

The Efforts of Increasing the Creativity and the Mathematic Learning Outcomes of Multiplication Count Operation Using "Jarimatika" Method For Fifth Grade Students Of SD Negeri Bligo 2

Nur Ulil Bariroh
SD Negeri Bligo 2
nurulilbariroh72@gmail.com

Abstract

The problem formulations of this research were: 1. How to increase the creativity of mathematic learning in integers count operation material? 2. Can the Jarimatika method improve the learning outcomes? The purpose of the research was to determine the extent of the use of Jarimatika method in improving the creativity and mathematic learning outcomes in integers count operation. The subject of this research consisted of 22 student who were given the class action. The research used class action research that was conducted in two cycles. Each cycle consisted of four activities: planning, action, observation, evaluation, and reflection. The research result was obtained the average learning value 72,27. It rose 0,67% by the first condition. The average learning value in the first condition was 5,5 while in this cycle was obtained the average value 93,18. It rose 0,21% by the first cycle. There was 0,88% learning outcomes rising if the first condition. There were 5 students who completed the standart grade in the first condition, while in the last condition there were 12 student research 90,90% standard grade. The value of learning outcomes creativity in the first condition was obtained the average value 60, while in the last condition of the second cycle was obtained the average value 96,23 in the high category. Based on the research's result, it can be concluded that the use of jarimatika method in the integers count operation. Can increase the creativity and mathematic learning outcomes of integers count operationfor fifth grade student of SD Negeri Bligo 2, Ngluwar, Magelang.

Keywords: *Jarimatika Method, Learning Outcomes.*

Background

Mathematics is a lesson that exists at every level of education in Indonesia ranging from Elementary School to High School. Judging from the daily reality in Bligo Elementary School 2, student dependence on teachers in learning is inherent in students. Visible students have not shown high learning motivation. They did not look active in learning, only recorded and listened to the teacher's explanation so that what was obtained for several hours in the class was only what the teacher said when teaching, the rest did not get enrichment from the existing reference books.

The learning method used by the teacher is still orthodox when it comes to counting methods. Usually the teacher says with the words "this problem must be done in this way" or with the words "The point must be this way, if not then wrong" as a result there is no creativity in counting. So counting is monotonous and boring for students. This kind of condition should not be dragged on immediately, so there must be an effort from the teacher to increase creativity in the process of learning mathematics. The action that must be carried out by the researcher is creativity in using Jarimatika method and improving learning outcomes.

The first action sought by researchers was to use the Jarimatika method in a large group consisting of 7 (seven) students. In learning in cycle 1 the teacher still uses concrete objects for repeated summation and then continues with finger formation. The second action in the teacher's learning process has used hand formation to calculate multiplication. In cycle II the teacher divides into small groups consisting of 4 children. Jarimatika is "a method of counting that uses the fingers as a tool for the counting process" (Septi Peni Wulandari, 2017: 17). Jarimatika is "how to count times operations, divide and add by using hands. Jarimatika is a medium that can be used in learning especially in counting while the media used by fingers is not confiscated during the exam. In the operation of jarimatika, there are certain rules.

Research Methodology

1. Research Setting

a. Research Time

This research is a classroom action research consisting of two cycles. The work done is a process model in the form of a cycle, after first obtaining the main problem that is increasing creativity and learning outcomes of mathematics and alternative solutions.

The study of the low creativity and learning outcomes of mathematics about the operation of multiplication counts in fifth grade students of SD N Bligo 2, Ngluwar Subdistrict was held for six months in the Odd Semester 2015/2016 academic year, starting from July 27, 2016 to 31 December 2016.

b. Research Place

The place of research is the low creativity and learning outcomes of math operations calculating multiplication on integers for students in class V SD N Bligo 2 District Ngluwar Magelang regency Central Java Province in the odd semester of the 2016/2017 academic year. Bligo 2 Elementary School was used as a place of research because research was a teacher who was given the task of teaching in class V SD N Bligo 2.

c. Research Subject

The research subjects were the fifth grade students of Bligo 2 Elementary School in the odd semester of 2016/2017 Academic Year consisting of 22 students.

2. Data Sources.

a. Primary Data Sources

The data obtained in this study are based on daily test results of class V students consisting of 22 elementary school students N Bligo 2 mathematics subjects, to obtain data on initial conditions.

b. Secondary Data Sources

To simplify the implementation, the research as well as the classroom teacher asks for help from fellow colleagues to make observations Completed observation research also takes data from student documents, and from questionnaires or questionnaires. The data obtained can be used as consideration and input for the process of improving the subsequent learning process so that learning objectives can be achieved optimally.

Data is the result of recording research, both in the form of facts and figures. The most important data or information to be collected and presented in this study are mostly qualitative. The information will be extracted from various data sources and the types of data that will be utilized in this study include :

- 1) Information data from teachers and students of grade V SD N Bligo 2.
- 2) Place and event
 - a) Place : Classroom V
 - b) Event : The process of learning and teaching on subject

3) Dokumen

Used to obtain a name in the form of a respondent's name, a list of values for obtaining student value data before action is taken.

4) Learning outcomes test

To find out the increase in numeracy skills after the cycle I and II research actions were carried out.

3. Techniques And Data Collection Tools

Data collection tool used in the form of:

- a. Personal documentation of class V students used to collect data on the initial conditions about the value of creativity and student learning outcomes.
- b. Document List value
- c. Observation is used to obtain data on students in cycles I and II
- d. Test equipment in the form of items in the form of the results of actions in the first cycle and second cycle to find out the results of learning.

Discretion Of Early Conditions

Based on the data from the mathematical evaluation before using the Jarimatika technique, it was obtained that the average grade value was 53.63 students who received a score of less than 75 (KKM) as many as 17 students and those who scored > 75 (KKM) as many as 5 students. This can be interpreted that classical completeness of 22.72% is still below the specified learning completeness, which is equal to 17 students get a value > 75 (KKM). To be more clearly seen in the following picture:

Table 1 Learning Condition Results

No	Description	Score	
		Learning creativity	Learning Outcomes
1	The highest score	85	90
2	Lowest value	20	20
3	Average	60	55
4	Value Range	65	70

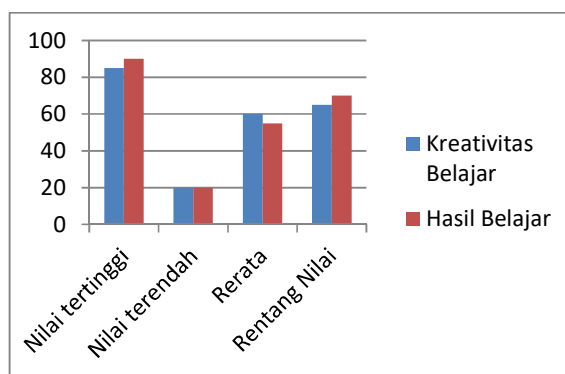


Figure 1: Acquisition diagram of the average value and completeness of learning before action.

Based on the tables and diagrams above it can be explained that the initial conditions about creativity and mathematics learning outcomes are still low in class V SD N Bligo 2 students on integer multiplication material.

Findings and Discussion

Table 2: Learning Activity

No	Description	Siklus I	Siklus II
1	Action	In Mathematics Learning have used Jarimatika in large groups, each group of 7 students	In Mathematics Learning have used Jarimatika techniques in small groups, each group of 4 students
2	Learning process	Students who are passive in learning have diminished in observations that are pretty much constructive, and students are enthusiastic in the activity	Students who are passive in learning live very little, students as a whole seem enthusiastic and creative in learning activities, a very high sense of curiosity
3	Learning outcomes	Daily test for the first cycle Highest score 100 lowest value 30 Average value of 59.09 Students who have not yet achieved KKM decreased from 17 to 9 students, learning completeness 59.09	Daily tests on cycle II The highest score is 100, the lowest value is 60. Average value of 93.18, Students who have not yet reached KKM are reduced from 9 to 2 students, completeness of learning is 90.09

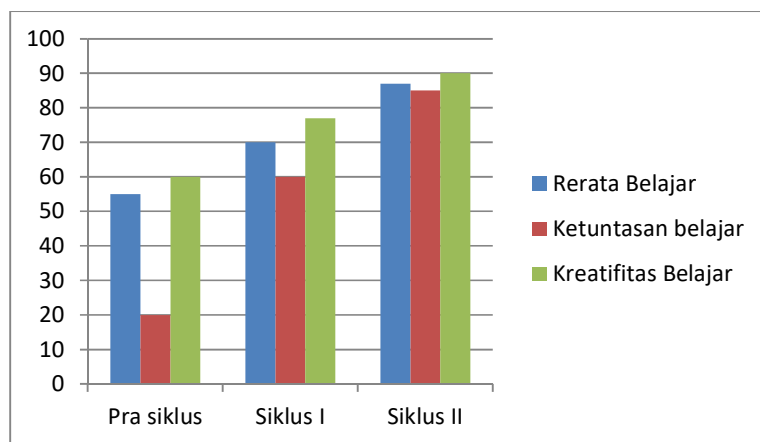


Figure 2: Graph of average progress between cycles

Based on the above data, it can be said that the teacher's activities in the first cycle of learning are in an adequate category, indicated by an average score of 72.27.

By looking at the results of research from several tables above, it can be seen that there is an increase in the learning process, especially the numeracy ability of students in calculating the average value of learning outcomes obtained by students from the initial conditions before the action is carried out and after the first and second cycle which are carried out in two meetings. This can be seen in the table above, it can be seen that students who scored 75 (KKM) experienced a significant increase. This reflects that mathematics learning carried out by the teacher can be declared successful. Increasing the average mathematical value through the application of Jarimatika learning.

The results of actions in cycles I and II can be seen in the following table:

Table 3: Learning Creativity Numbers

No	Description	Nilai kondisi awal	Nilai Siklus I	Nilai Siklis II
1	Lowest value	20	40	75
2	The highest score	85	95	95
3	Average value	61,54	76,82	96,23
4	Category value The highest High Is being low			

Table 4: Learning Outcomes Value Table

No	Uraian	Nilai ulangan harian kondisi awal	Nilai ulangan harian siklus I	Nilai ulangan harian siklus II
1	Lowest value	20	30	60
2	The highest score	90	100	100
3	Average value	53,63	72,27	93,18
4	Complete value	22,72	59,09	90,09

Conclusion

Based on the results of the discussion in class action research conducted in two cycles by applying the V class semester mathematical Jarimatika technique SD N Bligo 2 in the 2016/2017 academic year, it was concluded that learning using Jarimatika techniques can increase multiplication numeracy. the average value of students is 53.63 with a percentage of classical success of 22.72%, cycle I the average value of the class is 72.27 with the percentage of classical completeness of 59.09%, and the average value of the cycle of cycles increases to 93.18 with the percentage of classical completeness of 90.90%. Thus classically, learning has achieved learning completeness.

Suggestion

1. For schools

The school should strive for training for teachers to be able to support the implementation of learning can be achieved in accordance with expectations

2. Teacher's Baguette

a. Teachers should improve their professional competence by designing creative and innovative learning processes so that students become more interested in and learning will be conducive and meaningful.

b. The teacher should seek further action in the application of the fingerprint technique when the learning is carried out.

3. For Students

Students must develop initiative, creativity, activity, motivation to learn, and develop the courage to ask the teacher about the material that is unclear, so that what the teacher does not understand will be explained..

References

Djamarah, Syaiful Bakri. (1999). *Psikologi Belajar*. Jakarta: Rineka cipta,

Munandar Utami. (2004). *Pengembangan kreatif anak berbakat*. Jakarta: Rineka cipta.

<http://jurnal.ustjogja.ac.id/index.php/pep2019>

- Munandar Utami. (2004). *Metodologi Penelitian Kualitatif*. Edisi revisi. Bandung: Rosda Karya
- Munandar SCU. (2009). *Pengembangankreatif anak berbakat*. Jakarta: PT Rineka cipta dan Dep. Pendidikan dan kebudayaan)
- Nana Sujanna dan Ibrahim. (1989). *Pengertian Pendidikan*, Bandung: Sinar Baru
- Septi Peni Wulandari. (2007). *Jaritmatika* PT Kawan Pustaka
- Sudjana Nana. (2003). *Penilaian hasil proses belajar mengajar*, Cetakan ke tujuh Bandung: PT Remaja Rosdakarya.
- Sudjana Nana. (2005). *Penilaian hasil proses belajar mengajar*, Bandung: PT Remaja Rosdakarya.
- Sudjana Nana. (2006). *Penilaian hasil proses belajar mengajar*. Bandung: PT Remaja Rosdakarya.
- WWW pengertian ahli com, Psikologi 13 Juli 2015.