Application of Student Book Based On Integrated Learning Model Of Networked Type With Heart Electrical Activity Theme For Junior High School

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Abstract. The purpose of this study is to determine the effect of the use of Integrated Science IPA books Using Networked Learning Model of knowledge competence through improved learning outcomes obtained. The experimental design used is one group pre test post test design to know the results before and after being treated. The number of samples used is one class that is divided into two categories of initial ability to see the improvement of knowledge competence. The sample used was taken from the students of grade VIII SMPN 2 Sawahlunto, Indonesia. The results of this study indicate that most students have increased knowledge competence.

1. Introduction

In the 2013 Curriculum, learning is conducted using a scientific approach or a scientific-based approach. The scientific approach can use some strategies such as contextual learning (Kemendikbud, 2015: 19). To realize it required the facilities and infrastructure that support the learning process, one of which is the book of science students. According Kemendikbud (2015: 61) student book is a book of learning resources for learners. Each chapter is equipped with concept maps, introductory, student activity sections, both experimental and non-experimental or discussion, exercise questions, evaluation summaries, and assignments for learners.

Science students' books are developed and used as a source of information in which there are facts relating to the concept of learning needed to enhance the creativity and skills of learners in order to form learners who are characterized. Therefore, it takes a book that can stimulate the mindset of learners from aspects, namely attitude, knowledge and skills. According to the Curriculum 2013, the science students book used for junior high school level is a thematic IPA thematic book. The integrated science student book contains physics, biology, and chemistry studies that have been synergized in a student book.

Student's books that have been there are still being revised because there are still deficiencies, so that the achievement of the existing goals is not maximized, therefore it is necessary to develop the book of science students in accordance with the characteristics of learners as the target. Based on the results of observations and analyzes conducted on the books of students used in schools have not met the criteria of students' books for science lessons according to the curriculum 2013. Based on Permentikbud No.24 of 2016 states that the book students for science subjects junior level in science lesson has become a book Integrated IPA (physics, biology, and chemistry) thematic.
The importance of conducting this research is to obtain data on how the integrity of IPA in IPA textbooks in accordance with the demands of the curriculum 2013. Furthermore, the results of this study is expected to be followed up as a consideration for the Government to re-publish the second edition of the revised book that has better suitability. In addition, this research can also be a consideration for teachers to create and implement lessons that are more in line with the demands of the 2013 curriculum.

2. Methods
This experimental research used one group pre test post test design as shown in Table 1. The subjects of this research are the students of grade VIII SMP N 2 Sawahlunto academic year 2016/2017.

| Pre Test | Treatment | Post Test |
|---------|-----------|-----------|
| O₁      | X         | O₂        |

Source: Sugiyono, (2013)

The variables in this study consisted of independent variables, namely Integrated Science Student Book Using Networked Learning Model with Heart Electrical Theory, knowledge competence as independent variable, and initial ability as moderator variable. Increased competence of knowledge can be seen using N-Gain according to the customized category (Hake, 2002). While, to know the influence of independent variable to dependent variable used hypothesis test using paired test using \( t \)-test.

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N-gain = \frac{s_{post}-s_{pre}}{s_{max}-s_{pre}} \times 100\%
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The hypothesis taken in this study are as follows: \( H₀ \): No influence of Integrated Science Student Book Using Networked Learning Model with Heart Power Theme. \( H₁ \): There is an effect of the book of Integrated Science Students Using Networked Learning Model with Heart Power Themes.

3. Results and Discussion
The results showed that students who have low competence seen from low pre test. (Figure 1). Initially low knowledge competence is able to obtain higher values. This means that there is an influence of the book of Integrated Science Students Using Networked Learning Model with the Heart Electrical Theme.
In Permendikbud Number 21 of 2016 on Basic and Secondary Education Content Standards, it is stated explicitly that the achievement of learning outcome learning in the realm of knowledge has been revised by Lorin Anderson and David Krathwohl (2001). The domain of knowledge is a combination of dimensions of knowledge classified into factual, conceptual, procedural, and metacognitive with the dimensions of cognitive processes are arranged hierarchically ranging from remembering, understanding, applying, analyzing, evaluating), and creating (creating). Therefore, if there is an increase of the competence value of knowledge, then it can be said factual, conceptual, procedural and metacognitive students also increased.

Pursuant to result of analysis of pre test and post test value got average score of pre test which initially 45.83, after implementing learning process by using book of student of IPA Integrated Using Networked Learning Model with Heart Electrical Theme have average score 70.00. Integrated IPA learning is chosen because students in SMP / Ms have characteristics that are appropriate for this lesson. In addition, integrated learning can improve students' learning motivation. Learners feel that science lessons are very close to their lives, such as plants, animals, the environment and themselves. This will certainly have a good impact for the development of competence not only knowledge but also social and spiritual competence will also develop very well.

4. Conclusion
From the results of research conducted by the researcher can be concluded that the book of Integrated Science Student Using Networked Learning Model can influence student's knowledge competence. Increasing the value of knowledge competence gained depends on the value of initial competence before the student's book is given.

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