

# Using Reading-Concept Map-Teams Games Tournament (Remap-TGT) to Improve Reading Interest of Tenth Grade Student of Laboratory Senior High School State University of Malang

Ardian Anjar Pangestuti<sup>1</sup>, Mistianah<sup>1</sup>, A.D Corebima<sup>2</sup>, Siti Zubaidah<sup>2,\*</sup>

<sup>1</sup>Postgraduate Students of Department of Biology, State University of Malang, Indonesia

<sup>2</sup>Department of Biology, State University of Malang, Indonesia

\*Corresponding author: [zubaidah\\_2668@yahoo.com](mailto:zubaidah_2668@yahoo.com)

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**Abstract** Reading is a simple activity that can makes students get a wide range of information. The Programme for International Student Assessment (PISA) in 2006 and Progress in International Reading Literacy Study international (PIRLS) in 2011 showed that students reading literacy in Indonesia were still low. The observation in science 4<sup>th</sup> class Tenth Grade of Laboratory Senior High School of State University of Malang showed the same result with PISA and PIRLS. The low student's reading interest would affect the students thinking skills. Thus, the students reading interest in the classroom need to be increased. In order to overcome this problem, learning model that combines reading, construct a concept map, and cooperative learning Teams Games Tournament would applied in the biology learning. This research was Classroom Action Research, which was implemented within two cycles. The first cycle conducted in 11 meetings and the second cycle conducted in 12 meetings. The results showed that the application of Reading-Concept Map-Teams Games Tournament (Remap-TGT) biology learning models can increase reading interest.

**Keywords:** *reading-concept map-teams games tournament, biology learning model, reading interests*

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## 1. Introduction

Reading is a simple activity which could make reader gets various kinds of information. In addition, through reading the reader will be able to increase knowledge, expand horizons and views of life. The benefits of reading, is one reason for importance of various slogans related to reading in Indonesia, such as "Reading is Our Culture", "Reading is Like Opens the World Windows", "The Best Given Gift is Books" and various other slogans.

In fact, the majority of Indonesian people have not yet reached the stage of make reading as a fundamental need. Indonesia is a developing country with low interest in reading community [5]. In addition, at this time the Indonesian people are going through a transition phase from oral culture to a writing culture. This is demonstrated by the fact that the Indonesian people more prefer to receive information from spoken than written form or by reading. This is according to the Central Bureau of Statistics survey in 2006 that Indonesian people has not make reading as the primary source of information [6]. Indonesian people preferred watch TV (85.9%) or listen to the radio (40.3%) than read newspapers (23.5%).

The real proof of the low reading interest of Indonesian people was demonstrated by the results from the Programme for International Student Assessment (PISA) in 2006 and the Progress in International Reading Literacy Study international (PIRLS) in 2011. PISA showed the ability of 15 years old students in reading, math, science, and problem solving, including the changes of student's ability. These results could be used to compare Indonesian student achievement with other countries, student achievement among provinces and school, and also could be used for monitoring the national education quality. The PISA in 2006 showed that Indonesian student's reading literacy skills ranked 48<sup>th</sup> from 56 countries participating in PISA. The average score of Indonesian students was 393. The highest average scores achieved by Korea at 556 and the lowest achieved by Kyrgyzstan, at 285 [18].

PIRLS is an international assessment of reading comprehension at the fourth grade that has been conducted every five year since 2001. The students in PIRLS responded to questions designed to measure their reading comprehension across two overarching purposes for reading, i.e. reading for literary experience and reading to acquire and use information [11]. The PIRLS in 2011 showed that Indonesian student's reading literacy skills

ranked 42<sup>nd</sup> from 45 countries participating in PIRLS. The average score of Indonesian students was 428 with an average score limit specified by 500. This shows that the average score of Indonesian students are still below. The highest average scores achieved by the Hong Kong SAR, at 571 and the lowest achieved by Morocco, at 310 [11].

Reading literacy skills measured in PISA and PIRLS was described as the student's ability to understand the idea of a paragraph, reading charts, understand the relationship between facts, logic linguistic relationships, find the idea of reading as well as the ability to obtain and use information from the reading material. Based on that result, the low reading literacy skills of Indonesian students were the clear evidence of the low students reading interest. When students read rarely, he would difficult to reach the aspects of PISA and PIRLS tests.

The low interest in reading of Indonesian students would affect student's thinking skills, because reading was tools to empower students thinking skills. The real reading means plucking out all the subtle threads of meaning from sentences, paragraphs and pages and weaving them into our own personality [19]. Another opinion explains that, in the process of reading a person will have experience from the process of thinking to understand his ideas extensively (divergent thinking). The process of reading is closely related with the development of thinking [14]. Another source states that, reading is a process of actively constructing meaning from text. It involves the constant interaction between the mind of the reader and the text. When students read they are trying to fit what the author tells and what they already know. This process allows them to make connections, ask questions, read between the lines, create pictures in their minds, and build new understandings.

In a smaller scope, the student's reading interest in science 4<sup>th</sup> class of Tenth Grade Laboratory Senior High School University of Malang were low. It was shown from the limited of Biology textbooks owned by students. The only Biology book owned by the students in the class was Biology Module for Senior High Schools were prepared by School Educational Team. In fact, the school has provided other biology textbooks in the library to overcome the limitations of students reading materials. Students could borrow it during biology lessons. However, none of the students went to the library to borrow the book. Thus, it was important to increase the student's reading interest.

In order to solve that problem, the researcher would apply the biology learning model that combines read, construct concept map, and cooperative learning Teams Games Tournament. We call it with the Remap-TGT. The Remap-TGT was done by these steps: (1) the students must read the related topic for next lesson that given by teacher, (2) the students construct a concept map by himself, and (3) the biology learning in the classroom using cooperative learning TGT.

The first step of this model was students read the topic for the next meeting. Through reading assignments, the students would read frequently. Thus, it was expected to increase student reading interest. The explanation above was reinforced by the research activity that involve reading the next learning activities associated with critical thinking skills, metacognitive ability and student learning outcomes. Research proved that RT-TEQ (Reciprocal

Teaching-Thinking Empowerment Questions) learning strategies significantly affects to the metacognitive ability, critical thinking and concepts understanding of tenth grade students [15]. The RT-TEQ consists of reading, summarizing, preparing questions, predicting and clarifying.

The next step after reading was constructing a concept map. Concept map is a schematic diagram that can recognize the relationship and linkages between some concepts for a particular topic [9]. Concept maps are usually arranged radially (resembling webs), with the main idea in the center of the concept map, or arranged with a hierarchy-oriented, with the main idea at the top. Another source explained that a concept map composed of several components. The first component was proposition. Proposition was a statement about the relationship of the concept (information) with other concepts. Concept maps describe the network among the concepts discussed in the relevant chapters. The concept was expressed in the form of a term or concept labels. The concepts are meaningfully linked with connecting words to form a proposition. A proposition contains two or more concepts connected with conjunctions or phrases to form a meaningful statement [13].

Through constructing a concept map, students were expected to actually read the reading material. If the concept maps drawn by students could well illustrate the concept of the student reading material, it can be stated that the students have understood the material being read. Through the concept map we know the student's knowledge and change of concepts that have been studied based on the discovery of relationships between concepts [12]. Concept map is a tool that can be used to represent knowledge and concepts illustrated through explicit things which later on form a meaningful hierarchical structure.

After students read and prepared a concept map, students would gain experience of cooperative learning TGT during the learning process. TGT actually developed by David DeVries and Keith Edwards [17], the first cooperative learning methods at Johns Hopkins. Stages in learning TGT consists of five stages, including the percentage of the class, the working team (Teams), Games, Tournament, and groups awards.

The reasons using TGT for this study because it has different steps compared with the other cooperative learning strategy. In this lesson after the students did the team work (Teams) then students perform Games as well as tournament (Tournament) on weekly. While in the majority of cooperative learning, students did the team work after their team make a presentation. Based on the interviews results with Biology teachers, researcher get information that the learning activities commonly was a discussion then presents the result of discussions. Through the application of TGT, students were expected to get new learning experience and not feel bored in the classroom.

It has expected through the application of TGT could increase student's reading interest. In this lesson, student could be a winner in games and tournament, only if the student had more knowledge than his opponent. Through much reading, students will be able to gain more knowledge. Through the implementation of games and tournament (Tournament) students will have more motivation to read. Based on the explanation above, the research conducted by applying the Remap-TGT biology

learning models which aims to increase student's reading interest in science 4<sup>th</sup> class Tenth Grade of Laboratory Senior High School State University of Malang.

## 2. Materials and Methods

The approach used in this study was qualitative approach. Qualitative approach is a holistic approach relies on the observation; the data are reported in the form of a narrative rather than quantitative, and carry out the entire process of research are carried out with more personalized and interpretive manner [1]. This research is Classroom Action Research (CAR). CAR is a scrutiny of learning activities in action form, raised deliberately and occur in a class together [2].

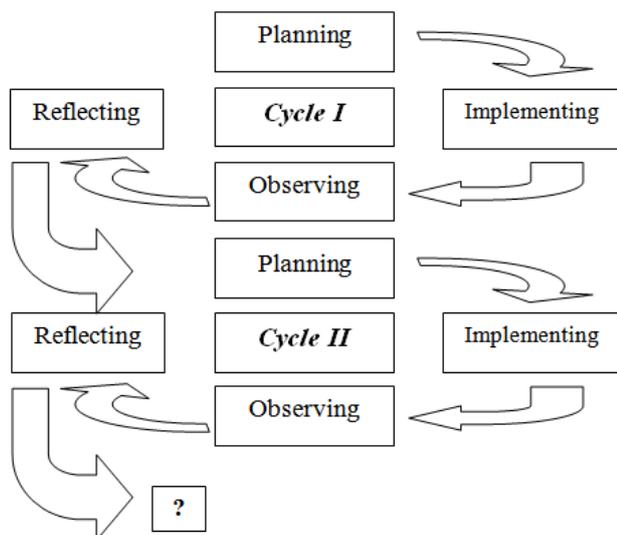


Figure 1. Classroom Action Research Chart [8]

This study was conducted within two cycles. Each cycle consists of four stages: (1) planning, (2) implementing, (3) observing, and (4) reflecting [2]. The fourth stage is the research cycle. The each stage was presented in Figure 1. This research was conducted in Laboratory Senior High School of State University of Malang. Subjects in this study were students of science 4<sup>th</sup> class Tenth Grade of Laboratory Senior High School of State University of Malang. The number of students in the class is 31 people consist of 11 male students and 20 female students. The research was conducted in October 2013-May 2014.

There were three instruments to obtain data in this research. The first instrument was the motivation to read profile adapted from Gambrell [4] and the student reading inventory survey adapted from Maldonado *et al.* [10]. Student reading inventory survey used to record the data of students reading during the implementation of learning. The questionnaire was given to students in three times, i.e. at the beginning of the first cycle; at the end of the first cycle or at the beginning of the second cycle and at the end of the research (at end of the second cycle). Motivation to read profile according to [4] contains descriptions question consist of nine questions, while the inventory reading survey by [10] contains of ten choice questions that require students to choose from 0-10. Number 0 indicates that the answer choice is not

important while the number 10 shows the answers was the most important options. Other possible answers were a-e, in this section the student choose the answer that suitable with his situation. Student reading inventory survey according to [10] give the main data of students reading abilities, while the motivation to read profile according to [4] give the supporting data.

The second instrument was learning observation sheet for teachers and students. Learning observation sheet for teacher was used to observe the enforceability of Remap-TGT biology learning models. While the learning observation sheet for students was used to observe the suitability of students activities with the lessons that have been designed by the teacher. The observer filled both of them at the time in the classroom activities.

The third instrument was learning observation notes. Learning observation notes used to record data not recorded on the learning observation sheet for teachers and students. Learning observation notes were made by the observers at the time while researchers doing the learning process. The data recorded in the learning observation notes included the names of students who do not attended, the current situation of ongoing learning activities, the names of students who are always active and the names of students who are passive when in the classroom.

Analysis in this research includes these steps: (1) manage raw data, (2) present the data, (3) draw conclusions and (4) reflect. The reading interest data was analyzed by these steps.

Calculating the percentage of students respond to each answer choice, using the following formula:

$$\text{Percentage of Students Selecting Points} = \frac{\sum \text{Students who choose...}}{\sum \text{Students overall}} \times 100\%$$

Organizing the results of percentage of students selecting points.

Comparing the results of data analysis of students reading interest in cycle 1 and 2 to determine the increase students reading interest.

## 3. Results

The results showed that student reading activity at home during the early first cycle was 77.42%, at the beginning of the second cycle was 67.74%, and at the end of the second cycle was 80.65%. These results indicate that student reading activity at home was increase, although that activity decreased in the mid-time of the study. Related to the type of student's reading material, at the beginning of the first cycle the students who read textbooks was 51.61% while students who read other material (internet, SMS, Facebook, etc.) amounted to 25.81%. At the beginning of the second cycle students that reading a textbook was 58.06% while students who read other material (internet, SMS, Facebook, etc.) amounted to 32.26%. Meanwhile, at the end of the second cycle, student who read textbooks was 45.16% while students who read other material (internet, SMS, Facebook, etc.) amounted to 35.48%. Based on these results showed at the end of the cycle the student percentage who read books was decline, although there was an increase in mid-study.

The main reason at all the time was students did not interest to read because they did not understand the concept. Nevertheless at the middle until the end of cycle the student think that reading biology textbook was important. Related to “person who make interested in

reading books”, almost students answer himself, others and friends. In contras very few students choose the answer 'parents' for it question. More results information can be seen in [Table 1](#).

**Table 1. Results of Calculation of Student's Reading Interest**

No	Indicators	Early of Cycle I	Early of Cycle II	Final Cycle II
		Mean (%)	Mean (%)	Mean (%)
1.	Reading at home			
	• Reading	77,42	67,74	80,65
	• Not Reading	22,58	32,26	19,36
2.	Reading material			
	• Textbook / similar type	51,61	58,06	45,16
	• Other	25,81	9,68	35,48
	• Nothing	22,58	32,26	19,35
3.	The importance of reading biology textbook			
	• Important	41,94	74,19	74,19
	• not important	58,06	25,81	25,81
4.	Person who make interested in reading books			
	• Himself	35,48	29,03	32,26
	• Parents	0	0	0
	• Friends	3,23	16,13	35,48
	• All people	3,23	16,13	12,90
	• Others	45,16	29,03	19,35
	• no one	12,90	9,68	0
5.	Student's reason did not interest in reading books			
	• Do not understand some of the words	16,13	35,48	29,03
	• Not understanding the concept	70,97	61,29	61,29
	• Feel it is a waste of time	0	0	0
	• Feel it is too much effort.	3,23	0	3,23
	• Like to do other things	9,68	3,23	3,23
	• Other (Lazy)	0	0	3,23

## 4. Discussion

Based on the results of data analysis the percentage of students who read books at home was higher at the beginning of the first cycle than at the beginning of the second cycle. Nevertheless, the percentage of students who read textbooks was higher than the students who read something else, like comics, newspapers, magazines, internet, twitter or even SMS and BBM. The different results showed at the end of the second cycle. The percentage of students who read books at home was higher at the end of the second cycle than at the beginning of the second cycle. Nevertheless, the percentage of students who read textbooks at the end of the second cycle is lower than the percentage of students who read textbooks at the beginning of the second cycle. Based on these results, it can be concluded that Remap-TGT biology learning models can improve student's reading interest, but the enhancement of student's reading interest was in entertainment reading material only, such as comics, newspapers, magazines, internet rather than textbooks. The study results were in line with the fact that the public reading interest increase, but were limited only to newspapers and magazines [16]. Unfortunately, student did not like reading textbooks, whereas it could improve people intelligence and competence in the international community. This is caused by almost all student had not become accustomed to read. Very few students choose the answer 'parents' for the question "Who gets you really interested and excited about reading books?"

Most of the student reading interest was promoted by himself, friends or the author. Actually the parents have an

important role to promote the children reading culture as well as to choose appropriate reading material for children. If the children had been accustomed in the good atmosphere to reading at home, the reading habits that have been nurtured by the children at home will also be brought out from home [16]. The result supported by Gambrell [4] stating that, however, does not mean that there is no hope for change, and parents, teachers also communities can dramatically affect how much children read. Krismanto stated there was a positive relationship between parental supports and children's reading interests [8]. The higher parental support to children, the higher children reading interest. The small support of parents, the lower children reading interest.

Thus, the reading culture could be developed not only in the school environment, but also in family environment. The main reason was students did not interest to read because they did not understand the concept. The reason always the highest percentage of third-time data retrieval. One of the eleven things that causes low of student reading interest was the low of students reading skills at the school [7]. Results of PISA demonstrate proficiency reading of 15 year olds in Indonesia was alarming. Approximately 37.6 percent can only be read without being able to capture 24.8 percent of its value and can only be read with a text linking the knowledge information.

In addition to those mentioned previously, is a great likelihood there are other reasons that cause students did not interest to read. There are six things that cause students did not interest to read textbooks [6]. First, the learning system in Indonesia did not make students must read the book; looking for more information or knowledge; appreciate the article, philosophical, literary, and so on.

Second, many kind of entertainment, games and television program distract children and adults from reading. Third, there are many entertainment areas, such as park, malls, karaoke or supermarkets. Fourth, the reading culture had never inherited by parents; we are usually hear fairy tales, stories, rulers and others verbally. Fifth, parents always do various of activities to get additional incomes. Sixth, the readings infrastructure, such as a library was rare.

When we reflect on the learning activities conducted in the classroom, the teacher has been seeking to the learning strategy that can improve students reading interest. It seen from the reading assignments given by the teacher before the students participating in learning activities in the classroom. Nevertheless, there has not follow-up from reading assignments, so that students can continually interested in reading. Follow-up can be done by the teacher with tell the things or reading material that can attract student attention to read frequently. Another thing to do is give opportunity to students to describe the material they have read. Such things can be valuable for students as reward and student would be proud. Thus, students will be motivated to read more. In addition, through these activities could motivate other students to participate in reading.

The application of Remap-TGT was expected to increase student reading interest. In this lesson student can be a winner in games and tournament, then the student have more knowledge than his opponent. Through much reading, students will be able to gain more knowledge. Thus, through the implementation of games and tournament students will have more motivation to increase their reading frequency. The results of this study same with the results of a survey conducted on students of class VII, VIII, and IX in SMP Kristen 1 BPK Penabur Jakarta. The number of respondents was 136 students were selected randomly. The survey results showed that student reading interest was very low. Students more like to watch rather than read, because it is more fun to watch than read, lots of good program to watch and read more bore than watch TV programme [3]. He also noted that the comic books were the most popular reading material. Reading textbooks or general knowledge less favored. The main reason respondents like reading comic because it is became hobbies, interesting pictures, and a good story. While the respondent's reason to read textbook because it is task from teacher and an obligation as a student.

## 5. Conclusions

Based on the previous discussion, it can be concluded that the application of Remap-TGT biology learning models can increase the students reading interest. However, the enhancement of student's reading interest in

entertainment reading material only, such as comics, newspapers, magazines, internet rather than textbooks.

## References

- [1] Arends, R. I, *Learning to Teach (Belajar untuk Mengajar)*. Pustaka Pelajar, Yogyakarta, 2008.
- [2] Arikunto, S, Suhardjono & Supardi, *Penelitian Tindakan Kelas*, PT Bumi Aksara, Jakarta, 2009.
- [3] Aritonang. K. T. "Menumbuhkan dan Membina Kegemaran Membaca Siswa di SMP". *Jurnal Pendidikan Penabur*. (6) No.009. 30-36. Desember 2007.
- [4] Gambrell, L, "Assessing motivation to read". *The Reading Teacher*, 49 (7), 15.1996.
- [5] Hentasmaka, D, *Meningkatkan Minat Baca Di Kalangan Siswa*. 2011. [Online]. Available <http://www.infodiknas.com/meningkatkan-minat-baca-di-kalangan-siswa/>, [Accessed January 5, 2014].
- [6] Huda, G. N, *Dampak Kemajuan Media Elektronik Terhadap Minat Baca Para Pelajar Indonesia*. 2008. [Online]. Available [www.ipb.ac.id/.../](http://www.ipb.ac.id/.../). [Accessed April 5, 2014].
- [7] Karyono, H. 2007. *Menumbuhkan Minat Baca Sejak Usia Dini*, Oktober 2007. Perpustakaan Digital UM. [Online]. Available <http://library.um.ac.id/index.php/>. [Accessed January 5, 2014].
- [8] Krismanto, W. D, *Minat Membaca pada Anak ditinjau dari Dukungan Orang Tua*. 2009. [Online]. Available [http://eprints.unika.ac.id/2926/1/99.40.3040\\_Wiwik\\_Danu\\_Krismanto.pdf](http://eprints.unika.ac.id/2926/1/99.40.3040_Wiwik_Danu_Krismanto.pdf), [Accessed April 4, 2014].
- [9] Llewellyn, D, *Teaching High School Science Throuh Inquiry and Argumentation*, Corwin A SAGE Company, California, 2013.
- [10] Maldonado, J. L. and Gonzales, E, *Reading: Gateway to Learning A Quality Enhancement Plan for Laredo Community College*, Laredo Community College, Texas, 2010.
- [11] Mullis, Ina V.S, *PIRLS 2011 International Results in Reading*, TIMSS & PIRLS International Studt Center, Lynch School of Education, Boston, 2012.
- [12] Novak, J. D, *Meaningful Learning: The Essential Factor for Conceptual Change in Limited or Inappropriate Propositional Hierarchies Leading to Empowerment of Learners*. Wiley Periodicals, Inc. Sci Ed 86:548-571.
- [13] Novak, J. D and Canas, J. A, *The Theory Underlying Concepts Maps and How to Construct and Use Them*. Technical Report IHMC CmapTools 2006-01 Rev 01-2008, 2008.
- [14] Pujiono, S, *Berpikir Kritis dalam Literasi Membaca dan Menulis untuk Memperkuat Jati Diri Bangsa*. Prosiding PIBSI XXXIV, 778-783. Oktober 2012.
- [15] Setiawan, D. C, *Pengaruh Strategi Pembelajaran Reciprocal Teaching (RT) dipadu Pemberdayaan BerpikirMelalui Pertanyaan (PBMP) terhadap Kemampuan Metakognitif, Berpikir Kritis dan Pemahaman Konsep Biologi Siswa SMA Islam Al-Ma'arif Singosari Malang, PPs UM, Malang, Indonesia: Dissertation was not published*, 2013.
- [16] Siahaan, S. dan Martiningsih, "Mengapa Kebiasaan membaca Masih Belum Berkembang?" *Jurnal Pendidikan dan Kebudayaan*. 14 (074). 986-1007. September 2008.
- [17] Slavin, R. E, *Cooperative Learning Second Edition*, A Simon & Schuster Company, Massachusetts, 1995.
- [18] Tjalla, A, *Potret Mutu Pendidikan Indonesia Ditinjau dari Hasil-hasil Studi Internasional*. 2010. [Online]. Available <http://pustaka.ut.ac.id/pdfartikel/TIG601.pdf>, [Accessed Dec 15, 2013].
- [19] Wanjarji, S. and Mahakulkar, V. *Assessing Reading Habits of D.Ed. Trainee Teachers*. 1(I). 76-81. Februari 2011.