

Using Science Story Book to Improve Managing Information Skill of Elementary Students

Lutfiyan Nurdianah*, Tjandra Kirana**, Raharjo**

* Post Graduate, Surabaya State University

**Lecturer, Surabaya State University

Abstract:- The aims of this study to determine utilization of science story to improve managing information skill of elementary students. This study used qualitative research. The object of this research are 21 elementary students in Gresik, east Java, Indonesia. Based on the results, science story book (BASS) practically obtaining a range of 72% to 100% and the category is very good. Activity of the students when using science story book (BASS) attains 59.4% to 92.6%. According to the results, it can be concluded that the science story teaching materials can be used and improve managing information skills of science learning in the elementary schools.

Keywords:- *Managing Information, Primary Education, Science Story, Thinking Skill.*

I. INTRODUCTION

In this era, Indonesia has used new curriculum, called “Kurikulum 2013” or K-13. In the 21st century education is proposed to improve student’s skills more than score of subjects. Education achievement in the 21st century makes teachers has to improve 4C skills, such as Critical thinking and problem solving, communication skills, collaboration skill, and creative thinking and innovation. The development of 4C skills in learning process will be impact to the thinking skills of student (Suprijono, 2016). Education achievement requires students not only have variety of skills to compete in the 21st century but also construct his own knowledge (Suprijono, 2016).

To construct his own knowledge, student have to search, pick, dig and found the information correctly. Construct the knowledge is part of thinking skills. In this problem, thinking skills especially managing information is very important for students to build knowledge well. According to Piaget (1896-1980), child between 7th until 11st years old can do concrete operational and reasoning logically. That the reasoning can be applied in the concrete sample. According to Vygotsky (1896-1934) that child can be construct his own knowledge about the world. Children are able to use their attention, memory, and strategy for processing information.

In this century, student’s knowledge is very expanding because the easiness access to find information, but there are some weaknesses. One of the weakness is student’s thinking

skills. Pranoto (2016) said, in “Kompas” daily, students in this century tend to have limitation of knowledge but it is difficult for them to describe the knowledge that they found. On his opinion, educational priority at this time should not about the right or wrong answer moreover about student’s scores. However, it should be prioritized on managing information process, connected argument until the student make a conclusion.

Science story book is one of innovation to facilitate student in low grades to the next grade in order to understand learning materials. Science story book contains of science so student who on shift period from low grades to high grades can keep learning with their passion (read a story) without detract content of the subject. This study aims to determine the use of science story book to improve managing information skill of elementary student.

II. METHOD

This study is qualitative research. This study used several instrument, for instance teacher’s activity and student’s activity observation form. Teacher’s activity Observation form is using scale. It contains twenty two (22) aspects and using two criteria (implemented and not implemented). Student’s activity observation form is using scale which contains 4 aspects and 4 criteria in each aspect (1-4 score). Data analysis technique is used descriptive qualitative-quantitative type.

A. Practicality of Science Story Book

Implementation of science story book to improve student’s managing information is observed by 2 observers. Observer will be checklist all of aspects in observation form. Observation is conducted during learning activities by 2 observers in the class. Assessment form (observation form) is divided into 2 criteria, those are implementation and not implementation.

Data analysis technique to analyze the practicality of science story book using percentage technique, as seen in (1):

$$P = \frac{A}{B} \times 100\% \quad (1)$$

explanation:

- P : Percentage
- A : Frequency of student’s activity
- B : Amount of aspect
(Trianto, 2009)

Instrument is reliable if gets percentage $\geq 75\%$. Percentage criteria of practicality science story book are given below:

- P= 0% - 24% Not implemented
- P= 25% - 49% Poor implemented
- P= 50% - 74% Good implemented
- P= 75% - 100% Excellent implemented
(adapted from Purwanto, 2009)

B. Managing Information Skills

Managing information skills is analyzed using observation form. Observation form contains of aspect or criteria for managing information skills. Observation is conducted during learning activities by 2 observers in the class. Therefore, the percentage can be analyzed by (2).

$$P_i = \frac{\sum K}{\sum N} \times 100\% \quad (2)$$

Explanation:

- P_i : Percentage
- $\sum K$: Score
- $\sum N$: Maximal score
(adapted from Khabibah, 2006)

- Percentage:
- P = 0% - 24% Not accomplished
 - P = 25% - 49% Poor
 - P = 50% - 74% Good
 - P = 75% - 100% Excellent
(adapted from Purwanto, 2009)

III. RESULT

Data result of this research obtained from practicality using science story book. Assessment of practicality of science story book can be known by observation of learning implementation using science story book (BASS) inquiry-based learning.

A. Learning Implementation

Assessment of learning implementation using science story book is conducted using observation form of teacher activity. Observation form contain 22 teacher’s activities. Observation form are using 2 criteria: implemented and not implemented. Data result of learning implementation using science story book are presented in table 1.

Aspect	1 st meeting		2 nd meeting		3 rd meeting	
	P1	P2	P1	P2	P1	P2
Percentage of implementation	82%	86%	100%	95%	95%	95%
Reliability	97%		97%		100%	

Table 1:- Learning Implementation Using Science Story Book

Percentage criteria of practicality science story book are indicated below: (adapted from Purwanto, 2009)

- P= 0% - 24% Not implemented
- P= 25% - 49% Poor implemented
- P= 50% - 74% Good implemented
- P= 75% - 100% Excellent implemented

In reliance on the table 1 learning implementation using science story book, implementation of learning achieved range between 82% until 100%.

B. Effectivity of Science Story Book

Effectiveness of science story be aware by student activities observation that contains criteria of managing information skills. Data result was taken by observation form with Likert Scale. There are 4 aspects in the observation form. Observation form use 1 until 4 score. Calculation of score utilizing equation were examined by Khabibah, so it produce result score maximum is 100. Score of student activities observation will be describe in table 2.

No.	Student Code	Score			Average
		1 st meeting	2 nd meeting	3 rd meeting	
1.	1	62,5	75	87,5	75
2.	2	62,5	68,75	75	68,75
3.	3	50	81,25	100	77
4.	4	56,25	81,25	93,8	77
5.	5	68,75	87,5	93,8	83,4
6.	6	62,5	81,25	100	81,25
7.	7	62,5	75	81,3	72,9
8.	8	43	62,5	87,5	64,3
9.	9	68,75	81,25	87,5	79,2
10.	10	62,5	75	93,75	77
11.	11	43	62,5	81,25	62,25
12.	12	56,35	62,5	87,5	68,8
13.	13	62,5	81,25	100	81,25
14.	14	62,5	87,5	100	83,3
15.	15	75	81,25	93,75	83,3
16.	16	56,25	81,25	100	79,2
17.	17	43	68,75	87,5	66,4
18.	18	43	62,5	87,5	64,3
19.	19	56,25	75	93,75	75
20.	20	56,25	75	87,5	72,9
21.	21	75	81,25	100	85,4
Average		58,5	75,3	91,3	
Percentage		58,5%	75,3%	91,3%	

Table 2:- Data Result of Managing Information Skills

Percentage:

P = 0% - 24% not implemented

P = 25% - 49% poor implemented

P = 50% - 74% good implemented

P = 75% - 100% excellent implemented

(adapted from Purwanto, 2009)

Based on the table below reached out the range between 58,5% until 92,9%. In accordance with data result of research, managing information skill of student as long as learning activity in the class has increased. The rise of student's managing information skills will be shown in figure 1.

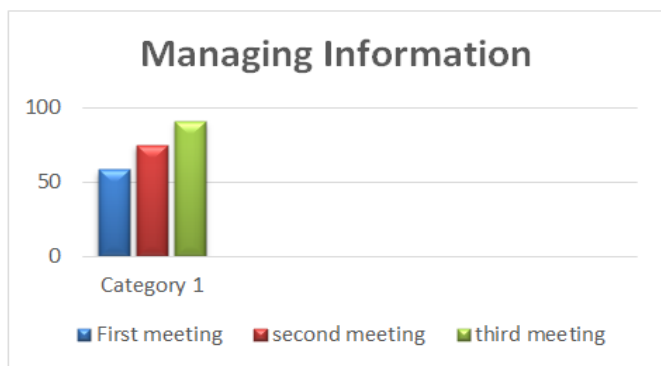


Fig 1:- Rise of student's managing information skills.

IV. DISCUSSION

In reference to the table 1 about observation implementation learning at the first meeting, all of 22 aspects observations, found 18 aspects has been implemented and 4 aspects is not implemented. The aspects which not implemented in particular pray, formulate problem, guide group, as well motivate students. In the aspect of pray which not implemented due to the time of entry in the third hour, when student asked already pray or not, student answered already pray, so the teacher only invite student to pray together, whereas for third other aspects not accomplished because time management of discussion or assignment is setback. Percentage of learning at first meetings is 82% from first observers and 86% from second observers, included excellent category.

At the second meeting, all of 22 aspects observations, found 21 aspects has been implemented and 1 aspect is not implemented. The aspects which are not implemented for the reward and appreciation aspects will be missed because of time management. Percentage of learning at second meetings is 100% from observer 1 and 95% from observer 2 included excellent category.

At the third meeting, from 22 aspects observations, found 21 aspects implemented and 1 aspect not implemented that is students project. It happened since the third meeting is

the final chapter in BASS. Both of observers respectively obtain 95% implementation with category excellent.

This result is supported by research of Hunkar (2011) stated that science story does not only useful to make stereotype of student about science biology and make scientist expanded, but also to improve their confident as scientist. So its uses in science class can expand student's ideas. In addition, critical aspect of scientific creation contains of science stories can be influence students' interest in science and make them think about work as scientist.

Moreover, to determine of effectiveness science story book is used managing information skill observation form. Observer do observation in the group. Based on table 2. managing information skill observation results, at the first meeting get 50%, at the second meeting rise to 75%, and at the third meeting get 91.6% and the final result included excellent category.

On the basis of the results above, it could be specified for managing information skill more improve when teacher use science story book. Corresponding with Vygotsky theory (1896-1934), who argued that child could construct his knowledge when implementing the world which enclose with attention, memory, and strategy to process and manage the information.

V. CONCLUSION

In regard to find and discuss of the result can be concluded that the science story book can be used and improved managing information skills of science learning in the elementary schools. It can be proven by the result of student who use science story book.

REFERENCES

- [1]. Akbar, S. 2013. Instrumen Perangkat Pembelajaran. Bandung: PT. Remaja Rosdakarya
- [2]. Arends, Richard I. 2012. Learning To Teach (Ninth Edition). Ney York: McGraw-Hill Companies
- [3]. Artayasa, I Putu. 2018. The Effect of Three of Inquiry on the Improvement of Science Concept Understanding of Elementary School Teacher Candidates. International Journal of Instruction
- [4]. Biggs, Alton. 2004. Biology: The Dynamics of Life. Columbus: McGraw-Hill Companies, Inc
- [5]. Borich, GG. 1994. Observation Skills For Effective Teaching. New York: Macmillan Publishing Company
- [6]. Campbell, N.A, 2003. Biologi (Jilid 3). Terjemahan. Jakarta: Erlangga
- [7]. Chumdari., Anita, Sri., Budiyo, Suryani., Nunuk. 2018. Inquiry-based Integrated Thematic Instruction on Character Education Of Primary School Students. International Journal of Education & Literacy Studies

- [8]. Chung, Mi-Hyun. 2010. Shared-Book Experience Using Science-Themed Books to Develop Scientific Literacy: An Interactive Approach with Struggling Readers. *The Language and Literacy Spectrum Journal*
- [9]. Cremin, Teresa., Arthur, James. 2014. Learning To Teach in The Primary school. New York: Roudledge
- [10]. Depdiknas 2013. Peraturan Menteri Pendidikan dan Kebudayaan Nomor 67 Tahun 2013 Tentang Kerangka Dasar dan Struktur Kurikulum Sekolah Dasar/Madrasah Ibtidaiyah. Jakarta: Depdiknas
- [11]. Depdiknas. 2003. Undang-undang nomor 20 tahun 2003 tentang sistem pendidikan. Jakarta: Depdiknas
- [12]. Diezmas, Esther. 2016. The impact of CLIL on the acquisition of L2 competences and skills in primary education. *International Journal of English Studies*
- [13]. Djamarah, Bahri, Syaiful., dan Zain, Aswan. 2010. Strategi Belajar Mengajar. Jakarta: Rineka Cipta
- [14]. Elmas, Ridvan, dkk. 2017. Using a Review Book to Improve Knowledge Retention. *Journal International Education Studies*
- [15]. Fraenkel, Jack R., 1932. How to design and evaluate research in education. 8th ed. New York: Mc Graw-Hill
- [16]. Grobstein, Paul. 2005. Revisiting Science in Culture: Science as Story Telling and Story Revising. *Journal of Research Practice*
- [17]. Gunarsah, Singgih D. 2011. Dasar dan Teori Perkembangan Anak. Jakarta: Penerbit Libri
- [18]. Korkmaz, Hunkar. 2011. The Contribution of Science Stories Accompanied by Story Mapping to Students' Images of Biological Science and Scientist. *Electronic Journal of Science Education*
- [19]. Kremer., Angelika, Walker., Mark, Schlüter., Kirsten. 2007. Learning to Teach Inquiry: A Course in Inquiry-Based Science for Future Primary School Teachers. *Bioscene Journal*
- [20]. McGuinness, Carol, etc., 2007. Thinking Skills and Personal Capabilities For Key Stages 1 & 2. Belfast: A PMB Publication
- [21]. Milne, Catherine. 1998. Philosophically Correct Science Stories? Examining the Implications of Heroic Science Stories for School Science. *Journal of Research in Science Teaching*
- [22]. NSES. 2000. Inquiry and The National Science Education Standards. Washington, DC: National Academy Press
- [23]. Ozturk, E. & Ucus, S. 2015. Nature of science lessons, argumentation and scientific discussions among students in science class: A case study in a successful school. *Journal of Education in Science, Environment and Health (JESEH)*
- [24]. Santrock, John W. 2011. Life-Span Development (perkembangan Masa Hidup). Jilid 1. Diterjemahkan oleh: Benedictine Widyasinta. Jakarta: Erlangga
- [25]. Solomon, J. 2002. Science Stories and Science Texts: What can they do for our students?. *Studies in Science Education Journal*
- [26]. Sugiyono.2010. Metode Penelitian Kuantitatif Kualitatif dan R&D. Bandung: Alfabeta
- [27]. Thiagarajan, S., Semmel, D.S. & Semmel, M.I. 1974. Instructional Development For Training Teacher of Exceptional Children. Minnespoli: Indiana University
- [28]. Trianto. 2009. Mendesain Model Pembelajaran Inovatif Progresif. Surabaya:
- [29]. Kencana
- [30]. Vonderman. Carol. 2012. Help Your Kids With Science. London: Penguin Random House