DEVELOPING TEACHING MATERIALS BASED ON CRITICAL THINKING IN TEACHING EXPLANATORY TEXT WRITING FOR GRADE VII STUDENTS AT SMP PERGURUAN ISLAM AMALIA MEDAN

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ABSTRACT: *This study aims to find out: (1) the process of preparing teaching materials based on critical thinking in learning to write explanatory text; (2) the feasibility of teaching materials based on critical thinking in learning to write explanatory text; and (3) the effectiveness of teaching materials based on critical thinking in learning to write explanatory text. This type of research was research and development (R & D) based on Borg and Gall development model adapted from Sanjaya. Data collection techniques carried out included observations, interviews, questionnaires, and tests regarding explanatory text material. The subjects of the trial consisted of individual trials (3 students), small group trials (9 students) and large-scale trials (30 students). The results of the study showed that: (1) material expert validation as a whole reached an average of 85.20% on very good criteria; (2) the validation of learning design experts as a whole reached an average of 84.58% on very good criteria; (3) teacher response with an average of 89.84% on very good criteria; (4) students' responses to individual trials with an average of 85.48% on very good criteria, small group trials with an average of 90.42% on very good criteria and large scale trials with an average of 93.76 % on very good criteria; (5) the effectiveness of teaching materials is shown from the learning outcomes of the written test, the explanation of the students before using the module was 66.5%, while the learning outcomes of the students' expedition text writing test after using the module increased by 82.17%. The difference obtained was 15.67% from before to after. The results showed that teaching materials based on critical thinking in explanatory text writing learning are feasible and effective to be used as learning resources.*

KEYWORDS: Development, Teaching Materials, Critical Thinking, Explanatory Texts

INTRODUCTION

The development of teaching materials is carried out as a way to improve learning outcomes and establish material based on the context of the situation in the school. Teaching materials are one of the important accesses to education in organizing national education. The availability of teaching materials must be appropriate and relevant and the learning process must be guided by scientific approach. Teaching materials are systematic, meaning that they are arranged in order so that students can learn more easily (Belawati, 2003:13).

In the 2013 curriculum at the SMP/MTs level, there are several types of texts that will be studied by students in class VII in Indonesian Language subject, including explanatory texts, observation texts, descriptive texts, short story texts, etc. One of the lessons that can train students' thinking in Indonesian language learning skills is to produce explanatory texts, directly having to produce a work in the form of writing. According to Tarigan (2008:3) writing is a language skill that is used to communicate indirectly, not face to face with other people. Writing is one aspect of communication that can express ideas and opinions with a concept, so that the reader will more clearly understand the contents of the information. In order to produce conceptual ideas, students are required to think critically.

In the development of teaching materials to be carried out, researchers conducted a preliminary study, namely conducting field surveys and literature surveys. The field survey was conducted on teaching materials on explanatory text material at SMP Perguruan Islam Amalia Medan, from interviews with teachers who taught Indonesian Language it was known that the main teaching materials used were teaching materials produced by the Ministry of Education and Culture, by the title "*Bahasa Indonesia Wahana Pengetahuan*.'' The book was the only learning resource used in the learning process that contained explanatory text writing competencies.

The literature survey on explanatory text material was found in Basic Competencies 3.1 and 4.2 which contained "understanding the structure and composing explanatory texts verbally and in writing with regard to structure and language." Students were considered to have achieved these competencies if students were able to compile explanatory texts according to the characteristics of the test. This basic competency aimed to enable students to write the desired explanatory text based on their linguistic structure and rules.

The next field survey showed that the teaching material about the explanatory text contained in the 2013 curriculum student book was limited to the introduction of structure. In creating a text, one must know the linguistic characteristics of the text not only knowing the characteristics (structure) of a text. This opinion was supported by data obtained from Istiqomah (2015) in her research entitled "Development of Books Compiling Explanatory Texts Containing Local Wisdom for Junior High School Students" that Indonesian language learning in the 2013 curriculum was mostly focused on only one teaching material published by the government to obtain learning material.

The development of teaching materials in the form of modules was one of the innovations that support the learning of Indonesian language, where one of the advantages of using modules was that students can take part in learning activities in accordance with their own speed and abilities, where students' abilities in one class were different. Module had its benefits, either as a place of training and evaluation tools in measuring the ability of learners so that mistakes made could be corrected. Modules were teaching materials which were arranged in a systematic and interesting manner that included the contents of the material, methods, and evaluations that could be used independently. Modules could be used anytime and anywhere, so student learning activities could increase significantly. Through teaching materials in the form of modules, students could find out their own learning outcomes, if the success rate was

still low, students could repeat the material. This module would be developed based on the concept of critical thinking.

REVIEW OF LITERATURE

Teaching materials

The success of the learning process is determined by several factors that support each other. One of them is teaching material. In line with the opinion expressed by Sanjaya (2010:141), subject or learning material is everything that becomes curriculum content that must be mastered by students in accordance with basic competencies in order to achieve competency standards for each subject in a particular education unit. Another opinion from Istiqomah (2016:314) in her article "The Development of Learning Materials" argues that the learning materials are units of courses systematically arranged whether they are written or not, so that it supposes the ambience of the atmosphere for student to learn.

Based on the opinions above, it can be concluded that teaching material is a set of substance lessons that cover curriculum content that students must achieve in learning activities and arranged systematically to create an environment/atmosphere that allows students to learn.

Module as Teaching Material

Learning by using a module will be meaningful if students can easily use it. Learning with modules enables students to quickly understand the competencies learned. Prastowo (2014:106) "module is basically a teaching material arranged systematically with language that is easily understood by the students according to the level of knowledge of their age, so that they can learn independently with minimal help or guidance from educators. Kurniasih and Berlin (2014: 61) suggest that modules are a set of teaching materials that are presented systematically so that readers can learn with or without an educator.

Based on the technology used, teaching materials are grouped into four categories, namely printed teaching materials, listening teaching materials, writing teaching material, interactive multimedia teaching materials. Modules are one of the teaching materials that can be classified into printed teaching materials. Hamdani (2011:219) "Modules are learning tools or facilities that contain material, methods, limitations of learning materials, instructions for learning, training and evaluation methods designed systematically and attractively to achieve the expected competencies and can be used independently".

Based on the opinions above, it can be concluded that the modules are arranged systematically containing material, methods, limitations of learning materials, instructions for learning activities, training and evaluation methods that will be the task of students independently. By using the module, the students can work individually and capable learning themselves.

Critical Thinking

The origin of critical thinking can be traced back to the beginning of the century when philosophers Plato and Aristotle and Socrates taught in Greece. The importance of critical thinking became clear at the beginning of the era of modern education, thanks to Dewey who described the ability to think critically as a way to determine knowledge in a world where humans live.

According to Surip (2014:1) Critical thinking is one form of high-level skills that is very important for every human being, because it will have a positive impact on the direction of his life in reaching hopes and ideals of life. Every human being who does not have the critical thinking skills in his life will get constraints in terms of solving the problems of life that happened.

Whereas according to Chance (in Surib, 2014: 2) critical thinking is the ability to analyze facts, spark and organize ideas, defend opinions, make comparisons, draw conclusions, evaluate arguments and solve problems.Critical thinking (critical thinking) has been defined in various ways by experts, Santrock's formulation (1998) in Jaya, 2017: 42) about critical thinking is as follows:

> "Critical thinking involves grasping the deeper meaning of problems, keeping on open mind about different approaches and prespectives, not accepting on faith what other people and books tell you, and thinking reflectively rather than accepting the first ideal that comes to mind".

Based on the explanation above, it can be concluded that critical thinking involves an in-depth understanding of the problem, open minded towards different approaches and views, meaning that it does not take for granted the things that other people say or books and think reflective first before accepting an emerging idea

Explanatory Text

Explanation comes from the basic word "explain" which means to explain. Based on the basic words, the essence of explanation is to provide an explanation for the occurrence of an event. Hammond in Pardiyono (2007:155) said, "Explanatory text is a type of text that is able to answer the question of how and why natural phenomena occurs.

Explanatory text in student books published by Ministry of Education and Culture (2014:1) "Explanatory text contains an explanation of the state of something as a result of something else that had happened before and causes something else to happen later." Explanatory texts are closely related to natural events and social events. Kosasih (2014: 85) "explanatory texts are texts that discuss and explain the processes of natural and social phenomena." In line with Dirgeyasa (2016:84), explanation genre is to explain the processes involved in the formation or working of natural or socio- cultural phenomena.

Based on the opinions of the experts above, it can be concluded that the explanatory text is a writing that provides a detailed explanation of the processes of the occurrence of natural phenomena and explains the logical relationship of several events. This means that an event arises because there was another event before and the event resulted in another event afterwards. The aim is to discuss or explain the process of something that happens naturally, or the process of the occurrence of natural or social phenomena.

METHODOLOGY

The research was conducted in SMP Perguruan Islam Amalia Medan in grade VII. The research was carried out in the even semester of the 2018/2019 academic year. The subjects in this study were grade VII students in one class with 30 students. The type of research conducted in this study was research and development. This research referred to the theory of development as described by Borg and Gall (in Sugiyono, 2015: 35). Data collection techniques in this study were in the form of observation, validation, interviews, questionnaires, and tests of learning outcomes with research instruments. Questionnaires distributed to students for preliminary studies were arranged based on Guttman's scale. This type of measurement scale would get a firm answer, which was "yes-no". This scale had only two intervals, namely "agree" and "disagree". The answer with the highest score was one and the lowest was zero (the answer "yes" was given 1 and "no" was given 0). Likert scale is used to validate products by experts, educators, and students who aim to measure the attitudes, opinions, and perceptions of a person or group of people about social phenomena (Sugiyono, 2016: 93). The scale used started from 1-5 with a range of very good, good, good enough, not good, and very poor. Then the data were analyzed by descriptive quantitative method, which calculated the percentage of indicators for each category of the teaching materials developed.

$$Percentage\ of\ Score = \frac{Number\ of\ Indicators\ per\ category}{Number\ of\ indicators\ for\ total\ categories} \times 100\ \%$$

From the results of the calculation of the formula above, a number in percentage was produced. The classification of scores is then changed to classification in the form of percentages (Sugiyono, 2016: 118), and then the data will be interpreted.

DISCUSSION OF RESEARCH FINDINGS

Process of Compiling Teaching Materials

This research and development began with conducting information gathering activities based on observations, interviews, and analysis needs. The four stages were carried out on students and teachers to obtain data relating to the development of teaching materials.

On the stage of observation, problem analysis was carried out. Problems found were teachers and students only using teaching materials issued by the government. Teaching materials regarding the explanatory text in the 2013 curriculum student books were limited to the introduction of structure. In the book, explanatory text was introduced

from the content of the structure consisting of general statements, explanations, and interpretations. Students were only provided with definitions and characteristics of explanatory texts. Teaching materials used were less effective in the learning process, the teacher and students were confused in determining the steps for writing explanatory text. In addition, in the learning process of writing explanatory texts, the teacher also did not use special methods in teaching explanatory text writing. Furthermore, another problem was that students seemed lazy to write explanatory texts and tended to use the internet through Google to find information.

The next stage, the researcher conducted an interview. Interviews were conducted on teachers to strengthen the data that had been obtained at the observation stage. Based on interviews conducted to Indonesian language teachers at SMP Perguruan Islam Amalia Medan, the information obtained was that the learning process at the school still used textbooks issued by government and other supporting books were not yet available. So that students had difficulty in using the textbook if they were not accompanied by the teacher. Students were more interested in reading explanatory texts than writing them. Students found it difficult to develop ideas in their writing due to a lack of vocabulary. This could be seen from the results of the student explanatory text, there were still students who did not pass the standards of the predetermined Teaching and Learning Activities.

Furthermore, the needs analysis was conducted by distributing questionnaires to two Indonesian language teachers and 30 students at SMP Perguruan Islam Amalia Medan. Developing teaching materials in the form of modules served as a guidebook in learning which contained the following things : (1) Introduction of teaching materials containing units or lessons introduced, with the context, objectives, and/or prerequisites provided, (2) Connection, which contains part of the learning material and content, (3) Application, asking students to apply lesson content in activities, exercises, or projects, (4) Reflection, this section was a summary of the lesson/ session, (5) Extension, evaluating students in the form of assignments and research, (6) Glossary; (7) References.

The development of this teaching material received a good acceptance from teachers and students. This could be seen from the needs analysis carried out, where teachers and students stated that they needed critical learning based material on learning explanatory text to improve the quality of learning.

Based on the analysis of teacher needs for teaching materials based on critical thinking in explanatory text writing material, it could be described that all teachers recognized the teaching materials used in learning with a percentage of 100%, all teachers did not use teaching materials based on critical thinking in learning with a percentage of 100%, the teachers stated that explanatory text learning was very important for students with a percentage of 100%, the teachers of SMP Perguruan Islam Amalia Medan with a percentage of 100% said that there had never been any research on developing teaching materials based on critical thinking in explanatory text material, and all teachers needed critical thinking-based teaching materials in the learning process with a percentage of 100%.

Based on the analysis of students' needs for teaching materials based on critical thinking in explanatory text writing material, it could be described that as many as 5 students with a percentage of 16.67% stated that they knew the explanatory text in learning, while 25 students with a percentage of 83.33% stated that they did not know the explanatory text in learning, as many as 26 students with a percentage of 86.67% said that explanatory text learning was important while 4 students with a percentage of 13.33% stated that explanatory text learning was not important, as many as 2 students with a percentage of 6.67% knew teaching materials while 28 students with a percentage of 93.33% did not know teaching materials in the learning process, as many as 3 students with a percentage of 10% said the learning process used teaching materials while 27 students with a percentage of 90% did not use teaching materials in the learning process. 28 students with a percentage of 93.33% needed teaching materials based on critical thinking in the learning process while 2 students with a percentage of 6.67% did not need teaching materials based on critical thinking in the learning process.

The results of the teaching material need analysis showed that that the developing of teaching materials that produced products in the form of modules based on critical thinking was needed in explanatory text learning to create a pleasant atmosphere in teaching and learning activities both in the classroom and outside the classroom, and improve the quality of learning.

The Worthiness of Teaching Materials

Discussion of worthiness of teaching materials based on critical thinking contained content/material validation, design/display validation, educators' response, and students' responses to teaching materials based on critical thinking.

Before the product was developed, a preliminary study had been carried out first. Then, products were designed and validated by material experts and design experts. Next, the product was analyzed and corrected. The next step was conducting individual, small group, and limited field trials so as to produce a product that fit the needs of students.

The results of the validation of teaching materials based on critical thinking in learning explanatory text writing as follows.

a) Product validation result from the material expert covering 3 aspects of assessment, namely the worthiness of content, the worthiness of presentation, the assessment/ worthiness of the language with the category "very good" namely, the assessment on the worthiness aspect of the content was 88.28% with very good criteria, the assessment on the worthiness aspect of presentation was 86.53% with very good criteria and the the assessment on the worthiness of language aspects was 80.77% with very good criteria. Then the average score of 85.20% was obtained and it was concluded that teaching materials based on critical thinking developed were appropriate to be used in explanatory text learning.

b) Product validation result from design experts covering 3 assessment aspects, namely module size, cover design (module cover typography), and module content design (typography of module content) with the category of "very good", namely the

assessment of module size aspect reached 100% with very good criteria, cover design (module cover typography) reached 83.3% with very good criteria, and the design of the module content (typography of module content) reached 83.55% with very good criteria. Then the average score of 84.58% was obtained and it was concluded that teaching materials based on critical thinking developed were appropriate to be used in explanatory text learning.

c) Product validation result on two Indonesian language teachers covering sub-components of the response or educators' response. There were sixteen questions submitted in the questionnaire responses sheet. It can be concluded that teaching materials based on critical thinking in explanatory text writing learning are included in the criteria of "very good" with a total percentage of 89.84%.

d) Product validation result on individual trials (3 students) covering 4 aspects of assessment, namely material, interest, learning independence, and presentation of teaching materials with category of "very good" namely the assessment of material aspects reached 83.33% with very good criteria, assessment of interest aspects reached 85.00% with very good categories, assessment of learning independence aspects reached 86.11% with very good categories, and assessment on Presentation of Teaching Material aspects reached 87, 50% with very good categories. Then the average score obtained was 85.48% with a very good category. From the results of these percentages, it could be concluded that it was necessary to make improvements / revisions to the teaching materials developed so that the next stage could be carried out, namely the small group trial stage.

e) Product validation result on small group trials (9 students) covering 4 aspects of assessment, namely material, interest, learning independence, and presentation of teaching material with category of "very good" namely, the assessment of material aspects reached 88.88% with very good criteria, assessment of aspects of attraction reached 91.11% with a very good category, the assessment of learning independence aspects reached 90.74% with a very good category, the assessment of the presentation of teaching material aspects reached 90.97% with a very good category. Then the average score obtained was 90.42% with a very good category. This means that teaching materials based on critical thinking on the material aspects need to be revised so that they were more easily understood by students and could be continued in large-scale trials.

f) Product validation result on large scale trials (30 students) covering 4 aspects of assessment, namely material, interest, learning independence, and presentation of teaching materials with the category of "very good" namely the assessment of the material aspects reached 92.29% with very good criteria, assessment of aspects of attraction reached 93.831% with a very good category, the assessment of learning independence aspects reached 94.16% with a very good category, and the assessment of the presentation of teaching material aspects reached 94.79% with a very good category. Then the average score of 93.76% was obtained by very good category. This means that the teaching materials based on critical thinking that had been developed was declared worthy and met the needs, with the overall criteria "very good".

Based on the discussion, it could be concluded that the teaching material based on critical thinking in writing explanatory texts was very worthy because it had been validated by material experts and design experts and with the category of "very good". This was also evident from the results of the trials and responses of teachers and students with category of "very good". This teaching material could be used by students and teachers in the learning process.

The Effectiveness of Teaching Materials

The effectiveness of teaching materials could be seen from student learning outcomes after using teaching materials that had been developed. If student learning outcomes increase after using teaching materials, it means that the teaching materials are effectively used in explanatory text writing activities. The effectiveness test was done in two stages, namely the learning stage before using a module based on critical thinking (pretest) and the stage after using a module based on critical thinking (posttest).

Based on the data obtained, the results of testing the effectiveness of teaching materials based on critical thinking in the explanatory text were as follows.

a) The pretest conducted on 30 students, namely in the form of explanatory text writing tests before using teaching materials based on critical thinking developed, reached a total value of 1995 with a percentage of 66.5% on the criteria "good".
b) Posttests conducted on 30 students, namely in the form of explanatory text writing tests after using critical thinking-based teaching materials, reached a total value of 2465 with an average value of 82.17% on the criteria "very good".

Effectiveness was calculated by dividing the number of scores obtained by the ideal score and multiplied them by 100%. It was found that the pretest value (using textbooks commonly used in SMP Perguruan Islam Amalia Medan) obtained a score of 1996 with an ideal score of 3000, the effectiveness score was obtained as follows:

$$Effectiveness = \frac{number\ of\ score\ obtained}{number\ of\ ideal\ score}\ x\ 100\% = \frac{1995}{3000}\ x\ 100\% = 66,5\ \%$$

It was known that the posttest value (using a module based on critical thinking) obtained a score of 2465 with an ideal score of 3000, then the effectiveness score was obtained as follows:

$$Effectiveness = \frac{number\ of\ score\ obtained}{number\ of\ ideal\ score}\ x\ 100\% = \frac{2465}{3000}\ x\ 100\% = 82,17\%$$

Based on the explanation above, the effectiveness of the students' pretest and posttest scores could be seen in the following table.

Table 1. Comparison of Pretest and Posttest Scores

No.	Group	Score	Difference
1.	**Before** (*pretest)*	66,5%	15,67%.
2.	**After** (*posttest)*	82,17%	

Based on the description of the pretest and posttest results above, the percentage difference between the pretest and posttest scores was 15.67%. This meant that the effective contribution of using module-based critical thinking on explanatory text material was 15.67%.

CONCLUSION

Based on the research findings and discussion on developing teaching materials based on critical thinking in learning explanatory text writing in grade VII of SMP Perguruan Islam Amalia Medan, it could be concluded as follows.

1. The first development carried out in this study was the design of development to find potential and problems. Potential and problems could be found through observation, interviews, and needs analysis. Based on the data obtained, teachers and students only used teaching materials in the form of textbooks issued by the government. Teaching materials on explanatory texts contained in the 2013 curriculum student book were still limited and the teacher had never developed teaching materials. While the questionnaire analysis of teachers and students' needs showed that both teachers and students needed teaching materials based on critical thinking in learning to write explanatory texts.

2. Based on the results of the worthiness of teaching materials based on critical thinking in explanatory text, the assessment of material experts on content aspect was an average score of 88.28% with very good criteria. In the presentation aspect, the average score was 86.53% with very good criteria, and in the language assessment aspect, the average score was 80.77% with very good criteria. Then the conclusion based on validation assessment by material experts was that an average total score was 85.20% with very good criteria.

   The assessment of design experts on material based on critical thinking in the module size aspect obtained an average score of 100% with very good criteria. On the cover design aspect, the average score was 83.3% with very good criteria, and on the design aspect of the module content, the average score was 83.55% with very good criteria. Then the conclusion based on validation assessment by design experts was that the average total score was 84.58% with very good criteria.

   Teacher's assessment of teaching materials based on critical thinking in learning to write explanatory texts was a criterion of "very good" with a total average percentage of 89.84%.

   Students' assessment of teaching materials based on critical thinking in explanatory text writing learning was the criterion of "very good" with a total average percentage of 85.48% in individual trials, the result of small-scale trial was an average score of 90.42% and the result of a large-scale trial was an average score of 93.76%.

3. The effectiveness of teaching material based on critical thinking was by giving the tests to students about explanatory text materials. The test results revealed that student learning outcomes before (pretest) using teaching materials based on critical thinking reached an average value of 66.5% and after (posttest) using module based on critical thinking in learning activities increased by 15.67% to 82.17%. The results of these data indicated that teaching materials based on critical thinking were declared effective to be used in learning explanatory text material to grade VII students at SMP Perguruan Islam Amalia Medan.

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