Analysis of Scientific Communication Skills by Using Big Books in Elementary Schools

Alpusari, M¹, E A Mulyani¹, R A Putra², R Wulandari², N Hermita¹, J A Alim¹, I K Sari¹

¹ PGSD, FKIP, Universitas Riau, Pekanbaru, 28293, Indonesia
² Pendidikan Biologi, FKIP, Universitas Riau, Pekanbaru, 28293, Indonesia.

mahmud.alpusari@lecturer.unri.ac.id

Abstract. Scientific communication skills involve various components including prediction, question, presentation and hypothesis. The purpose of this research is to analyze scientific communication skills in elementary schools. The media used is the big book. This research uses descriptive quantitative research method. The research subjects are 32 students of SDN 130 Pekanbaru. Analysis of student scientific communication skills using observation and interview sheets. Student and teacher activities through observation sheets. Research results student scientific communication skills with predictive, questioning and presentation components using the big book have a very good average score. The average student activity during the learning process of 78.11 in the good category, in line with the teacher's activity, which was good with an average of 81.25.

1. Introduction
The task of educators is to be able to develop the talents, interests and abilities of students. The development of student potential, teachers need to provide guidance by developing student skills. One of the skills developed in students is the communication ability of students in the learning process [1]. Science communication is defined as the use of appropriate skills, media, activities, and dialogue to produce one or more of the following personal responses to science (the AEIOU vowel analogy): Awareness, Enjoyment, Interest, Opinion-forming, and Understanding. The definition is useful in providing insights for further research and evaluation. [2, 3]. MIKIR approach is useful for developing student scientific communication skills [4].

Scientific communication skills in learning are part of science process skills. Science process skills involve various components including prediction, question, presentation and hypothesis [5, 6]. Big book is used in learning to see student scientific communication skills. The big book has specifications like a big size, text, images. Big book is not a book commonly used in schools [7]. [8] Big books allow students to study through memorizing, repeat understanding. Many educational experts claim that the big book is best used in the early class.

Big book media can help increase student interest in understanding. By reading it together, give rise to bravery and self-confidence are "able to" read, can progress all characteristics of language and relevant conversations with students so understanding topics develop conferring to students experiences, imaginations. Outcomes of preceding educations display the usage of big book will stimulate undergraduates to take a high read ethos [9, 10]. What was significant effect of Big Book as teaching media on the second classes students reading comprehension in south Bali [11].
2. Research Methods

The research method is used descriptive quantitative method. Determination of the research is see analysis of scientific communication skills using the big book in elementary schools. The subjects of this study were 32 class II students of SDN 130 Pekanbaru. The data will be taken in this research is observation and interview. The Pointers of scientific communication skills using the big book are predictions, questions and report presentations.

The activities of students and teachers are improved from the use of the big book [12]. [12] consists of 5 parts, as follows (1) The educator manage the students to take a seat on the floor together. The sitting position of the students must be comfortable and relaxed while listening to stories from the big book. Before educator tells contents of big book, the teacher asks students to make predictions on the content section. This prediction refers to a guiding question: what, why, where, who, how, and where. The teacher asks students to pair up. (2) After carrying out the prediction activity, the teacher reads the big book story and students are asked to observe the teacher. Students are asked to pair up and tell their experiences about activities in the big book. Discussion and question and answer between them. (3) The teacher tells a narration and the students repeat it so can remember all word what teacher say. (4) Educator and students recite narration joinly to make students keep in mind every sentence recite, after that Educator verify how many words the students keep in their mind. (5) The teacher and students recite the narration anymore to make students grasp the contents of the reading and reading fluently, the teacher asks students to make a presentation of the findings during the process of reading together.

Analysis of the student scientific communication skills starts by defining counting of aspects of science communication, a. prediction, b. question and c. presentation. The obtained score formula is divided by the maximum score multiplied by 100 [13]. Investigation of student and educator observation sheets by 1) determining the number of activities of students and educators carried out, 2) calculating the percentage of activity of students and educators carried out, 3) interpreting scores into five categories namely very good category (score 86-100), good (score 76-85), enough (score 60-75), less (55-59), and very less (score ≤ 54) [14].

3. Results and Discussion

Outcomes of findings on scientific communication skills in reading big books can be interpreted in three parts, namely prediction, question and presentation. The results of the skills of the scientific communication are shown as follows.

| Category     | Predictions | Questions | Presentations |
|--------------|-------------|-----------|---------------|
| Very good    | Seven groups| Eight groups| Seven groups |
| Good         | Five groups | Six groups | Six groups    |
| Enough       | Four groups | Two groups | One groups    |
| Not good     | -           | -          | -             |

The predictions implemented by the students on the cover of the big book were very good. There are seven groups that get very good criteria and five groups who get good. The predictions carried out are assisted by the question of what, why, how, who, place. Predictions carried out by students refer to
the book title and according to student experiences. This prediction really raises students interest in reading.

The suggested that the POE mode of inquiry is suitable for implementing at an intelligent mobile device to enhance young students interest and continuance intentions with respect to the learning of science [15], [16]. That continuous and helpful participation in conceptually coherent science programs is necessary for children to expand signification on science as a dissimilar academic domain that pervade its own disciplinary content, language, and processes. Therefore, this model is needed for continuous learning and the existence of the feedback process [17].

Components of questions in learning science being a part that must exist in learning. Based on the table, there are eight groups that get very good grades and six groups that get good grades. Student questions are a potential source for science teaching and learning, but need much more exploration [18, 19, 20].

As students work with their peers in groups, their questions can stimulate themselves or their group members to hypothesize, predict, generate explanations for things which puzzle them, and reflect on their own ideas. This can engender productive discussion, there by leading to meaningful knowledge construction [21]. Student communication in the learning process becomes part of science learning. The presentation carried out is the result of students findings in observing the big. Results of table show that seven groups get very good presentation scores, and six groups get good scores.

The implementation of reading together using the big book also displays the activities carried out by the teacher and students during study way. Outcomes of this activities as follows.

| Table 2. Teacher and student activities during the learning process |
|----------------------|--------------------------|
| Observation aspect   | Lesson to                |
|                      | I                        | II                        | Average    |
| Teacher activity     | 78.82                    | 83.67                    | 81.25       |
| Student activity     | 75.95                    | 80.27                    | 78.11       |

The results of the activities of teachers and students on average get good grades during the learning process. This activity supports the activities of the learning process of science communication in learning by using the big book. [22] Someone will can communication something good when someone is has an understanding of the cause and effect relationship contained in good content.

4. Conclusion

Outcomes of students scientific communication skills use big books for primary schools, it can be concluded that the ability of students to carry out predictions, ask questions and presentations is very good. Student activities during the learning process an average of 78.11 including good categories, in line with the activities of teachers, including both with an average of 81.25.

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