students' affective learning outcomes for each cycle can be seen in the following table

Table 7.
Results of Attitude Assessment in Each Cycle

RATING RESULT	CYCLE I	CYCLE II	CYCLE III
Very good	19%	31%	35%
Good	35%	38%	42%
Pretty good	23%	23%	23%
Need Guidance	23%	8%	0%
amount	100%	100%	100%

From the table above, it can be seen that for cycle III, there were no students whose attitude assessment results were not good. Thus, in the third cycle, the research indicators have been determined, namely 95% of students at least obtained an attitude assessment with fairly good criteria. An increase in learning outcomes obtained by students, of course, cannot be separated from the role of a teacher in designing and implementing learning models. According to Huda (2014) the learning model is a plan or pattern used by educators to form a curriculum. The purpose of the learning model in general is as a guide or reference in teaching and learning activities (Indrawati, 2011).
Teaching and learning activities according to Suriansyah, et al (2014) are directed activities where learning activities are primary activities in teaching and learning activities, while teaching and learning activities are secondary activities which are expected to lead to optimal teaching and learning activities. The use of appropriate teaching strategies can foster interest in the learner. Therefore, learning models are used. The learning model is a learning technique used by the teacher in teaching certain material, and the selection of the model must first be adjusted to the subject matter. The uses of the learning model include identifying precisely the ways to make changes if there is a discrepancy from what has been formulated and by using the learning model, the teacher can arrange student assignments into an integrated whole (Joyce and Weil, 1980).
The learning model is a conceptual framework as an overall procedure in carrying out the teaching and learning process that is arranged in a systematic and organized manner, so that the expected learning objectives are achieved (Fathurrohman, 2015). Many learning models have been developed by educators to make it easier for students to learn. The development of learning models depends on the characteristics of a subject and subject matter, so there is no model that is considered the best, because the learning model depends on the situation and conditions of the learning process carried out by the teacher (Shoimin, 2016:24).
The results of this study are not much different from the results of similar studies that have been carried out previously. Among them was carried out by Nurhamisah (2019) entitled "Improving Student Learning Activities in Data Processing Materials Using the Direct Instruction Model, Combination of Course Revie Horay and Student Facilitator and Explaining Class V SDN 3 Cempaka Banjarbaru" stated that teacher activity increased and achieved very good criteria with scores 50, student activity increased and reached the very active criteria with a percentage of 84.6%, and learning outcomes had met the established success indicators, namely 84.6% of 26 students who achieved a minimum score of 70.

Another study was conducted by Puteri and Sukartiningsih (2018) which evaluated the effectiveness of the review of the horay cooperative learning model with power point media to improve students' critical thinking skills and activities. The results of this study found that the Course Review Horay model students were actively involved during the learning activities. In addition, critical thinking skills are at a very good level. Their dominant activity is problem solving, discussion, and collaboration. The findings from the evaluation of this model and media have been effectively applied in elementary schools.

The next relevant research conducted by Yuyu Yulianti and Intan Lestari (2019) entitled "Application of Creative Problem Solving Models to Improve Student Learning Outcomes in Natural Science Learning in Elementary Schools" stated that the average score reached 80.0 seen from 17 students (85%) have reached the KKM score, while 3 students (15%) are still below the KKM, thus it can be concluded that the application of the Creative Problem Solving (CPS) learning model can improve student learning outcomes. Based on the results of this study and several previous studies, it shows that the Means Ends Analysis model, the Combination of Creative Problem Solving and Course Review Horay have proven to be appropriate to be used in improving learning outcomes of affective aspects in learning mathematics, especially in elementary schools. In the teaching and learning process, teachers must realize that education is not just about teaching. Rather, it is about how teachers should be able to create a pleasant learning atmosphere (Layyinah, 2017). Teachers should be able to innovate to replace learning methods with learning that is fun and more interesting for students (Bustam, 2021). The use of appropriate learning models, provides encouragement to students to increase interest and motivation in participating in learning. In addition, it will provide a learning experience and its own meaning for students. In accordance with the opinion of Suriansyah (2014:

Conclusion

Based on the research conducted, it can be concluded that the application of the Means Ends Analysis model, a combination of Creative Problem Solving and Course Review Horay, increases the learning outcomes of the affective aspects of students, especially in the aspects of religious, nationalist, honest (integrity), and conscientious attitudes. This can be seen by the increase in the assessment results achieved in each cycle. In the first cycle, the results of the students' attitude assessment were: 19% very good, 35% good, 23% quite good and 23% not good. In cycle II, 31% is very good, 38% is good, 23% is quite good and 8% is not good. In cycle III, 35% is very good, 42% is good, 23% is quite good and none of the students have criteria bad attitude. Thus, in the third cycle, the research indicators, namely 95% of students, had at least good enough assessment criteria.

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