ATLANTIS PRESS

Development of Problem Based Learning-Based Learning Tools to Improve Students' Critical Thinking Skills in Retail Business Management Subject Class XI BDP at SMK Negeri 7 Medan

Cinta Agustina Sinaga[1,*] Mukhtar[2] Hamonangan Tambunan[3]

[1,2,3]*Department of Educational Technology, Postgraduate Program, State University of Medan Jalan William Iskandar, Sumatera Utara 20371, Indonesia*
*Corresponding author. Email: cintasinaga02@gmail.com

ABSTRACT

This study aims to improve students' critical thinking skills through the development of problem-based learning tools in the form of student books and worksheets with appropriate and effective product results to use. This research was conducted on students of class XI BDP at SMK Negeri 7 Medan on the subject of consumer behavior in the retail business using the Borg and Gall development model. The instruments used are in the form of validation sheets by material experts, media experts, and learning design experts, student response questionnaires, critical thinking skills tests. The results show that problem-based learning tools to improve critical thinking skills are feasible and effective to use.

Keywords: Development of learning tools, Problem Based Learning, Critical thinking skills.

1. INTRODUCTION

Retail Business Management is one of the productive subjects of Online Business and Marketing which is incorporated into the expertise competency, namely C3. The students must be able to master the basic competencies covered in the Retail Business Management lesson both in terms of knowledge and skills. One of the basic competencies is material on Consumer Behavior in Retail Business. Through learning consumer behavior in retail business, it is expected that students can train critical thinking through selected learning models and be able to solve various problems faced or found in the field.

According to Sihotang (2019:37), critical thinking is an ability to consider everything by using consistent thinking methods and reflecting on them as the basis for taking a valid conclusion.

The results of observations made by researchers in class XI of the Online Business and Marketing Department of SMK Negeri 7 Medan on the Retail Business Management subject, indicate that the ability of students to think critically is still low. During the learning activities, students only saw the teacher explaining the subject matter and some people took notes on the explanations given by the teacher. However, if students are asked to explain again about the material that has been delivered, only a few people

remember it and can explain it using their own language. Another thing that makes students' critical thinking skills low is that they are still glued to conventional learning models, not using varied learning models, causing teacher-centered learning.

Furthermore, the problem found in the field is that there is no student handbook for Class XI Retail Business Management. Retail business management books in the library still use the KTSP curriculum. So that students have difficulty in the learning process because there is no handbook.

To overcome these problems, required Learning Tools in the form of Student Books and Student Worksheets (LKPD) used in the learning process. In the learning device there is a learning model that is used to improve critical thinking skills, namely the Problem Based Learning learning model.

According to Aini, et al (2019: 69) Problem Based Learning is a learning approach that uses concrete global cases to become a context for students to learn about critical thinking and skills in solving cases and gaining knowledge and concepts based on subject matter.

In a previous study conducted by Ismiati, et al (2020) with the title Development of Problem Based Learning Model Learning Devices to Improve Critical Thinking Skills in Social Studies Learning Topic

Social Interaction for Class V Elementary School Students, in his journal showed that the results of the validation of the developed device were valid with very good criteria. Practicality in field trials reached the very good category. The effectiveness of the developed device can be seen from the increase in the results on the critical thinking ability test with an N-Gain of 0.70 and is included in the high category.

Based on the results of these studies, the researchers made a study entitled "Development of Problem Based Learning Tools to Improve Students' Critical Thinking Skills in Retail Business Management Subjects Class XI BDP at SMK Negeri 7 Medan".

The purpose of this research is to produce appropriate and effective learning tools in improving critical thinking skills.

2. THEORETICAL STUDY

2.1. Learning Tools

Learning tools are used as a guide or reference for a teacher in learning activities. Harun, Amat Jaedun, Sudaryanti, and Abdul Manaf, (2019:60) state that learning tools provide guidelines for what a teacher must do in the classroom. In addition, learning tools provide guidelines in developing teaching techniques and guidelines in designing better tools.

Ibrahim (in Trianto, 2011:201) suggests that learning tools are used during learning activities with learning tools used in learning activities are syllabus, Learning Implementation Plans (RPP), Student Worksheets (LKS), evaluation instruments or Learning Outcomes Tests (THB), learning media and student textbooks.

Based on the opinions that have been stated, the learning device is a guide or guide used by teachers and students in learning activities.

The learning tools that will be developed in this research are student books and Student Worksheets (LKPD). Shobirin (2016:169) argues that student books are books intended for students that are used as guidelines for learning activities that aim to facilitate students in mastering certain competencies. Trianto (2012:112) also expressed his opinion on the meaning of student books, namely guidebooks for students in learning activities that contain subject matter, research activities based on concepts, science activities, information, and examples of the application of science in everyday life.

From this opinion, the understanding of the student book is a guide book used in learning activities to facilitate students in mastering competencies.

One part of the printed teaching materials is the Student Worksheet (LKPD). LKPD has an important role in learning activities, namely to train the independence of students in solving questions which of course to achieve basic competencies. According to

Prastowo (2015: 204) Student Worksheet (LKPD) is a printed teaching material that contains materials, summaries, and instructions for implementing learning tasks that must be done by students, which refers to the basic competencies that must be achieved.

Another opinion about the understanding of LKPD was conveyed by Trianto (2010:222) who stated that the Student Worksheet contains a set of basic activities that must be carried out by students to maximize understanding as an effort to build skills. The formation of skills is carried out based on indicators of achievement of learning outcomes that must be taken.

From this opinion, it can be concluded that LKPD is one of the printed teaching materials that contains a set of learning activities compiled by the teacher and carried out by students and refers to the basic competencies to be achieved.

2.2 Problem Based Learning

Problem Based Learning is a learning model using concrete cases that are used as a context for students to learn, by building critical thinking and skills in problem solving, as well as constructing essential knowledge and concepts from the subject matter (Aryanti, 2020 :9).

Table 1. Syntax or Steps of *Problem Based Learning*

Stage	Activities of Educators and Students
Stage 1 Orienting students to problems	The teacher explains the learning objectives and the facilities or logistics needed. Educators motivate students to engage in selected or determined real problem solving activities.
Stage 2 Organizing students to learn	Educators help students define and organize learning tasks related to problems that have been oriented in the previous stage.
Stage 3 Guiding individual and group investigations	Educators encourage students to gather appropriate information and carry out experiments to get the clarity needed to solve problems.
Stage 4 Develop and present the work	Educators help students to share assignments and plan or prepare appropriate work as a result of solving problems in the form of reports, videos, or models.
Stage 5 Analyze and evaluate the problem solving process	Educators help students to reflect or evaluate the problem solving process carried out.

Source: Fathurrohman, 2015:116-117

2.3. Critical Thinking Skills

Critical thinking is a cognitive skill and part of the mental process in investigating a situation, problem, question, or phenomenon obtained through observation, experience, reflection, thinking, or communication to obtain an action or decision that can be accounted for.

The indicators of critical thinking ability according to Ennis as quoted by Aryati (2009:88) consist of 12 indicators grouped into five activities, namely:

a. Provide a simple explanation, consisting of:
    1) Focusing the question
    2) Analyze questions and ask
    3) Answering questions about an explanation or statement
b. Building basic skills, consisting of:
    1) Consider whether the source is trustworthy or not
    2) Observing and considering an observation report
c. Summing up, which consists of:
    1) Deducing or considering the results of deductions
    2) Induce or consider the results of induction
    3) Create and determine the value of consideration
d. Provide further explanation, which consists of:
    1) Identify terms and definitions of dimensional considerations
    2) Identify assumptions
e. Set strategies and techniques, which consist of:
    1) Define action
    2) Interact with other people

3. RESEARCH METHODS

In this study, the research method used is the research and development method which in English is called Research and Development. In this study, the learning development used is the Borg & Gall development model.

The trial subjects in the Development of Problem Based Learning-Based Learning Devices were students of class XI of the Department of Online Business and Marketing at SMK Negeri 7 Medan.

The research instrument used in this development research is a validation sheet, an observation sheet on the implementation of the Problem Based Learning learning model, a critical thinking ability questionnaire, and a student response questionnaire to the learning device developed.

In the analysis of the feasibility of learning tools in the form of student books and LKPD assessed by the validators, namely material experts, media experts, and learning design experts. Learning tools are said to be feasible if they are in the minimal category of good enough or decent enough, both from student books and LKPD.

In the analysis of the effectiveness of learning tools, a class is said to have completed learning if the PKK is 85% (Trianto, 2011:241). The percentage of classical learning completeness per class is calculated using the following formula.

$$PKK = \frac{\text{the number of students who haved completed studying}}{\text{total number of students}} \times 100\%$$

Then to see the improvement of students' critical thinking skills, it can be seen from the data obtained from the pretest and posttest results. After that, determine the gain value with the following formula for calculating the gain index (Melzert, 2002:126).

$$G = \frac{skor\ posttest - skor\ pretest}{skor\ ideal - skor\ pretest}$$

Student response questionnaires in the form of statements with answer choices Strongly Agree (SS), Agree (S), Disagree (KS), and Disagree (TS). The formula for calculating student response questionnaires is as follows.

$$P = \frac{n}{N} \times 100$$

4. RESULTS AND DISCUSSION

4.1. Research Result

In the student book validation, the results of the material expert student book validation obtained an average score of 45 and the "Very Good" category. The results of the validation of the media expert students' books obtained an average of 161 in the "Very Good" category. The results of the validation of the learning design expert student book with the "Very Good" category obtained an average score of 38 so it is said to be feasible to use.

Furthermore, LKPD validation obtained LKPD validation results by material experts with an average score of 65,5 and the "Very Good" category. Then the results of LKPD validation by media experts obtained an average score of 56 in the "Very Good" category. The results of the LKPD validation by learning design experts obtained an average score of 38 in the "Very Good" category.

From the results of the student response questionnaire with individual trials, a total score of 201 was obtained with a percentage of 83.75%. Furthermore, in the small group trial, the results of the student response questionnaire were obtained with a total score of 583 with a percentage of 80.97%.

To determine the effectiveness of learning tools in improving critical thinking skills through classical learning completeness in the classroom. Based on the data from the critical thinking ability test, the classical completeness was 86.11%. Furthermore, to find out the improvement in critical thinking skills, field trials were

carried out. The results of the critical thinking ability test obtained can be seen in Table 2 below.

Table 2. N-Gain Results of Critical Thinking Skills Test

Range	Upgrade Category	Number of Students	Percentage (%)
N > 0,7	High	21	58,33
0,3 ≥ N ≥ 0,7	Medium	10	27,78
N < 0,3	Low	5	13,89

From Table 2 it can be seen that the students who obtained the "High" category of improvement were 21 people with a percentage of 58.33%. For the "Medium" category as many as 10 people with a percentage of 27.78%. In the "Low" category, there were 5 people with a percentage of 13.89%. Overall, the N-Gain test of students' critical thinking skills obtained a score of 0.67 with the "Medium" category of improvement.

4.2 Discussion

The development of learning tools based on problem based learning on consumer behavior is a learning material that has been developed by taking into account the aspects of learning and media as principles of learning design. This research was conducted to produce a product in the form of problem-based learning tools on consumer behavior material for students of class XI Online Business and Marketing at SMK Negeri 7 Medan.

From the results of the development of problem-based learning-based learning tools that have gone through the feasibility test stage from experts, the results show that problem-based learning-based learning tools are very feasible to use.

Learning tools are said to be effective after showing satisfactory results in achieving the specified goals. In this case, a product trial was carried out in the learning process.

From the results of data processing research carried out, there is a classical learning mastery using problem-based learning tools to improve critical thinking skills in class XI students in Online Business and Marketing at SMK Negeri 7 Medan, which is 86.11% whose effectiveness can be classified into categorization. "Very good". Then there is an increase in critical thinking skills where the N-Gain obtained is equal to the test results in the experimental class of 0.67 in the medium category.

From the results of field tests that have been carried out at SMK Negeri 7 Medan, the results show that problem-based learning tools are effectively used.

5. CONCLUSION

The development of learning tools based on problem based learning to improve students' critical thinking skills has produced a feasible and effective product. The following are the conclusions from the results of the research that has been carried out.

1. The learning tools that have been developed have met the appropriate criteria carried out by the material, media, and learning design validators. Learning tools developed in the form of student books, and LKPD. The results of the validation of student books seen from the aspects of material, media, and learning design meet the "very feasible" criteria. The results of the LKPD validation from the material, media, and learning design aspects meet the criteria of "very feasible.

2. The learning tools developed have met the effective criteria in terms of student learning completeness with an achievement of 86.11%. The response of students to the learning tools developed also received a positive response, namely 83.75% in the one-on-one trial and in the small group trial of 80.97%.

3. Increasing students' critical thinking skills obtained N-Gain of 0.67.

REFERENCES

[1] Aini, dkk. 2019. Pengembangan LKPD Berbasis *Problem Based Learning* Pada Mata Pelajaran IPA Materi Gaya. *Jurnal Pendidikan Dasar. P-ISSN 2086-7433, E-ISSN 2549-5801*.

[2] Aryanti. 2020. *Inovasi Pembelajaran Matematika Di SD (Problem Based Learning Berbasis Scaffolding, Pemodelan, dan Komunikasi Matematis)*. Yogyakarta: Deepublish.

[3] Fathurrohman, Muhammad. 2015. *Model-Model Pembelajaran Inovatif*. Yogyakarta: Ar-Ruzz Media.

[4] Ismiati, dkk. 2020. Pengembangan Perangkat Pembelajaran Model *Problem Based Learning* untuk Meningkatkan Kemampuan Berpikir Kritis pada Pembelajaran IPS Topik Interaksi Sosial Siswa Kelas V Sekolah Dasar. *Jurnal Pendidikan dan IlmuPengetahuan. Volume 20, Nomor 2, Halaman 136-143*.

[5] Prastowo, Andi. 2015. *Panduan Kreatif Membuat Bahan Ajar Inovatif*. Yogyakarta: Diva Press.

[6] Sihotang, Kasdin. 2019. *Berpikir Kritis Kecakapan Hidup di Era Digital*. Yogyakarta: PT Kanisius.

[7] Trianto. 2011. *Mendesain Model Pembelajaran Inovatif-Pogresif*. Jakarta: KencanaPrenada Media Group.

[8] Trianto. 2012. *Character Building, Optimalisasi Peran Pendidikan dalam Pengembangan Ilmu dan Pembentukan Karakter Bangsa*. Yogyakarta: Ar-Ruzz Media.