DEVELOPMENT OF TEACHING MATERIALS BASED ON CASE-BASED LEARNING ON STATISTICS

Dewi Nur Fauzia*, Dindin Sobiruddin, Khairunnisa

UIN Syarif Hidayatullah Jakarta, Jl. Ir. H. Juanda No.95, Banten, Indonesia
*Email : dewi.nurfauzia35@gmail.com

Abstract

This research is motivated by the limited use of mathematics teaching materials in schools. This research aims to develop teaching materials based on Case-Based Learning on Junior High School statistics in Grade VIII. This teaching material has systematically arranged using Case-Based Learning steps. The Teaching Materials were developed to consist of 3 learning activities: 1) Data Analysis, 2) Mean, Median, Mode, and 3) Range and Quartile. The research method used is the research and development method with the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) development model. Teaching materials go through the validation and limited trial stage on five aspects: content feasibility, language, presentation, graphics, and Case-Based Learning. The results showed that the teaching materials developed have Very Valid criteria based on the Validator's assessment. It is getting a V Aiken coefficient of 0.8890, while the students' responses resulted in 82.33% on very feasible criteria. So we can conclude that the Case-Based Learning teaching materials on Statistics material are suitable to be used as a support for learning mathematics in schools.

Keywords: teaching materials, case-based learning, statistics, ADDIE development model

Abstrak

Penelitian ini dilatarbelakangi terbatasnya penggunaan bahan ajar matematika di sekolah. Penelitian ini bertujuan untuk mengembangkan bahan ajar Case-Based Learning pada Materi Statistika untuk SMP/MTs kelas VIII. Bahan ajar ini disusun secara sistematis menggunakan langkah-langkah pembelajaran Case Based Learning. Bahan ajar yang dikembangkan terdiri dari tiga kegiatan belajar, yaitu: 1) Menganalisis Data; 2) Mean, Median, dan Modus; dan 3) Jangkauan dan Kuartil. Metode penelitian yang digunakan adalah metode penelitian dan pengembangan (Research and Development) dengan model pengembangan ADDIE (Analysis, Design, Development, Implementation, dan Evaluation). Bahan ajar melalui tahap validasi dan ujicoba terbatas pada 5 aspek, yaitu: kelayakan isi, kebahasaan, penyajian, kegrafikan, dan Case-Based Learning. Hasil penelitian menunjukkan bahwa bahan ajar yang dikembangkan memiliki kriteria sangat valid berdasarkan penilaian validator dengan koefisien V Aiken sebesar 0,889 dan respons peserta didik terhadap bahan ajar sebesar 82,33% atau sangat layak. Kesimpulan penelitian ini bahwa bahan ajar berbasis Case-Based Learning pada materi Statistika ini layak untuk digunakan sebagai penunjang pembelajaran matematika di sekolah.

Kata kunci : bahan ajar, case based learning, statistika, model pengembangan ADDIE

INTRODUCTION

Teaching materials are important for teachers and students (Nasution, 2016), included in mathematics learning. Without complete teaching materials, teachers will experience difficulties in improving the quality of learning. Likewise, students will have difficulty learning if the learning process does not use good teaching materials (Nasution, 2016). This is because teaching materials can help students anticipate if the teacher is unclear or too fast in explaining the learning material. So, good teaching materials can help students understand the learning material. Therefore, teaching materials and developing teaching materials are very important things to do to improve the quality of learning (Sungkono, 2009).

However, in reality, the use of teaching materials that support Mathematics learning objectives, especially at the junior high school level, is still lacking, because teachers are still oriented to existing printed textbooks, without using the help of other teaching materials (Pratiwi, 2018). The results of observations made by researchers at one of Islamic Junior High School in Jakarta on January 20-25, 2020, show that the teaching materials used by Mathematics subject teachers are still limited. The teaching materials that the teacher uses are printed books that students also own, or if some material has deemed lacking, the teacher will add it from several other books or the internet.

The limited use of teaching materials has also occurred in several schools in Pringsewu District, Lampung. Based on the results of an interview with one of the grade IX students of State MTs in Pringsewu Regency, Lampung, the learning activities that took place at school used a printed book containing only material summaries, sample questions, and question exercises. However, during the Covid-19 pandemic like today, learning was carried out online through Google Classroom. The teacher uploads a photo to Google Classroom, containing a summary of the material accompanied by sample questions and practice questions. Then the teacher instructs the students to take notes and do the practice questions. Before the pandemic, students still had printed books as teaching materials. Still, during the Covid-19 pandemic like today, students did not have enough teaching materials, and the teacher advised them to find additional references independently.

The Covid-19 pandemic occurs in all parts of the world, so the learning process must still be carried out with more innovative, flexible teaching materials are needed and can be used even without face-to-face interaction between teachers and students. Also, teachers should be able to prepare Mathematics teaching materials that contain activities that can actively involve students and choose appropriate learning strategies and approaches so that the learning experienced by students will be more meaningful and student Mathematics learning outcomes can be better.

One way to make student learning meaningful can be done by introducing students to the problem in real world (Aisyah, Gipayana, & Djatmika, 2017). This can be done through Case-Based Learning, because Case-Based Learning Contains problem related to the environment, conditions, situations, or a picture of the student's future (Syarafina, Dewi, & Amiyani, 2017). According to Ertmer & Russel (Stanley, 2019), Case-Based Learning has defined as a learning method that requires students to actively participate in real problems, reflecting on some of the natural experiences encountered in the disciplines under study. Case-Based Learning also requires students to solve cases, make conclusions or make decisions on relevant cases to student's real life. So that students can not only solve cases or problems theoretically or only use mathematical procedures, but students must also reason and consider whether the decision that becomes the solution of the case can be relevant if applied back to real life (Syarafina, Dewi, & Amiyani, 2017).

We choose Statistics material because Statistisc have widely used in the field of everyday life. For example, Statistics had used as quick counts during the election. Recently, data has spread all around us. For example, data on the number of Covid-19 patients have presented using Statistics. This is in line with Moore's opinion (Garfield & Ben-Zvi, 2008), "Statistics is a general intellectual method that applies wherever data, variation, and chance appear. It is a fundamental method because data, variation, and chance are omnipresent in modern life". Therefore it is essential for us, especially students, to be able to master Statistics. There are several advantages of using Case-Based Learning in learning; namely, students can apply theory to real contexts, train students to think critically about complex situations, and determine actions to take, develop self-knowledge, compare and evaluate their perspectives with other people's perspectives. (HM., 2009). Also, Case-Based Learning trains students to make decisions and make conclusions, and this is in line with Basic Competence in Statistics learning at the Junior High School, especially class VIII, where students have expected to be able to conclude, make decisions, and make predictions based on existing data (Permendikbud, 2016). The stages in the Case-Based Learning used in this study are: set the cases; analyzing cases; independently find information, data, and literature; determine the settlement steps of the cases that have been provided; make conclusions from the answers discussed together; presentation, improvement.

Based on the description above, the researcher researched to develop teaching materials based on case-based learning in the statistics chapter. This study aims to determine the feasibility of teaching materials based on Case-Based Learning on Statistics material.

METHOD

This study used the Research and Development (R&D) method and produces Case-Based Learning teaching materials. The subjects in this study were 10 students of class in of of the Islamic

school in Jakarta. The development of Case-Based Learning teaching materials in this study uses the ADDIE development model (analysis, design, development, implementation, and evaluation).

It is necessary to analyze several things at the **analysis** stage, namely: Curriculum Analysis and Field Study Analysis. Activities carried out in this stage, researchers analyze the curriculum used in schools, and analyze how the state of learning that occurs in schools, such as teaching materials used in schools. In the **design** stage, the development of learning objectives has been carried out, the preparation of the teaching materials, and the criteria for evaluating the teaching materials to be developed. In this stage, the researcher will also determine the place, students, teachers, and experts involved in this development research. The third stage is **development**. In this stage, the researcher develops instructional material so that the products that will be produced in the development of this teaching material are in the form of Case-Based Learning on Statistics material. The teaching material must have validated by experts and analyzed based on the calculation of the V Aiken coefficient (Retnawati, 2016). Furthermore, the **implementation** stage was limited to 10 students due to the Covid-19 pandemic, which resulted in learning was carried out online. In this stage, students fill in one section of Case-Based Learning teaching materials that experts have validated. The next stage is an **evaluation** in which students fill out a questionnaire to assess teaching materials. In this assessment questionnaire, there are several aspects of teaching materials that are assessed by students, namely, the feasibility of content, language, presentation, graphics (Depdiknas, 2008) and Case-Based Learning. Before being given to students, the questionnaire was validated by a linguist and declared valid. Then students fill out the questionnaire. Based on the results of the assessment of teaching materials by these students, the percentage of product eligibility was calculated using the product eligibility criteria proposed by Riduwan & Akdon (2015) and then adapted, as used by Ayu & Lepiyanto(2019); Ningsih & Pritandhari (2019); and Saputra, Falahudin, & Testiana (2016).

RESULTS AND DISCUSSION
Results
1. Analysis

Based on the curriculum analysis, this study used Statistics material for class VIII in Junior High School, which had compiled with reference to KD 3.10 and 4.10 in the revised 2013 curriculum. The field study analysis was carried out by distributing questionnaires to class VIII MTs Negeri 3 Jakarta. The questionnaire results indicate that during active learning in schools, students use sourcebooks that are usually purchased, namely sourcebooks that had not borrowed from the library. However, when Distance Learning is implemented today, students focus more on PowerPoint provided by subject teachers as the central learning resource and no longer use

textbooks. The PowerPoint has given by the teacher on the Schoology web, and then the teacher explains the PowerPoint through Zoom.

2. Design

Several things had done in the design stage, namely in the form of learning objectives formulation, preparation of teaching materials and materials, and criteria for evaluating teaching materials to be developed. The learning objectives to be achieved in this teaching material are 1) Students can analyze data based on data distribution, mean, median, mode, and data distribution to draw conclusions, make decisions, and make predictions; 2) Students can present and solve problems related to data distribution, mean, median, mode, and data distribution to draw conclusions, make decisions, and make predictions. The statistical material used in this study consists of data centering measures, namely the mean, median, and mode; and data dissemination measures consisting of range, quartile, and interquartile. Furthermore, teaching materials had assessed and validated based on the eligibility criteria for content, language, presentation, graphics, and Case-Based Learning. Teaching materials had validated by UIN Mathematics Education lecturers and Mathematics teachers from MTsN 3 Jakarta and SMPN 19 Pesawaran. Then the teaching materials would be implemented to 10 students of MTs N 3 Jakarta.

3. Development

The teaching materials consist of three chapters: Chapter I Introduction, Chapter II Learning, and Chapter III Evaluation. Chapter I consists of descriptions, prerequisites, instructions for using teaching materials, explanations for students, the role of the teacher's final goal, competence, and ability checks. Chapter II consists of student learning plans, learning activities I, learning activities II, and learning activities III. There are several illustrations of cases in each learning activity related to everyday life where the answer process has carried out using the Case-Based Learning stage. Chapter III consists of Cognitive Abilities, Attitude Abilities, Psychomotor Abilities, Work Objects in Accordance with Criteria, Time Limits, and Answers.

Here are some views in the teaching materials developed, namely Front Cover of Teaching Materials, Case Illustration, and Worksheet.
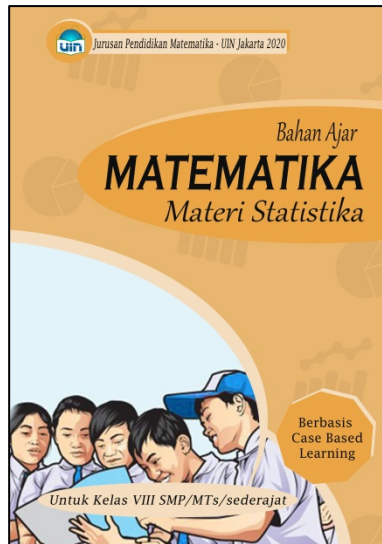
Figure 1. Front Cover of Teaching Materials

Figure 1 is a front cover view of teaching materials made using Photoshop software with images downloaded from Google. The front cover contains the title of the teaching material and the subject matter. The picture on the front cover of the teaching material is a picture of several children reading a book together.

Furthermore, the case illustration is shown in Figure 2 as follow.

Figure 2. Display Case Illustration

Figure 2 is a display case illustration. Case illustrations have been contained in each learning activity, precisely after the introduction of the sub-material. This case illustration includes case introduction and case resolution steps according to the sub-material being studied.

The worksheet view is shown in Figure 3 as follow.

Lembar Kerja

Nama :
1. ....
2. ....
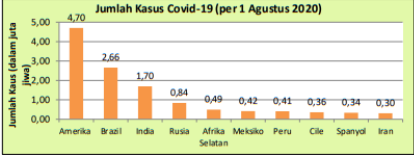3. ....
4. ....

Kelas :
Sub Materi : Menganalisis Data
Petunjuk kerja:
1. Buatlah kelompok yang terdiri dari 3-4 orang!
2. Diskusikanlah bersama temanmu untuk menyelesaikan lembar kerja berikut!
3. Bertanyalah pada guru jika terdapat hal yang kurang dimengerti!
4. Manfaatkan beberapa sumber lain jika diperlukan untuk menambah informasi!

Ilustrasi Kasus

Menetapkan Kasus

Covid-19 Terjadi diberbagai Negara di Dunia

Seperti yang kita ketahui, Covid-19 terjadi diberbagai negara di penjuru dunia. Menurut Kompas.com, terdapat 193 negara di dunia yang terinfeksi virus Corona. Dari jumlah tersebut, berikut ini merupakan data 10 negara dengan kasus Covid-19 yang tertinggi di dunia[10]

Gambar 18. Covid Dunia

Jumlah Kasus Covid-19 (per 1 Agustus 2020)

Amerika 4,70; Brazil 2,66; India 1,70; Rusia 0,84; Afrika Selatan 0,49; Meksiko 0,42; Peru 0,41; Cile 0,36; Spanyol 0,34; Iran 0,30

Jumlah Kaus (dalam juta jiwa)

Gambar 19. Diagram Batang Jumlah Kasus Covid-19

Dengan tetap menerapkan protokol kesehatan Covid-19, seorang pengusaha diharuskan melakukan perjalanan bisnis dengan mengunjungi dua negara dari 10 negara di atas, dengan syarat masih terletak dalam satu benua. Namun setelah melihat berita yang menampilkan jumlah kasus Covid-19 tersebut, pengusaha tersebut menjadi ragu. Dari ke-10 negara tersebut, maka negara yang mana sajakah yang memiliki resiko paling rendah untuk dikunjungi oleh pengusaha tersebut?

Menurutmu, masalah apa saja yang terdapat dalam kasus tersebut?

....

Menganalisa Kasus

Yang perlu diketahui untuk menyelesaikan kasus:
1. Asal benua dari 10 negara tersebut
2. Jumlah kasus Covid-19 dari dua negara yang masih terletak dalam 1 benua

Menemukan Secara Mandiri Informasi Data dan Literatur Tambahan

Kelompokkanlah negara-negara tersebut berdasarkan asal benuanya.

Tabel 2. Klasifikasi Negara berdasarkan Benua Asal

No	Afrika	Amerika	Asia	Australia	Eropa
1.	Afrika Selatan	Amerika	....	....	....
2.	-	Brazil	....	....	....
3.	-	Meksiko	....	....	....
4.	-	....	....	....	....
5.	-	....	....	....	....

Menentukan Langkah Penyelesaian

Dari 10 negara tersebut, pasangkan masing-masing dua buah negara yang berasal dari satu benua, dan tentukan jumlah Kasus Covid dari dua negara tersebut

a. Benua Afrika = 0,49 juta jiwa
b. Benua Amerika
   Amerika + Brazil = 4,7 + 2,66 = ... juta jiwa
   Amerika + Meksiko = 4,7 + 0,42 = ... juta jiwa
   Amerika + ... = 4,7 + ... = ... juta jiwa
   Amerika + ... = 4,7 + ... = ... juta jiwa
   Brazil + Meksiko = 2,66 + 0,42 = ... juta jiwa
   Brazil + ... = 2,66 + ... = ... juta jiwa
   Brazil + ... = 2,66 + ... = ... juta jiwa
   Meksiko + ... = 0,42 + ... = ... juta jiwa
   Meksiko + ... = 0,42 + ... = ... juta jiwa
   .... + ... = ... + ... = ... juta jiwa
c. Benua Asia
   .... + ... = ... + ... = ... juta jiwa
d. Benua Australia
   .... + ... = ... + ... = ... juta jiwa
e. Benua Eropa
   .... + ... = ... + ... = ... juta jiwa

Mengemukakan Pendapat

Dari informasi yang telah dikumpulkan, tentukan negara mana sajakah yang dapat dikunjungi oleh pengusaha tersebut. Kemukakanlah pendapat kalian satu persatu!

1. ....
2. ....

3. ....
4. ....

Membuat Kesimpulan

Buatlah kesimpulan berdasarkan seluruh informasi di atas!

....

Presentasi

Buatlah ilustrasi singkat/peta pikiran/bagan/hal-hal yang penting mengenai hasil yang akan dipresentasikan!

Presentasikanlah hasil dari diskusi bersama teman-teman!

Figure 3. Worksheet View

Figure 3 is a worksheet view. Worksheets contain illustrated cases that students must solve in groups. In this worksheet, there is a case-solving flow using the Case-Based Learning model. Consisting of set the cases; analyzing cases; independently finding information, data, and literature; determining the settlement steps of the cases provided; making conclusions from the answers discussed together; presentation, and improvement.

Teaching materials based on Case-Based Learning obtained validation results of 0.8890, which, based on V Aiken's validity criteria, had categorized as Very Valid. The teaching materials were then tried out. The following is a description of the assessment of teaching materials by experts as a whole. The average results of the validation of teaching materials for each validated aspect is shown in Figure 4.
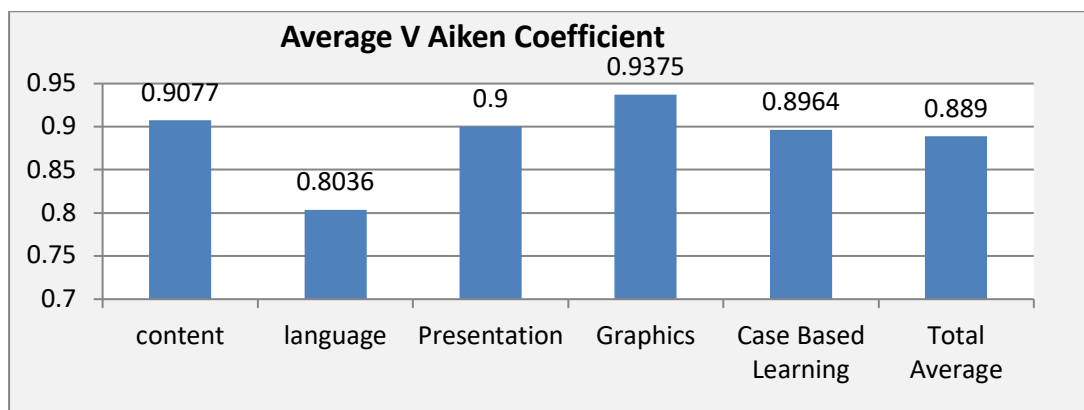

Figure 4. Result of Assessment by Validator

Based on the eligibility criteria for teaching materials using V Aiken, as seen in Figure 4, assessment aspect of Case-Based Learning teaching materials obtained the Very Valid category. Then the teaching material is revised based on criticism and suggestions from the Validator.

4. Implementation

Teaching materials were tried out to 10 (ten) grade VIII students. Students are asked to fill in the Learning Activity section 1 in the teaching material. The following are some examples of how students work with teaching materials.

In the Worksheet section, there are steps for Case-Based Learning. The following are some of the students' answers in the first stage, namely determining cases. In this stage, a case is provided, and students have asked to analyze what problems are contained in the case. And in this stage, students' answers are obtained, which are quite diverse.

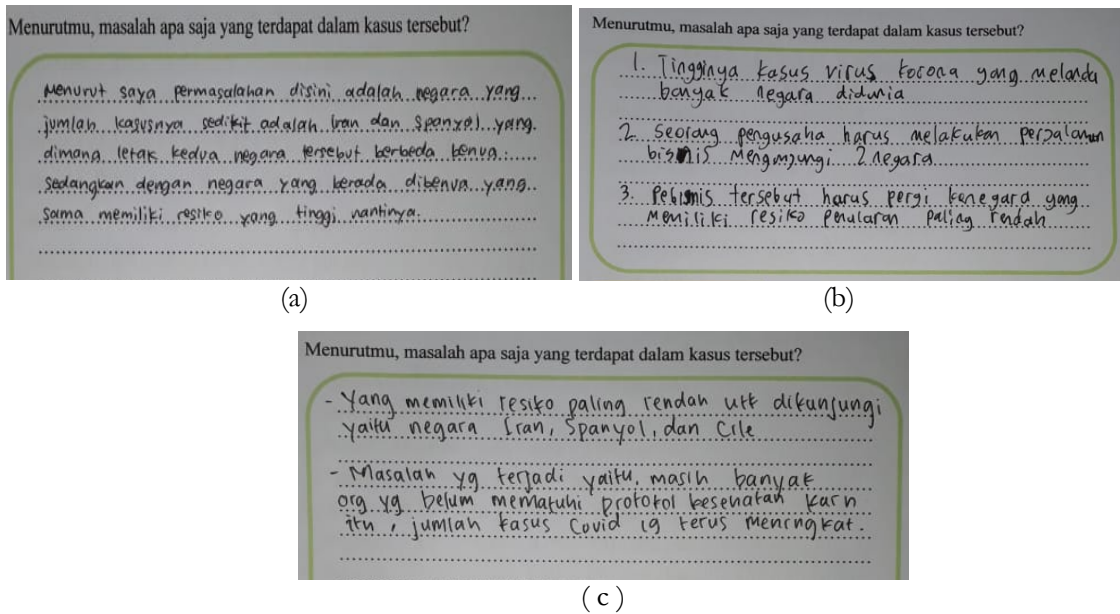The example of the student's answers is shown in Figure 5 as follow.

(a)

(b)

(c)

Figure 5 (a), (b), dan (c) Examples of Worksheet Work by Students

Based on some of the student's answers on Figure 5, it can be seen that students can analyze cases based on their opinions about the case.

Furthermore, in the stages of analyzing the case and the stages of independently finding additional data and literature, most students answered the same thing. Still, there was one student who was slightly different from his friends. The following is an example of working with teaching materials by students at the stage of 'independently finding additional data and literature' as shown in Figure 6.
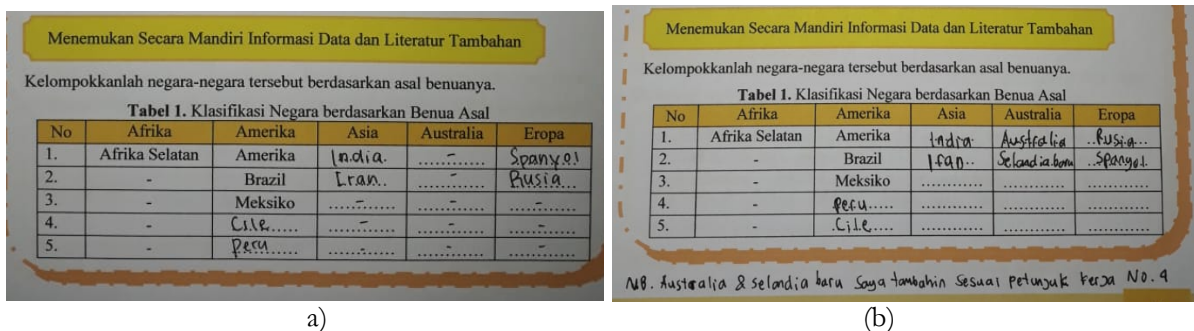

a)

(b)

**Figure 6**. (a) dan (b). Examples of Worksheet Work by Students

Figure 6 (a) is an example of student answers in general, while the answer in Figure 6 (b) is one of the answers of students who have their initiative. The student who has the answer in Figure 6 (b) adds a separate note at the bottom of the table provided. The student noted that he added Australia and New Zealand to his initiative. This he did because, in his opinion, Australia and New Zealand were two countries with a relatively low number of Covid-19 cases, and the two countries were on one continent.

Furthermore, determining the steps for completion, most students answered the same thing and were correct. In the stage of expressing opinions, there are several differences in student

answers. Students who added Australia and New Zealand gave answers as shown in Figure 7 (a), while some students generally answered as shown in Figure 7 (b).
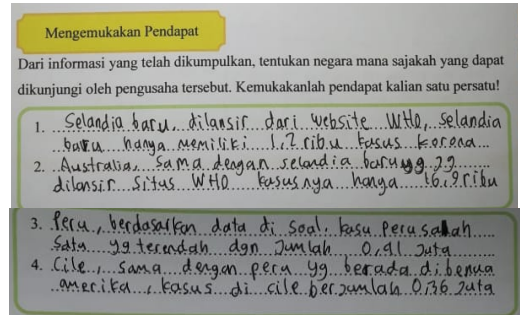

(a)
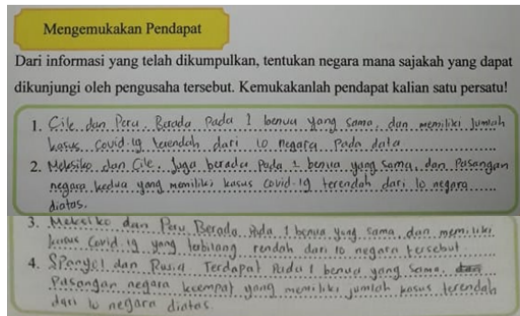
(b)

Figure 7. (a) dan (b) Examples of Student Work on the Stage of Expressing Opinions
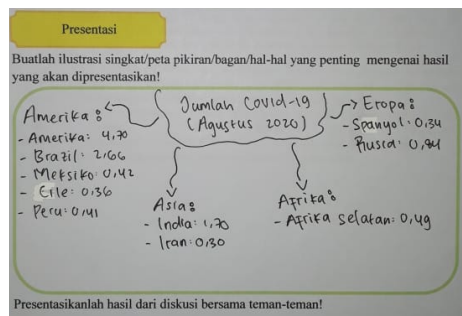
For the next stage, namely making conclusions and the Presentation stage, there are also several differences in student answers, especially in the way students create mind maps or charts at the presentation stage. Here are some examples of how students work on the presentation stage as shown in Figure 8.
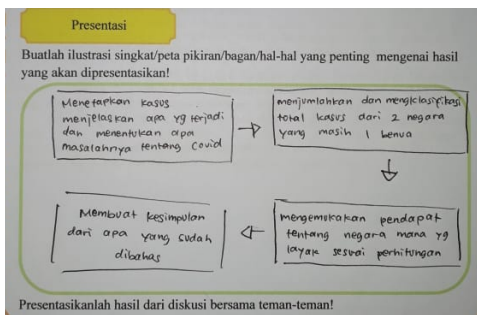
(a)
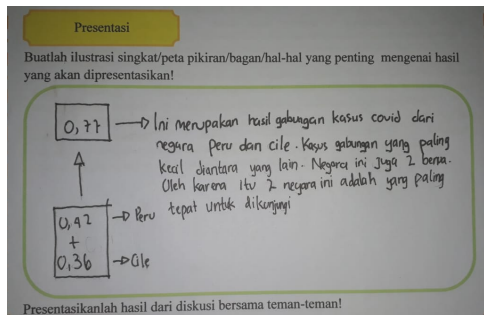
(b)

(c)

Figure 8. (a), (b), (c) Examples of Working on Worksheets in the Presentation Stage by Students

Based on some of the answers in Presentation stage, some students make charts by making the flow of case settlement, starting from determining cases to making conclusions, as shown in Figure 8(a). Besides, some students explain the final result of solving the case, as in Figure 8(b). Also, some students describe the data available in the case shown in Figure 8 (c). Based on the student's answers above, it can be seen that students' answers are quite diverse according to their individual opinions.

5. Evaluation

Students assess the entire teaching material, namely Content Feasibility Aspects, Language Aspects, Presentation Aspects, Graphic Aspects, and Case-Based Learning Aspects. The following diagram shows the average percentage of the feasibility of teaching materials for each aspect assessed by students.
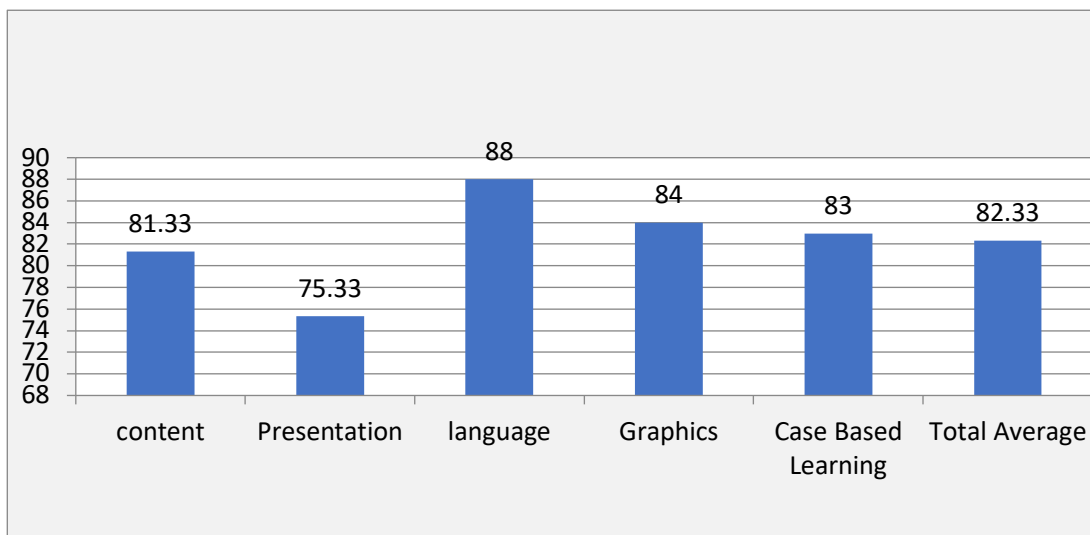

Figure 9. Percentage of Students Assessment Results

Based on students' results, one aspect of the assessment of teaching materials, namely the Presentation aspect, received the Eligible category, and the other four aspects received the Very Appropriate category. Overall, the assessment of teaching materials based on Case-Based Learning obtained the Very Appropriate category.

Discussion

This research is motivated by the limited use of mathematics teaching materials in schools. (Pratiwi, 2018). This study aims to develop Case-Based Learning teaching materials on Statistics Materials for SMP/MTs class VIII. Based on the research results, the Case-Based Learning teaching materials on Statistics Materials developed were declared to be very valid based on expert validation, and very feasible based on student assessments. Based on research conducted by Muhammad Japar on junior high school students in Jakarta in the subject of Citizenship Education (Japar, 2018), case-based learning facilitates students to think critically, analyze and act

democratically demands that teachers be able to teach pedagogical practices in their learning effectively. In a study conducted by Azzka Azzahra on Biology subjects, students in classes taught with CBL had higher average learning outcomes than students in control classes (Azzahra, 2017). Furthermore, in the research "Development of Case Based Teaching Materials in the Course of Economic and Business Law Aspects" conducted by Sriyani Mentari and Nujmatul Laily, the results of the validation of teaching materials show that: the case examples used are relevant and original and can motivate students to think critically (Mentari & Laily, 2014). In Mathematics subject, a research was conducted on "The Effect of Case Based Learning Method on Mathematical Critical Thinking Ability" conducted by Shofika Nurul Laili, in 2015. This study aims to determine the effect of Case Based Learning method on mathematical critical thinking skills in grade VIII students at SMP Adzkia Islamic School. In this study, it was concluded that the critical thinking ability of students who were taught using the Case-Based Learning method was higher than the critical thinking ability of students who were taught using the lecture method (Laili, 2015).

In this study, based on the student's answers above, it can be seen that students' answers are quite diverse according to their individual opinions. So we can say that this teaching material can facilitate students to practice thinking skills, communication skills, and students' research and analysis skills, same as the learning objectives of Case-Based Learning (Syarafina, Dewi, & Amiyani, 2017). The ability to research and analyze students has trained by filtering which information is useful and less useful in solving cases. The ability to communicate can be trained by how students communicate the ideas that arise in students' minds on the case. In addition, thinking skills can be trained by students making conclusions based on solving the case so that it can be concluded that this teaching material is in accordance with the objectives of Case-Based Learning.

CONCLUSION

Based on expert validation, Case-Based Learning teaching materials on Statistics obtained the category as Very Valid. Furthermore, based on trials on ten students of class VIII Junior High School, the results show that the Case-Based Learning teaching materials on Statistics material are categorized as Very Appropriate.

Suggestions for other researchers who want to develop research in the form of teaching materials, namely, pay attention to selecting colors, pictures, tables, diagrams, and the size of the writing used in teaching materials so that the teaching materials could be read clearly. In addition, suggestions for other researchers when preparing student response questionnaires, especially on aspects of Case-Based Learning, so that the indicators of the statement can be more specific and focus on the characteristics of Case-Based Learning. In this study, researchers developed teaching

materials based on Case Based Learning on Statistics material for class VIII SMP/MTs, for other researchers it is expected that they can develop mathematics teaching materials on other materials.

ACKNOWLEDGMENTS

REFERENCES

Aisyah, D. W., Gipayana, M., & Djatmika, E. T. (2017). Mengembangkan Kebermaknaan Belajar dengan Rancangan Pembelajaran Tematik Bercirikan Quantum Teaching. *Seminar Nasional Mahasiswa Kerjasama Direktorat Jenderal Gurudan Tenaga Kependidikan Kemendikbud 2016*, (hal. 2).

Ayu, Y. P., & Lepiyanto, A. (2019). Pengembangan Modul Berbasis POE (Predict Observe Explain) Terintegrasi Nilai Keislaman Materi Jaringan Tumbuhan. *Jurnal Bioterdidik*, 59.

Azzahra, A. (2017). *Pengaruh Model Case Based Learning (CBL) terhadap Hasil Belajar Biologi Siswa pada Konsep Jamur*. Jakarta: Skripsi UIN Jakarta.

Depdiknas. (2008). *Panduan Pengembangan Bahan Ajar*.

Garfield, J. B., & Ben-Zvi, D. (2008). *Developing Students, Statistical Reasoing : Connecting Research and Teaching Practise*. Springer Science+Bussiness Media B.V.

HM., J. (2009). *Filosofi, Pendekatan, dan Penerapan Pembelajaran : Metode Kasus untuk Dosen dan Mahasiswa. .* Yogyakarta: ANDI.

Japar, M. (2018). The Improvement of Indonesia Students 'Engagement in Civic Education through Case-Based Learning. *Journal of Social Studies Education Research*, 27-44.

Laili, S. N. (2015). *"Pengaruh Metode Case Based Learning terhadap Kemampuan Berpikir Kritis Matematis.* Jakarta: Skripsi Pendidikan Matematika, FITK UIN Jakarta.

Mentari, S., & Laily, N. (2014). Pengembangan Bahan Ajar Berbasis Kasus (Case-Based) pada Mata Kuliah Aspek Hukum Ekonomi dan Bisnis. *Journal of Accounting and Business Education.*

Nasution, A. (2016). Pengembangan Modul Matematika Berbasis Masalah untuk Meningkatkan Kemampuan Pemecahan Masalah Matematika Siswa. *Jurnal Rekognisi: Jurnal Pendidikan dan Kependidikan*, 50.

Ningsih, S. A., & Pritandhari, M. (2019). Pengembangan Media Pembelajaran Ludo Pada Mata Pelajaran Ekonomi Kelas XI SMA Purnama Trimurjo. *Jurnal Promosi: Jurnal Pendidikan Ekonomi UM Metro*, 54.

Permendikbud. (2016). *Permendikbud No.24 Tahun 2016, Lampiran Kompetensi Inti dan Kompetensi Dasar Matematika SMP/MTs.*

Pratiwi, M. N. (2018). Analisis Kebutuhan Bahan Ajar Matematika untuk Meningkatkan Berpikir Kritis dan Kreatif Siswa. *Seminar Nasional Pendidikan Matematika Ahmad Dahlan 2018*, (hal. 534). Yogyakarta.

Retnawati, H. (2016). *Analisis Kuantitatif Instrumen Penelitian: Panduan Peneliti, Mahasiswa dan Psikometrian.* Yogyakarta: Parama Publishing.

Riduwan & Akdon. (2015). *Rumus dan Data Analisis Statistika.* Bandung: Alfabeta.

Saputra, R., Falahudin, I., & Testiana, G. (2016). Pengembangan Bahan Ajar Matematika Berbasis Komputer untuk Siswa Kelas VIII DI SMP Negeri 19 Palembang. *Jurnal Pendidikan Matematika: JPM RAFA*, 259.

Stanley, T. (2019). *Case Studies and Case-Based Learning : Inquiry and Authentic Learning That Encourages 21st-Century Skills.* United States: Prufrock Press.

Sungkono. (2009). Pengembangan dan Pemanfaatan Bahan Ajar Modul dalam Proses Pembelajaran. *Majalah Ilmiah Pembelajaran.*

Syarafina, D. N., Dewi, E. R., & Amiyani, R. (2017). Penerapan Case Based Learning (CBL) sebagai Pembelajaran Matematika yang Inovatif. *Seminar Matematika dan Pendidikan Matematika UNY*, (hal. 244). Yogyakarta.