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(RESEARCH ARTICLE)

The effect of application of the snowball throwing learning model in improving information and communication technology learning outcomes in students

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Abstract

Background: Education is an interaction between teachers and students to realize a learning process so that students actively develop their potential. To realize the above objectives, teachers are required to innovate the snowball-throwing learning model so that students are more responsive in receiving information. This study aims to see the effect of using the snowball-throwing learning model in improving the learning outcomes of Information and Communication Technology in class VII Junior High School 2 Bontolempangan, Bontolempangan Village, Gowa Regency.

Methods: This research uses classroom action research method using 2 cycles.

Result: This study found that student activities increased from the first cycle by an average of 24.27 and a percentage of 60.67% in the poor category (enough). In the second cycle, student activity increased to an average of 30.38 and a percentage of 75.95% in the good category.

Conclusion: This study concludes that the more frequently applying the snowball-throwing learning model in the Information and Communication Technology learning process, students can understand the material presented quickly and student learning outcomes also increase.

Keywords: Teacher; Learners; Improved Learning Outcomes; Snowball Throwing

1. Introduction

Education is an interaction between teachers and students to achieve educational goals that take place in a certain environment. In this interaction, there is a mutual influence between teachers and students [1]. For this reason, the two components in education must be able to interact properly in their roles to achieve the educational goals to be achieved.

Based on the Law on the National Education System Number 20 of 2003, article 1 paragraph 1, education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential

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to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by himself, society, nation and state [2].

The purpose of education is a description the philosophy of life or view of human life, both individually and in groups (nation and state). Discussing the purpose of education will involve a system of values and norms in a cultural context, both in myth, belief and religion, philosophy, ideology, and so on. The purpose of education in a country will be different from the goals of education in other countries, according to the basis of the country, the philosophy of life of the nation, and the ideology of the country. Education has the task to produce a good generation, more cultured humans, and humans as individuals who have better personalities. The values that live and develop in a society or country, describe education in a very broad context, concerning the life of all human beings, which illustrates that the purpose of education is to achieve a better life [3].

In learning the behaviour change that must be achieved by the learner after carrying out learning activities is formulated in the learning objectives [4]. The purpose of the learning process in schools is that all students can obtain satisfactory learning outcomes. Learning outcomes are the result of the interaction of acts of learning and acts of teaching [5], learning outcomes are changes in behaviour obtained by students after experiencing learning activities [6], while the level of student learning success can be seen from the extent to which student's mastery of the subject matter that has been studied, which is indicated by the values obtained by students in the subject in question every time an evaluation or assessment is held.

The success of learning is determined by many factors, both internal and external factors. Internal factors include physical, psychological, and fatigue factors, while external factors include the family environment, school environmental factors, and community environmental factors [7]. Among the three environments, the most influential on the process and student learning outcomes in the teaching and learning process is the school environment such as teachers, learning facilities, curriculum, classmates, school discipline and regulations, and others. The elements of the school environment mentioned above essentially function as a student learning environment, namely an environment where students interact to foster learning activities in themselves.

Teaching must be based on the experience that students already have and pay attention to the individual differences of each student [8]. Learning and teaching are two concepts that cannot be separated. Learning shows what students have to do as subjects who receive learning, while teaching is what teachers have to do as teachers. These two concepts become integrated into a teaching and learning activity, where teaching and learning interactions occur. Teaching is essentially a process of regulating, and organizing the environment around students so that they can grow and encourage the teaching and learning process.

Efforts to improve the quality of teaching to obtain more optimal student learning outcomes to support improving the quality of education are the duties and responsibilities of all education officials including teachers [9]. Given the position and role of teachers dealing directly with students through the teaching process in schools, efforts to improve the quality of teaching processes and outcomes are largely the duties and responsibilities of teachers. One of them is through teaching with the Snowball Throwing learning model.

The lesson begins with a question. One way to make students learn actively is to make them ask questions about the subject matter before there is an explanation from the teacher. This strategy can inspire students to achieve the key to learning, namely asking [10]. If questioning is done effectively, this strategy can encourage engagement, enhance learning, motivate students, and provide feedback on learning progress, both to teachers and students [11]. The characteristics of effective questions are brief, clear, focused, relevant, constructive, neutral, and open [12, 13].

The snowball-throwing learning model trains students to be more responsive to receiving messages from others and conveying these messages to their friends in one group. Throwing questions does not use a stick like the talking stick learning model, but uses paper containing questions that are kneaded into a paper ball and then thrown to other students. The student who gets the paper ball then opens it and answers the question.

From the results of initial interviews with Information and Communication Technology teachers and observations in class VII B of State Junior High School 2 Bontolempangan, it shows that Information and Communication Technology learning carried out by teachers in class begins with giving apperception to students followed by motivating students so that students enthusiastic about learning. The teacher uses the lecture method in delivering subject matter and uses guides books and uses the LCD in certain circumstances that are still alternating with other classes, at the end of the lesson the teacher gives an evaluation to students in the form of questions and answers about the learning that has been

done. But student scores tend to be low, even in the standard of completeness of learning many students do not meet the Minimum Completeness Criteria of 75.

Table 1 Student Daily Test Data

Class	Total Number of Students	Minimum Completeness Criteria	Complete		Not Complete	
			%	Total Students	%	Total Students
VII B	26	75	38.4	10	61.6	16

Source: State Junior High School 2 Bontolempangan Data, 2021

It can be seen in the table above that the test scores of class VII B students from 26 students, amounting to 38.4% or 10 students have completed and 61.6% or 16 students have not completed. This shows that student learning outcomes are still less than optimal than the Minimum Completeness Criteria score of 75. Based on the description above, it can be seen that the use of snowball-throwing learning model can be used as an effective and quite useful and influential model to improve student learning outcomes in technology subjects. Information and Communication, so the authors are interested in researching the effect of using the snowball throwing learning model with the title improving Information and Communication Technology learning outcomes by using the snowball throwing learning model in class VII of State Junior High School 2 Bontolempangan, Bontolempangan Village, Gowa Regency.

2. Material and methods

2.1. Research Type and Design

This research is Classroom Action Research using 2 cycles. The stages in Classroom Action Research follow the Lewin model design interpreted by Kemmis [14]:

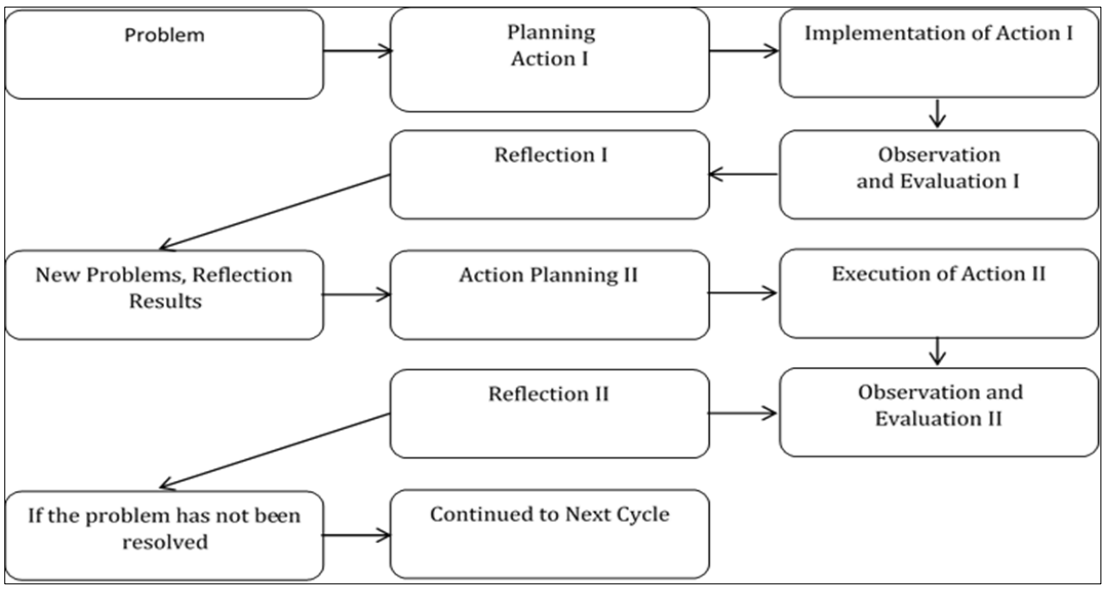

Figure 1 Class Action Research Activity Cycle

2.2. Research Time and Place

This research was conducted. This research was carried out in the even semester of the 2021/2022 academic year at the State Junior High School 2 Bontolempangan, Bontolempangan Village, Gowa Regency. The research subject is class VII students.

2.3. Research Procedure

This classroom action research procedure consists of 2 cycles, covering the planning, action implementation, and observation and reflection stages. Each cycle is carried out according to the changes achieved, as designed in the investigated factors.

Cycle 1 was carried out for 4 meetings, namely: 1) Planning. At this stage, activities are carried out; a) Reviewing the curriculum of the seventh grade Junior High School for even semesters so that the material can be taught in 8 meetings; b) Making learning tools for each meeting which include syllabus, lesson plans, and student worksheets; c) Make an observation sheet to observe the condition of the biology teaching and learning process in the classroom by using the snowball throwing learning model, and b) Make a test of learning outcomes to measure student learning outcomes in Information and Communication Technology by the grid that has been made previously. 2) Implementation. At this stage, several activities were carried out: a) Introducing students to Information and Communication Technology learning through the lecture method; b) Motivating students to learn as well as briefly explaining the material through the Learning Implementation Plan; c) Divide students into several groups. Then carry out learning through the lecture method; and d) at the end of the meeting, the researcher and students together make conclusions about the material being studied; and e) Researchers give homework assignments to students. 3) Observation. Observations made include observing the implementation of actions during learning through the lecture method using the observation sheet made and carrying out evaluations in the form of learning outcomes tests for the cycle I (daily tests). 4) Reflection. Reflection in the first cycle is carried out immediately after the action implementation stage is completed. Cycle I reflection includes the results of observations and evaluation test results of the cycle I. From the results obtained, the researcher will see how far the things investigated have been achieved, and those that have not been successfully followed up and good things are maintained. The results of the reflection in cycle I will be used as a reference for the implementation of cycle 2.

Cycle 2 was carried out for 4 meetings, namely: 1) Planning. Based on the results of the reflection in the first cycle, a re-planning will be held. However, the planning in the second cycle emphasizes the direction of improvement to improve students' Information and Communication Technology learning outcomes, especially by using the snowball-throwing learning model. The material to be taught in cycle II is adjusted or in other words, the material discussed is material from cycle I. 2) Implementation. The implementation in the second cycle is in principle the same as the implementation in the first cycle. However, the implementation of Information and Communication Technology learning in the second cycle will also be adjusted to the planning for the second cycle. 3) Observation. Observations that will be made include observing the implementation of actions during learning using the snowball throwing model using the observation sheet made and carrying out evaluations in the form of learning outcomes tests in cycle II (daily tests). 4) Reflection. Reflection in cycle II is carried out immediately after the implementation phase of the action is completed. Cycle II reflection includes the results of observations and evaluation test results in cycle II. From the results obtained, the researcher will conclude whether the research conducted has reached the set indicators or not.

2.4. Research Instruments

The instruments used in this study were: a) Observation sheets, to obtain data about the teaching and learning process of Information and Communication Technology using the snowball throwing learning model. This observation sheet contains a list of the types of activities observed during the learning process which consists of 6 items, namely: 1). Students who are present during the learning process, 2). Students who ask for material that has not been understood, 3). Students who answer questions posed by their friends, 4). Students who dare to appear in front of the percentage in front of the class, 5). Students who respond to the work of their friends, 6). Students carry out other activities in the learning process (playing games, going in and out of the room, making noise, doing other work); and b) Learning outcomes test, to obtain data on student learning outcomes of Information and Communication Technology after the application of the snowball throwing learning model, aiming to determine the overall learning achievement achieved by students in the learning process.

2.5. Data Collection and Analysis Techniques

The data collection carried out in this study were: 1) Data Sources. The data sources of this research are the activities and learning outcomes of class VIIB students of State Junior High School 2 Bontolempangan, Bontolempangan Village, Gowa Regency; 2) Data Type. The types of data collected are quantitative data obtained from the results of learning tests at the end of each cycle and qualitative data obtained from observation sheets; 3) Data Collection Techniques. a) Data on the level of student mastery of the learning material after the action was carried out were obtained by using a test at the end of the cycle; and b) Data regarding learning activities during the implementation of the action, obtained through observations during the activity using the observation sheet.

The collected data will then be analyzed quantitatively and qualitatively. For quantitative analysis used the average score, percentage, minimum and maximum scores obtained by students at each end of the cycle test. Then the value is categorized using the learning outcomes categorization guidelines which are stated as follows:

Table 2 Categorization of Student Learning Outcomes

No	Study Results Score	Category
1.	0 – 39	Very low
2.	40 – 55	Low
3.	56 – 65	Currently
4.	66 – 79	Tall
5.	80 – 100	Very high

Source: Instructions for competency-based curriculum assessment [15]

Table 3 Minimum Completeness Criteria

Minimum Completeness Criteria	Category
≤ 75	Not Complete
≥ 75	Complete

2.6. Success Indicator

The performance indicator that shows the successful implementation of this Classroom Action Research is an increase in student learning outcomes in Information and Communication Technology after the implementation of the snowball throwing learning model which is characterized by an increase in the average score or mean (minimum score of 75 from the ideal score and classical completion if 85% of the number of students who have completed learning) from cycle I to cycle II.

3. Results

3.1. Cycle I

Cycle I was carried out in two meetings, each meeting consisted of two hours of lessons, each hour consisting of 45 minutes. Cycle I is divided into several stages, namely:

3.1.1. Planning

For teaching preparation the teacher has prepared lesson plans, teacher and student observation sheets, grids and formative tests that have been tested first in classes that have received Information and Communication Technology materials. In addition, the teacher also informed the VIIB grade students of State Junior High School 2 Bontolempangan that the Information and Communication Technology material would be delivered with the Snowball Throwing learning model, and gave a little explanation about the Snowball Throwing learning model. In the planning stage, the teacher also seeks to control class conditions, so that the learning process can run smoothly by the lesson plans that have been prepared previously.

3.1.2. Implementation

In this stage the researcher acts as an observer, the activities carried out are carrying out the learning scenarios that have been previously planned. Activities carried out include, seeing and observing the teaching and learning process, classically the teacher conveys how the Snowball Throwing learning model works which will later be used to carry out learning on Information and Communication Technology material (first meeting).

The learning continued by applying the Snowball Throwing learning model, in the classroom, the teacher explained briefly about the Information and Communication Technology material. Furthermore, the teacher divides students into 5 heterogeneous groups and each group consists of 5-6 people. The teacher explains how the Snowball Throwing

learning model is systematic. After students get a group, the teacher distributes material to each group different material in each groups. Each student in each group is asked to make questions according to the material received and must not be the same as their group friends. After all, the students have finished making questions, the teacher asks students to form the question paper like a ball and throw it to friends from other groups. After each student gets a question from another group the teacher appoints one or more of the students to read and answer the questions that have been obtained.

After some students have answered the questions that have been obtained, the teacher offers questions to the students about which parts cannot be understood. If all students can understand the material presented by the teacher, the students together make conclusions about the Information and Communication Technology material. The teacher gives evaluation questions to find out how much students understand the material that has been conveyed by the teacher. The teacher fills out the student observation sheet and the teacher closes the lesson and motivates students in learning (Second Meeting).

3.1.3. Observation

Test result data. In the first cycle of learning by applying the Snowball Throwing learning model, the average score of students reached 7.3 with the percentage of classical learning completeness being 57.75%.

Table 4 Results of Analysis Cycle I

No	Category	Analysis Results
1.	Average	7.3
2.	Complete	15
3.	Not Completed	11
4.	% Classical Completeness	57.75 %
5.	% Unfinished	42.35 %

Source: Data Processing of Student Values Cycle I 2022

A comparison of student learning outcomes before and at the end of the cycle I can be seen in the following table:

Table 5 Student Learning Outcomes Data Before and End of Cycle I

No	Test Results	Initial Score	After Cycle I
1.	The highest score	9	10
2.	Lowest value	3	5
3.	Average test scores	70.96	7.3

Source: Data Processing of Student Values Cycle I 2022

Student Observation Sheet. From the results of observations of students in the first cycle, 0 students were in the very bad category, 5 students were in a bad category, 14 students were in the poor category, 7 students were in a good category, and 0 students were in the very good category. The results of student observations with the Snowball Throwing learning model can be seen in the following table:

Table 6 Data on Student Observation Results in Cycle I

Information	Very less	Not enough	Enough	Well	Very well
Siklus I	0	5	14	7	0

Source: Data processing of student observations in the first cycle of 2022

Teacher Observation Activity Sheet. In the first cycle, the teacher in opening the lesson was included in the sufficient category because it was relevant to the material. The teacher also always motivates so that in later learning activities students can absorb the material that has been studied. The teacher's skills in managing learning are included in the

sufficient category because the class atmosphere is controlled. However, it is still not optimal, because there are still some students who still do not understand the model used in learning. The teacher's ability to close the lesson is included in the less category. In providing summaries and concluding lessons the teacher is still motivated by textbooks, while the process during learning activities is not concluded. Teacher activities in cycle I can be seen in the following table:

Table 7 Teacher's Observation Result Data in Cycle I

No	Assessment Aspect	Evaluation	Category
1.	Introduction		
	a. Apperception	4	Well
	b. Motivation	4	Well
2.	Learning Management		
	a. Teacher movement in class	4	Well
	b. Teacher variations in asking questions	3	Enough
	c. Interaction in learning	4	Well
	d. Material mastery	3	Enough
	e. Class management	2	Not enough
	f. Reinforcement of student responses	3	Enough
	g. Using the Snowball Throwing learning model	4	Well
	h. Utilization of time and learning flow	3	Enough
3.	Closing		
	Guiding students in making conclusions	3	Enough

Source: Processing teacher observation data in cycle I 2022

3.1.4. Reflection

The first cycle is the initial cycle, the atmosphere in the classroom when learning takes place has not experienced significant development, for example, there are still students who are busy and have not fully paid attention to what is explained by the teacher. Based on the activities in the first cycle, the following reflections were obtained: a) In applying the Snowball Throwing learning model, the teacher was still hesitant because it was the first time implementing the method so learning was still not smooth and did not maximize the conditions of the learning media; b) Because it was the first time it was implemented, students were still confused and difficult to coordinate to implement the Snowball Throwing learning model; c) Based on the results of the calculation of students' cognitive abilities from 26 students of class VII D, 15 students have completed and 11 students who are still incomplete. From the evaluation results obtained classical completeness of 57.75% and obtained an average grade of 7.3; and d) In general, the implementation of the cycle is quite good, but the activities in the first cycle still need to be repeated so that learning outcomes and learning completeness can be further improved.

3.2. Cycle II

The second cycle was carried out in two meetings consisting of two hours of lessons, each hour consisting of 45 minutes. In terms of the quality of planning and implementation of learning activities in the second cycle, they are more prepared than in the first cycle.

3.2.1. Planning

Planning in the second cycle was made based on the results of the reflection of the researcher together with the teacher. The problem contained in the first cycle is that the basic competencies have not been achieved according to the learning indicators. By looking at the results in the first cycle, a plan is needed to improve and improve the learning process in the second cycle.

3.2.2. Implementation

The implementation of the second cycle of learning is carried out according to the scenario in the lesson plan that has been prepared. The activity begins by recalling the previous material. The teacher continues by giving oral questions to students. Of the questions submitted by the teacher, many students have been able to answer but still need guidance from the teacher because the students' answers are still not perfect. The teacher corrects deficiencies and re-explains the Information and Communication Technology material so that students are more flexible in asking questions after they learn with the Snowball Throwing learning model in cycle I.

The teacher asks students to group according to their groups as in cycle I. Next, students are asked to continue the material to students and ask students to make questions according to the material. The questions that are made cannot be the same as those of their group friends. After all, students have finished making questions, the teacher asks students to form their question papers like balls and throw them to other groups like those in cycle I. The teacher calls some students to answer the questions that have been obtained. Cycle II is more controlled because students and teachers already understand the systematics of the snowball-throwing learning model (first meeting).

In the second (second meeting) the teacher repeats the material in cycle I. offers students which parts cannot be understood to be asked. If there are no students asking questions, the teacher assumes that all students have understood the material presented. Next, the students together with the teacher make conclusions on the material that has been delivered and conduct an evaluation test to find out how much understanding the students have. Then the teacher closed the lesson by giving motivation the students.

In the second cycle the teacher stopped the action because the second cycle was considered good enough and all indicators could be mastered by the students. This can be seen from the results obtained by students in working on test questions which showed an increase when compared to cycle I. Therefore, the action in this Classroom Action Research was sufficient until cycle II.

3.2.3. Observation

Test result data. Based on the second cycle in learning the average value of student test results reached 9.00 with the percentage of classical learning completeness was 88.55%.

Table 8 Results of Cycle II Analysis

No	Category	Analysis Results
1.	Average	9
2.	Complete	23
3.	Not Completed	3
4.	% Classical Completeness	88.55 %
5.	% Unfinished	11.55 %

Source: Student Value Data Processing Cycle II 2022

Comparison of student scores in cycle I and cycle II can be seen in the following table:

Table 9 Student Learning Outcomes Data Cycle I and the End of Cycle II

No	Test Results	Initial Score	Cycle I	Cycle II
1.	The highest score	9	10	10
2.	Lowest value	3	5	6
3.	Average test scores	70.96	7.3	9.00

Source: Data processing of student scores in cycle I and cycle II 2022

Student observation sheet. In cycle II, there were changes, namely that many students were familiar with Information and Communication Technology material because they had gotten the basics at the previous meeting. Many students already understand. Many students have been able to explain the meaning of Information and Communication Technology. Students' ability to understand Information and Communication Technology material is good. The results of student observations with the Snowball Throwing learning model in cycle II can be seen in the following table:

Table 10 Data on Student Observation Results in Cycle II

Information	Very less	Not enough	Enough	Well	Very well
Cycle I	0	0	3	16	7

Source: Data processing of student observations in cycle II 2022

The results of observations of students with the snowball-throwing media learning model in cycle II increased from the first cycle. Observations made by observers gave the results that 0 students were in the very bad category, 0 students were in a bad category, 3 students were in the poor category, 16 students were in the good category, and 7 students were in the very good category.

Teacher Observation Activity Sheet. The results of observations of teachers in cycle II were 4.2 or reached 85.45% so it can be concluded that the teacher already has good skills in teaching by using the Snowball Throwing learning model. Teacher activities in cycle I can be seen in the following table:

Table 11 Teacher's Observation Result Data in Cycle II

No	Assessment Aspect	Evaluation	Category
1.	Introduction		
	a. Apperception	4	Well
	b. Motivation	5	Very well
2.	Learning Management		
	a. Teacher movement in class	4	Well
	b. Teacher variations in asking questions	4	Well
	c. Interaction in learning d. Material mastery	5	Very well
	d. Class management	5	Very well
	e. Reinforcement of student responses	4	Well
	f. Using the Snowball Throwing learning model	5	Very well
	g. Utilization of time and learning flow	4	Well
3.	Closing		
	Guiding students in making conclusions	3	Enough

Source: Processing teacher observation data in cycle II 2022

3.2.4. Reflection

In general, the implementation of cycle II is good. The results of this cycle II reflection are as follows: a) The teacher is skilled in applying the Snowball Throwing learning model; b) The teacher's role in learning is good, this can be seen in the results obtained by students both classically and the average value of the class; c) The material presented is coherent by the lesson plans that have been prepared previously; d) Students can understand the material that has been delivered, namely human material as social beings and social beings.

From the research in cycle II, it was obtained that the analysis of real data showed that after learning the Snowball Throwing model was applied optimally, it was seen that there was an increase in learning outcomes achieved. Overall, the results of the implementation of the second cycle are as follows: a) The average score of the students in the second cycle evaluation test is 9.00 with classical completeness of 88.55%; b) In terms of cognitive, 3 students have not

completed; and c) Judging from the mastery of affective and psychomotor learning in cycle II, there were no students who were in the very bad or bad category, 3 students were in the poor category, 16 students were in a good category, 7 students were in the very good category.

4. Discussion

The discussion in this classroom action research is based more on the results of observations followed by reflection activities. Learning activities with the Snowball Throwing model for students, especially grade VII D VII Junior High School 2 Bontolempangan, Bontolempangan Village, Gowa Regency are new. In general, the learning process that took place in each cycle was going well. All phases contained in the Snowball throwing learning model have been carried out coherently even though they are still not perfect. The learning process which takes place in two cycles has increased in terms of quality.

In applying the Snowball Throwing learning model, the teacher is still hesitant because it is the first time implementing the method so learning is still not smooth and does not maximize the conditions of the learning model. Because it was the first time it was implemented, students were still confused and difficult to coordinate to implement the Snowball Throwing learning model.

Judging from the results of the tests carried out after the first cycle, an average value of 7.3 was obtained with classical completeness of 57.75%. From the results of observations of students in the first cycle, 0 students were in the very bad category, 5 students were in a bad category, 14 students were in the poor category, 7 students were in a good category, and 0 students were in the very good category. The average value is 24.27 and a large percentage of 60.67% is in the poor (enough) category.

In the first cycle, the teacher in opening the lesson was in a good category because it was relevant to the material. The teacher also always motivates so that in later learning activities students can absorb the material that has been studied. The teacher's skills in managing learning are in a bad category, so the class atmosphere is less controlled. However, learning is still not optimal, because there are still some students who still do not understand the model used in learning. The teacher's ability to close the lesson is included in the poor category. In providing summaries and concluding lessons the teacher is still motivated by textbooks, while the process during learning activities is not concluded.

The average teacher performance score in cycle 1 reached 3,363 and the percentage of teacher activity reached 67.27% in the sufficient category. In the first cycle there are still students who do not understand and master the material so that the first cycle must be continued with the second cycle.

The implementation of learning in cycle II showed an increase. The results of the reflection in the second cycle showed that the teacher began to be skilled in applying the Snowball Throwing learning model in the learning process. The learning process can run smoothly and the teacher can also play an active role in learning so that the learning scenario can run according to the expected goals, besides that students are also able to understand Information and Communication Technology material.

The results of observations of students with the snowball-throwing learning model in the second cycle increased from the first cycle. Observations made by observers gave the results that 0 students were in the very bad category, 0 students were in the bad category, 3 students were in the poor category, 16 students were in the good category, and 7 students were in the very good category. The average value of student activity results reached 30.38 and the percentage was 75.95% in the good category.

The results of observations on teacher performance in cycle II were 4.2 or reached 85.45% so it can be concluded that the teacher already has good skills in teaching by using the Snowball Throwing learning model. The teacher's performance in cycle II was in a good category because they already understood the systematics of the snowball throwing model.

And the test results at the end of the second cycle obtained an average value of 9.00 with classical learning completeness of 88.55%. The teacher is already skilled in applying the Snowball Throwing learning model. The teacher's role in learning has been good, this can be seen in the results obtained by students both classically and in the average value of the class. The material presented by the teacher is coherent and by the lesson plans that have been prepared previously. Students can understand the material that has been delivered, namely Information and Communication Technology material. Based on the learning outcomes at the end of the second cycle, it has increased compared to the first cycle. Therefore, the action in this Classroom Action Research is sufficient until the second cycle.

Based on the study and discussion in cycle I and cycle II, there are the following findings. Based on the results of observations and reflections from cycle I, it can be seen that the implementation of the Snowball Throwing learning model has not been able to take place optimally. This is because the teacher's skills in applying the Snowball Throwing model are still lacking because this model is a model that is being applied for the first time, another drawback in the implementation of this method is that students are less disciplined in participating in learning. However, the teacher did not let it last long, the teacher immediately took action by learning the Snowball throwing learning model, so the teacher became more skilled in delivering the material with the snowball-throwing model. Teachers in teaching have not implemented an emphasis on learning models that are by the nature of the material to be explained so that it will affect student learning outcomes.

The results of observations and reflections from cycle II showed a positive difference compared to cycle I. This was seen from the understanding of students who began to be orderly in carrying out the learning process. The description of the teaching and learning process in the classroom began to be controlled and the shortcomings in the first cycle could be overcome by the teacher because the teacher had prepared and planned the second cycle more carefully. Student activities have increased from the first cycle with an average of 24.27 and a percentage of 60.67% in the poor (enough) category. In the second cycle, student activity increased to an average of 30.38 and a percentage of 75.95% in the good category. Students have been able to express opinions and ask the teacher compared to the first cycle where students still tend to pay attention to the teacher. Students are also able to follow the lesson well and calmly.

And the teacher's performance has increased from cycle I to cycle II, especially in applying the snowball-throwing learning model in learning. This is evident from the increase in the average score on the results of observations of each cycle, namely in the first cycle the average score is 3.3 and the percentage is 67.27% in the sufficient category and in the second cycle with an average score of 4.2 and a percentage of 85. , 45% in the good category. The teacher can manage the class well and deliver the material according to the Learning Implementation Plan.

The ability of students in human material as social beings and economic beings is increasing. This is evidenced by an increase in the percentage of observations of students in each cycle, namely in the first cycle by 57.75% and the second cycle by 88.55%. The increase in student learning outcomes from cycle I to cycle II is 30.80%. The average value of learning outcomes from cycle I to cycle II has increased the percentage of classical completeness, namely in the first cycle the average score is 7.3 with the percentage of classical completeness is 57.75% and in the second cycle, the average value is 9.00 with a classical completeness percentage of 88.55%. Students better understand the material presented by the teacher, because the teacher is skilled in delivering the material with the Snowball Throwing learning model.

5. Conclusion

Based on the results of research and discussion in the implementation of Information and Communication Technology learning through the snowball throwing learning model at VII State Junior High School 2 Bontolempangan, Bontolempangan Village, Gowa Regency, it can be concluded that as previously mentioned from the results of each cycle and the comparison table between cycles. Shows an improvement in the learning process. So it can be concluded that learning Information and Communication Technology using the snowball-throwing learning model can improve student learning outcomes well. Submission of material using the Snowball Throwing learning model makes it easier for students to understand the material presented by the teacher. The more often the Snowball Throwing learning model is applied in the Information and Communication Technology learning process, the students can understand the material presented quickly and student learning outcomes also increase. Snowball throwing learning can improve student learning outcomes if the learning model is applied in every delivery of Information and Communication Technology material.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there are no competing or potential conflicts of interest.

Statement of informed consent

Informed individual consent was taken before initiation of the study.

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