



The Effectiveness of Snowball Throwing Model on The Living Things Classification Material to Students' Learning Interest and Outcomes

Kasih Fitriani^{1✉}, Nana Kariada Tri Martuti¹, Nur Rahayu Utami²

Biology Department, FMIPA, Universitas Negeri Semarang, Indonesia

Info Article

History Article:

Received : December 2017

Accepted : March 2018

Published : April 2018

Keywords:

Human excretion system,

Interactive multimedia,

Problem Based Learning

Abstract

The purpose of this study is to analyse the effectiveness of Snowball Throwing learning model to the students' learning interest and outcomes on the living things classification material. The study was Pre-Experimental using One Shot Case Study Design. The entire students of grade VII SMP N 1 Demak on the academic year 2016/2017 was chosen as the population. The method in taking the sample was Purposive Sampling, class VII F, VII G, VII H. Observation, questionnaire, test and interview were methods that used in collecting the data. The result showed that students' learning interest at 86% on the "interest" category and or very "interest" and the learning interest was rising 10% on each indicators in the second meeting. The students' learning outcomes showed the classical mastery at 90% on the treatment class using snowball throwing learning method. Based on the result, it can be concluded that the learning activity using snowball throwing model on the living things classification is effective to the students' learning interest and outcomes.

© 2018 Universitas Negeri Semarang

[✉] Address Correspondence:
Building D6 Lt.1 Jl Raya Sekaran Gunungpati Semarang
E-mail: kasihfitriani@gmail.com

p-ISSN 2252-6579
e-ISSN 2540-833X

INTRODUCTION

In learning science, especially biology is a learning series of experience in the form of real activities that are expected to be understood by students and allow for social interaction. Mastery of biological concepts that are still under minimum mastery criteria and the students' process skills that have not been able to be maximally empowered, make teachers are required to apply learning methods that have been adapted to the current curriculum and can utilize the available infrastructure. The existence of these efforts can have implications on the students' interest in learning to develop student s' thinking and process skills so that the students get the best outcome in learning.

The results of interviews with science teachers are known that the material classification of living things is a material which full of memorization, so that students find it difficult to be able to categorize diverse living things. The determination key is one of the materials contained in the classification of living things chapter, based on interviews with teachers of class VII, it is known that in this material the teacher get learning materials through the internet, where there are some terms that even teachers have a little difficult to find out the meaning of the term. Another problem with key determinants is that students who are less able to classify or categorize will tend to cheat the work on the key determination materials.

The students' less cooperative when grouping and discussing can obstruct the learning process so that needed an innovation in the method of learning in the classroom. Nurjanah (2010) stated that to increase interest in biology can be done by applying cooperative learning. Cooperative learning emphasizes more on students' interaction, so that students will have active communication with their peers (Munawaroh, 2013). One of cooperative learning methods that can make students active and improve cooperation with the group, is cooperative learning model with the type of Snowball Throwing. Snowball Throwing learning method according to Huda (2013) is a learning that is packaged in the activity of throwing a question paper formed like a ball, where students previously received a material explanation from the group leader and asked to write questions about learning materials on a piece of paper then throwing paper containing the question from one student to another.

Snowball throwing learning model not only facilitate students to learn the science concept, but also provide the opportunities for students to build concepts through direct experience, so that the learning situation becomes more meaningful (Ketut *et al.*, 2014). This learning model used to give the concept of material understanding that is felt difficult by students and it can be used to know how far the knowledge and ability of students in understanding the material. Snowball throwing learning model is able to train students to be more responsive to receive messages from others and convey the message to their friend in their group. Furthermore, with the applying Snowball Throwing learning model students will have a sense of fun in learning, increasing attention in learning, and interaction with better learning resources so it can increase student interest to be more active in doing the tasks of learning provided by teachers.

Based on the background of the study, it needs to be studied in depth about the effectiveness of Snowball Throwing learning model on the classification of living things to the students' interests and learning outcomes. Snowball throwing learning model is expected to give a meaningful learning experience.

RESEARCH METHOD

This research was conducted at SMP N 1 Demak in odd semester in the academic year of 2017/2018. The population of this study was all the entire students of grade VII SMP 1 Demak

consisting of 5 classes that was class VII D until class VII H. The sampling technique was Purposive Sampling. The sample used was 3 classes, namely class VII F, VII G, and VII H with the consideration of the students total number was 100 students and teachers who taught the same grade the data in this study include interest in learning, students' learning outcomes, and teacher responses analyzed by descriptive quantitative percentage.

RESULTS AND DISCUSSION

The purpose of this study is to analyze the effectiveness of Snowball Throwing learning model on the classification of living things material to the students' interest in learning and learning outcomes. The effectiveness of Snowball throwing model in the classification of living things material is measured from the achievement based on predetermined effectiveness indicators, namely (1) learning interest reaches $\geq 75\%$ of students in the interested and or very interested category, (2) learning classical mastery $\geq 75\%$ with criteria minimal mastery (KKM) of 73.

Students' Learning Interest

The data of students' interest were obtained by distributing an interest-level instrument sheet (ISM) of study. Interest in learning was measured after students were given treatment. Furthermore, after being treated, the students' learning instrument interest was analyzed to determine the increase.

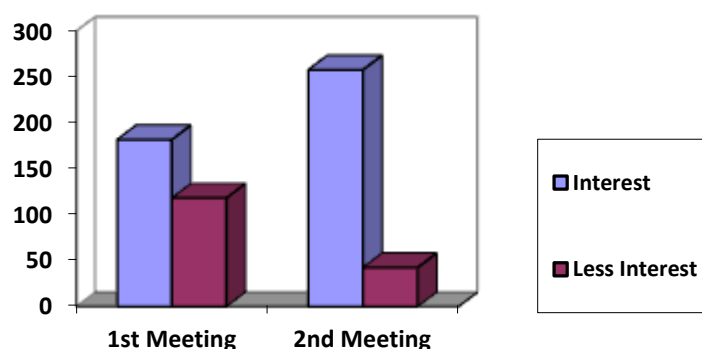


Figure 1 Percentage of instrument results students' learning interest scale in the 1st and 2nd meeting

Based on Figure 1, it is known that the application of Snowball Throwing method can increase students' learning interest. Developing interest in learning is essentially helping students to see how the relationship between materials that is expected to be learned by itself, this process shows the students how certain knowledge or skills could affect them. Increased interest in learning by using Snowball Throwing learning method occurs because of the learning process combined with the challenge game as well as educate students.

This is in accordance with the theory of Djamarah (2015) which stated that by using actions, work, or materials that challenge can increase the passion of students to learn. In addition, students' interest in learning can also be seen from the seriousness in utilizing learning resources and the use of appropriate learning techniques in the learning process (Nurjanah, 2010).

The questionnaire achievement of students' learning interest in each indicators in the learning process can be seen in Figure 2.

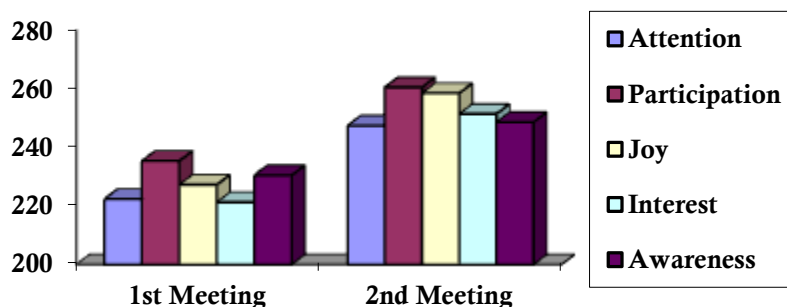


Figure 2 Questionnaire percentage performance of each student interest in the 1st and 2nd meetings

Based on Figure 2. Each indicators has improved at the second meeting after the application of Snowball Throwing learning method. The application of Snowball Throwing learning method provides new experiences for students, the experience gained are the students' knowledge and skills about cooperative learning that is more innovative and can enhance the participation of students in learning activities. Hurlock (2005) stated that interest is a source of motivation that encourages people to do what they want. If the student realizes that learning is a tool for achieving the goals he seems important, and if the student sees that his learning experience will bring progress to him, he will most likely be interested in learning it (Slameto, 2010). This is in accordance with the research conducted by Arfani & Alimah (2015), where through good emotional regulation then students can have an attitude to do every stimulus around them when they are learning, so they can choose how to deal with emotions that arise on them, so that with the stable emotional conditions will be very helpful in receiving information in the form of subject material described by teachers in the classroom. In addition to being able to grow from within the students themselves, joy or interest are also influenced by the encouragement from outside the student's self such as the motivation provided by the teacher (Pamungkas *et al.*, 2016).

This is in line with Ormrod's (2008) that teachers can arouse students' interest through various activities developed in the ways teachers provide information. The average of each indicators at 2nd meeting in the treatment class increased by 10%. This is because the teacher designed a learning activity that contains elements of education and entertainment in the form of a game throwing a ball of questions to create a pleasant atmosphere. Along with the increase of pleasure, interest, and attention to the object in the learning activities, then result in awareness and active participation in following the learning activities. This is in line with the study of Anggraeni (2009) which stated that a low interest in certain subjects causes a person difficult to achieve optimal study success, otherwise high interest gives hope for someone to achieve optimal learning success. This is also in accordance with research conducted by Nurjanah (2010) which explained that to increase interest in biology can be done by applying cooperative learning that can attract student learning

Students' Learning Outcomes

The data of students' learning outcomes include the final value of the LDS assessment, the value of Snowball Throwing paper, and the value of posttest. After analyzing the results of learning using Microsoft Excel obtained the number of students who complete the study, the number of students who do not complete the study, the percentage of completeness of classical learning or the percentage of students who got grades reaching KKM is 73, and the percentage of students who did

not reach the KKM of 73. Recapitulation of the student learning outcomes in the three classes studied are presented in Table 1.

Table 1 Students' learning outcomes by using the Snowball Throwing method in the classification of living things

Source of Variation	Treatment Class
Number of Students	99
Average learning outcomes	80
highest score	95
Lowest score	60
Average students that pass	30
Average students that do not pass	3
Classical completeness	89,9%

Table 1 showed that the Snowball Throwing model in the classification of living things applied has reached the indicator of success (classical completeness can reach $\geq 75\%$). Based on Table 1, it is known that there are still students who have not fulfilled the KKM score of 73, and the students are based on the recapitulation of interest questionnaires appertain to students who are less interested. Less interested students become one of the factors of learning difficulties. Students who are not interested and do not understand the purpose of why they are learning will tend to have a desire to master and engage in such learning activities. This is in line with research conducted by Yuliati & Martuti (2014) where students become a lot of questions, writing, and interacting with other students because the students are less or have not understood the material.

This becomes one of the reasons for students to have not good grades. In addition, in accordance with research Fariroh & Anggraito (2015) the ability in mastering the material and the speed of learning between high-ability students is different from students with moderate and low ability, so that learning using the method of learning Snowball Throwing can help students in understanding the concept of material classification of living things in well and can optimize the skills of students, especially in making questions. Learning material classification of living things by using the model Snowball Throwing is a learning done in groups, the group leader responds to receive messages from the teacher and convey a message to a friend of his group.

Furthermore, each member of the group has the task of making the question written down and then the paper is shaped like a ball and thrown into another student. It teaches students to think independently and responsibly on their own and group understanding, appreciate friends' answers and help each other, so as to achieve improved academic achievement and understanding both individually and in groups (Setitit, 2015). Teachers argued that learning with the method of learning Snowball Throwing make the learning atmosphere becomes more fun and increase students' learning interest. Students feel more enthusiastic about the game, because it raises curiosity about the kinds of questions that will be obtained. In addition, students are also trained to be more focused in the learning process that students should pay attention to who his friend who has not got a ball of paper. At the time of the questioning, the students are not only trained to think but the students can also write the things that become his thoughts (Husna, 2010).

In addition, in the implementation of Snowball Throwing learning method that the learning process by using the method of discussion and presentation, make the students more willing to express opinions, ask questions, understand the material and more active in group discussions. With the process that can motivate the students, so that students are interested in following the learning

activities and influence student learning outcomes with mutual help and mutual cooperation with friends, train students' skills and foster responsibilities in students. Teachers argued that learning with the method of learning Snowball Throwing make the learning atmosphere becomes more fun and increase student learning interest. Students feel more enthusiastic about the game, because it raises curiosity about the kinds of questions that will be obtained. In addition, students are also trained to be more focused in the learning process that students should pay attention to who his friend who has not got a ball of paper.

When answering the question on the paper containing this question, students are measured how well their understood about the material that has been described by the chairman of their groups based on the knowledge gained from the teacher's explanation. This is in line with research by Ketut et al. (2014) which explained that the Snowball Throwing model in learning not only facilitates students to learn the concept of science, but also provides opportunities for students to build concepts through direct experience, when students can be directly involved in the learning process that makes the learning situation more meaningful. In accordance with the opinion of Sugandi (2007) which explained that the process of active learning will help the process of knowledge formation because knowledge is formed from the individual self as the subject of learning.

Teacher's response

The teacher's response to the application of the classification of living things using Snowball Throwing model is presented in Table 2. The data in Table 2 showed that overall, the teachers responded positively to the Snowball Throwing method in the classification of living things material that has applied.

Table 2 Summary of the teacher responses to the application of the Snowball Throwing model on the Classification of Living Things material.

No	Basic Questions	Summary of teachers' questions
1	Impression on learning	Giving a good impression, because the design of the applied learning is able to optimize students' learning outcomes and students' interest in learning was also very good.
2	Students' interest in learning	With the implementation of this learning method, students become more interested in following the lesson because it comes with the game
3	Advantages of applying Snowball Throwing learning method	Making students more communicative with their friends, resulting in positive interdependence among students
4	Lack of application of Snowball Throwing learning methods	Improved variations in the ball paper, teachers can also make a question and thrown to the students.
5	Improved learning quality	learning quality improved can be seen from the increasing interest in student learning

The data of the interviews on the teacher showed that from the five aspects asked, the teacher said that the applied learning has been able to optimize the students' interest and learning outcomes. The teacher stated that the method of learning Snowball Throwing can motivate students to express opinions and learning has been well organized. This is in accordance with research conducted Siallagan (2012), where learning can be said effectively seen from the use of appropriate learning methods, and the use of facilities and infrastructure that can support learning activities. Teachers also stated that the activity with the model of learning Snowball Throwing has advantage. It is giving real experience to the students by doing the game in the form of throwing paper that contains questions about the material that has been explained by the chair of each group. This is in

line with the research was conducted by Kasim (2015), in which the method of learning Snowball Throwing is very appropriate to use in learning especially science because this method is very helpful for students to understand the material and respond to the students to remember what was learned before while playing, students are actively involved in study.

Teachers also stated that there are some obstacles that obstruct the learning activities using Snowball Throwing learning model, the calculation of time allocation is not appropriate and the student's conditioning is quite difficult in learning activities. Inappropriate allocation of time from the original plan can be anticipated in several ways, namely the teacher can provide an explanation of the steps of implementing the Snowball throwing model so that students understand what stages should be done.

The importance of teachers' role during the learning process will determine the success of a classroom learning. Teachers as educators are required to develop their potential, one of them is by applying more innovative learning methods so that the participation and activeness of students in the classroom can increase. Besides, the students' satisfaction on learning will produce a positive response during learning. Satisfaction in students is one of the determinants of the students' success to receive lessons (Tsani *et al.*, 2016).

CONCLUSION

Based on the results of the analysis and discussion, it is concluded that the model of learning Snowball Throwing on the classification of living things material applied effectively in improving interest in learning and students' learning outcomes. This was indicated by the students' learning interest reaches 85% in interested or very interested categories and the percentage of students' interest in learning increases by 10% on each indicator. Students' learning result showed classical mastery reach 89.9% in treatment class by applying Snowball Throwing method.

REFERENCES

- Anggraeni, L. K. 2009. Penerapan Pembelajaran Berbasis Lingkungan Menggunakan Model Investigasi Kelompok pada Materi Pencemaran Lingkungan di SMA Negeri 1 Grobogan (*Skripsi*). Semarang: Universitas Negeri Semarang
- Arfani, B & Alimah, S. 2015. Studi Korelasi Regulasi Emosi dan Minat Belajar dengan Prestasi Belajar Biologi di SMA. *Unnes Journal of Biology Education 4 (1)* 81-89
- Djamarah, S. B. 2008. *Psikologi Pelajar*. Jakarta: PT. Rineka Cipta
- Fariroh, A., Anggraito, Y. U. 2015. Pengembangan Perangkat Pembelajaran Berbasis *Problem Based Learning* pada matri Virus kelas X SMA. *Unnes Journal Biology Education 4 (2)* 149-155
- Huda, M. 2013. *Model-Model Pengajaran dan Pembelajaran*. Yogyakarta: Pustaka Pelajar.
- Hurlock, E.B. 2005. *Perkembangan Anak Jilid 2*. (Alih Bahasa: dr Med. Meitasari Tjandrasa). Jakarta: Penerbit Erlangga
- Husna, R. 2010. Pengaruh Model Cooperatif Learning tipe Snowball Throwing terhadap Hasil Belajar Matematika Siswa (*Skripsi*). Jakarta: Fakultas Ilmu Tarbiyah dan Keguruan Universitas Islam Negeri Syarif Hidayatullah Jakarta
- Kasim, N. 2015. Penggunaan Metode pembelajaran Snowball Throwing pada Mata Pelajaran IPA di Kelas V SDN 6 Telaga Biru kabupaten Gorontalo (*Skripsi*). Gorontalo: Universitas Negeri Gorontalo
- Ketut, I. S, Suwatra, I. W & Widiana, I. W. 2014. Pengaruh Metode pembelajaran *Snowball Throwing* terhadap Hasil Belajar IPA dengan Kovariabel Kemampuan Berpikir Kreatif Siswa Kelas IV SD. *Jurnal Mimbar PGSD Universitas Pendidikan Ganesha Jurusan PGSD*. 02 (1)
- Munawaroh, Y. 2013. Penerapan Pembelajaran Kooperatif Tipe *Snowball Throwing* untuk Meningkatkan Hasil Belajar Sswa Kelas VII MTs Ma'arif Mungging Pulung Tahun Pelajaran 2012/2013 (*Skripsi*). Ponorogo: Universitas Muhammdiyah Ponorogo.

- Nurjanah, D. 2010. Penerapan Pembelajaran Kooperatif *Think Pair Share* untuk Meningkatkan Minat Belajar Biologi Siswa kelas X-3 SMA Negeri 1 Mojolaban Tahun Pelajaran 2010/2011 (*Skripsi*). Surakarta: Universitas Sebelas Maret.
- Ormrod, J. E. 2008. *Psikologi Pendidikan Jilid I*. Jakarta: Penerbit Erlangga
- Pamungkas, E.W.T., Herlambang, S., Juarti. 2016. Pengaruh Model Pembelajaran *Snowball Throwing* terhadap Minat Belajar Geografi Kelas XII IIS SMA Negeri 1 Tumpang Kabupaten Malang. *Jurnal Pendidikan Geografi*. 21 (2): 29-37
- Setitit, N. 2015. Penerapan Metode pembelajaran Kooperatif Tipe *Snowball Throwing* untuk Meningkatkan Motivasi dan Hasil Belajar Siswa kelas XI IPA 3 SMA Negeri 1 Depok, Sleman, Yogyakarta pada Materi Sistem Hormon Manusia (*Skripsi*). Yogyakarta: Universitas Sanata Dharma
- Siallagan, A. 2012. Penerapan Model Pembelajaran *Snowball Throwing* dalam Meningkatkan Hasil Belajar Siswa. *JUPIIS* 4 (2). Malang: Universitas Negeri Malang
- Slameto. 2010. *Belajar & Faktor-Faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta
- Sugandi, A. 2008. *Teori Pembelajaran*. Semarang: UPT MKK Unnes
- Tsani, U. L., Marianti, A., Utami, N. R. 2016. Efektifitas Metode pembelajaran Bernasis Proyek dengan Metode *Gallery Walk* pada Pembelajaran Materi Sel di SMA. *Unnes Journal Biology Education*. 5 (1) 31-37
- Yuliati, T., Martuti, N. K. T. 2014. Efektivitas Penerapan Metode *Field Trip* untuk Meningkatkan Hasil Belajar dan Kepedulian Siswa terhadap Lingkungan. *Jurnal Pendidikan Matematika dan Sains Tahun II*