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Development of Indonesian Language Learning Media Based on Learning Cycle 5E Using Adobe Animate Software on Reading and Reading Comprehension Material for Grade 3 Elementary School

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***Abstract*— This study aims to (1) describe the specifications of Indonesian language learning media based on Learning Cycle 5E using Adobe Animate software on Reading and understanding reading materials for grade 3 elementary school that were developed and (2) describe the results of expert assessments, peer reviewers, education practitioners, and students from Indonesian language learning media based on Learning Cycle 5E using Adobe Animate software on Reading and understanding reading materials for grade 3 elementary school that were developed and reviewed from the aspects of software engineering, learning design, and visual communication . The research method used is the development method with a 4-D model consisting of four stages, namely the define, design, develop, and disseminate stages. The data used are qualitative and quantitative data. The data sources in this study were two experts, five peer reviewers (students), three education practitioners (teachers), and 100 elementary school students in Lebak Regency. Data collection techniques used questionnaire and interview techniques. Data analysis used the trait category carried out by Azwar. The conclusions that can be drawn from this study are (1) the specifications of the media developed have 4 menus, namely information, competence, material, exciting reading, and evaluation. The information menu contains instructions for using media, learning media developers, reference sources. The competency menu contains core competencies, basic competencies, competency achievement indicators, concept maps, competency maps. The material menu contains 2 sub-materials, namely fictional reading material and non-fiction reading material. The evaluation menu contains 25 multiple-choice questions that can be worked on via office forms with a time of 40 minutes. The application is 78 MB in size and can be accessed offline and online. (2) Learning media based on Learning Cycle 5E using Adobe Animate software on reading and reading comprehension materials meets the criteria of very good based on aspects of software engineering, learning design, and visual communication reviewed from the results of expert validation, peer reviewers, education practitioners, and students.**

Keywords— ***Adobe Animate; Learning Cycle 5E; Learning Media; Indonesian Language Learning***

I. INTRODUCTION

The Indonesian language subject is a compulsory subject in Elementary Schools according to the curriculum implemented in Indonesia. Reading and understanding reading is one of the materials studied in the curriculum. However, in implementing Indonesian language learning with the material of writing letters in Elementary Schools in Lebak Regency, there are many obstacles faced by teachers, including: (1) teaching aids that are still lacking, (2) teaching materials/materials that are still difficult to obtain in the library, (3) student activity that is still low in learning, (4) students are not/less creative and innovative in understanding the contents of the reading, (5) learning outcomes (subject scores) in the form of assignments/practice or exercises are generally still low, (6) students often ignore Indonesian language lessons because they only focus on exact subjects and local content (English) which are considered more difficult. The Indonesian language subject studied in Elementary School Grade 3 based on the Education Unit Level Curriculum includes aspects of listening, speaking, reading and writing. In this study, the Indonesian language material studied is the aspect of reading and understanding reading in fiction and non-fiction readings.

Learning media is a vehicle and delivery of information or learning messages to students. With the presence of media in the teaching and learning process, it is hoped that it can help teachers to improve student learning achievement. Material packaged through media programs will be clearer, more complete, and more interesting for students[1]. Learning media is also able to present material that can arouse students' curiosity, stimulate students to react physically and emotionally [2]. The development of science and technology encourages innovation efforts in the use of technological results in the learning process. The development of information and communication technology (ICT) can be used as a learning resource and learning media[3]. Learning media is used as a communication and information tool during the teaching and learning process. The media functions as an intermediary that helps facilitate understanding and communication between teachers and students [4]. By using appropriate learning media, messages and information can be conveyed more effectively, facilitate better understanding, and increase interaction in the teaching and learning process [5]. When selecting learning media, there are criteria that are considered, namely having relevant learning objectives, supporting the content of learning materials, availability of media, teacher skills in using media, and suitability of students' thinking levels [6]. Information technology-based learning media can overcome the problem of learning Indonesian regarding reading concepts that are difficult to understand by displaying animations and videos [7]. Information technology-based learning media can bring difficult-to-understand concepts to life with static visualizations and dynamic visualizations. Adobe Animate CC is an application that can be used to create learning media. This application is a development of Adobe Flash Professional CC, with several enhanced features, such as the use of HTMLS Canvas and WebGL.

Based on research conducted by Aris, et.al (2024) the results of this research found that 5E Learning Cycle Based Media obtained test results 77% of students' analytical thinking abilities are at an N-gain score of $\geqslant$ 56% or with effective criteria, which means there is an increase in students' learning abilities and analytical thinking abilities in learning [8]. Then, based on research conducted by Fazelian (2010), the results of this research show that the 5E learning design model has significantly improve learning and lesson retention In general, 5E instructional design is effective and ideal for instructors. It also motivates students to increase their learning level and expand its domain. As a result, it is more efficient and well-organized, comparing to traditional teaching methods [9]. Different from previous research which only focused on scientific literacy or the 5E model separately, novelty this research has developing an Indonesian Language Learning module that explicitly combines the two to improve students' conceptual understanding and analytical thinking. This research not only measures short-term learning outcomes, but also how the combination of scientific literacy-based modules with the 5E model can improve students' long-term concept retention and analytical skills.

Learning media has a lot of influence on students. In addition to making students better understand the theories taught, learning media also has other positive influences[10]. Based on the background that has been described, learning media was developed with the title "Development of Indonesian Language Learning Media Based on Learning Cycle 5E Using Adobe Animate Software on Reading Material and Understanding Reading for Grade 3 Elementary School".

II. METHOD

The type of research is development or Research and Development (R&D). The research procedure used in the study is the 4-D model (Four 0). This model was developed by Sivasailam Thiagarajan, Dorothy S. Semmel, and Melyn I Semmel[7]. The stages in the 4-D model include define, design, development, and disseminate. The subjects of the study were experts (supervisors), peer reviewers (students), educational practitioners (teachers), and students. There are two research instruments, namely qualitative data instruments and quantitative data instruments. Qualitative data instruments include a needs analysis questionnaire using a list of interview questions. Quantitative data instruments use expert validation questionnaires, educational practitioner peer reviewers, and student validation questionnaires. This questionnaire contains an assessment of the product in terms of software engineering, learning design, and visual communication. Data analysis techniques are carried out quantitatively and qualitatively. The qualitative data analysis technique is source triangulation. The stages of qualitative data analysis are data condensation, data display, drawing and verifying conclusions[11]. The quantitative data analysis technique is the calculation of assessment scores obtained from questionnaires filled out by experts, peer reviewers, educational practitioners, and students. Determination of the criteria for the products developed is

carried out based on quantitative analysis by converting the average score according to the opinion of [12] in Table 1.

TABEL 1. VALIDATION ASSESSMENT CRITERIA INTERVAL

Assessment Result Score Interval	Criteria
Mi + 1.5 Sbi < X	Very good
Mi + 0.5 Sbi < X s Mi + 1.5Sbi	Good
Mi -0.S Sbi < XS Mi + 0.5 Sbi	Enough
Mi - 1.5Sbi < XS Mi · 0.5 Sbi	Not enough
X s Mi -1.5Sbi	Very less

in the table above, it is classified from very less to very good according to the score Interval for each category.

III. RESULTS AND DISCUSSION

1. Define Stage

The definition stage is to collect initial information and determine the needs regarding the product to be developed. The following are the definition stages in learning media:

a. Front-end analysis

This stage is carried out to raise and determine the basic problems faced by teachers in learning Indonesian. Based on the results of interviews with educational practitioners or Indonesian subject teachers, it was obtained information that learning in Lebak Regency Elementary Schools, specifically in class XI, uses the 2013 curriculum. Educational practitioners or teachers usually use PPT, textbooks, LKS, videos, and PhET Colorado simulations to teach the material. The teaching materials used in learning are the 2013 curriculum textbooks as a guide for educational practitioners or teachers and students. So far, educational practitioners have used textbooks more to deliver material compared to the use of learning media other than textbooks. The use of learning media has not been utilized optimally, due to limitations in the allocation of learning time. Another problem is that learning Indonesian is considered difficult for students. If there is Indonesian learning, it is avoided because it is a problem for all students. Students' ability to learn Indonesian, especially in Reading and Understanding Reading, is still difficult. Students have difficulty in calculating how to draw conclusions from concepts, and so on. In addition, students' learning outcomes are low, so it takes a lot of effort to develop from teachers in order to provide opportunities for students to learn.

b. Learner analysis

This stage is carried out to determine the characteristics of students who are the subjects of the research and steps in developing media. The results of interviews with students showed that most students had difficulty in understanding and learning Indonesian language materials, especially in the Reading and Reading Comprehension material. Students have not been optimal in learning the material and working on questions with various types, often make mistakes in operating and using many formulas, and the delivery of material by the teacher is too fast and only uses textbooks or explanations on the board sometimes using PPT. Students are interested if the concept of Indonesian is presented with pictures, animations, or videos so that it can help students to better understand the material and not get bored in learning.

c. Task analysis

This stage is carried out to identify the skills that must be achieved by students. Task analysis consists of an analysis of Core Competencies (Kl) and Basic Competencies (KD) against the material developed in learning media referring to the 2013 curriculum. Core competencies in learning media consist of core competencies 1•4, while basic competencies in learning media are KD 3.2, namely analysing the elastic properties of materials in everyday life. These basic competencies are described as indicators of competency achievement that must be achieved by students in learning.

d. Concept analysis

This stage is carried out to identify and compile relevant learning concepts. Concept analysis is carried out by identifying materials that are considered difficult based on the results of interviews by teachers and students. Based on the results of the interviews that have been obtained, the material presented in the learning media is the material on Reading and Understanding Reading. The learning media contains 2 sub-materials, namely Fiction Reading and Non-fiction Reading. The material is sourced from Serway & Jewett, Tipler, High School Textbooks, and others.

e. Formulating learning objectives (specifying instructional objectives)

This stage is carried out to determine the learning objectives to be achieved based on Core Competencies (Kl) and Basic Competencies (KD) for the material developed referring to the 2013 curriculum based on KD 3.2.

2. Design Stage

The design stage has the aim of designing learning media. The following are the design stages in learning media:

a. Constructing test instruments (constructing criterion-referenced tests)

Test conducted to measure students' abilities after participating in learning activities. The preparation of the test instrument contains the preparation of quiz questions, practice questions, and evaluation questions. Quizzes are found in the reading comprehension sub-material as many as 5 questions and 3 questions that have answer options so that students can choose the right or wrong answer. Practice questions are found in the fiction and non-fiction reading sub-materials. Each sub-material contains 2 practice questions, students can fill in the answers briefly in the form of numbers in the answer box provided. Evaluation questions consist of 25 multiple-choice questions that can be done through the farms office with a time of 40 minutes.

b. Media selection

The selection of media is based on the results of the needs analysis at the define stage. The selected media contains materials, images, animations, videos, simulations, and evaluations. Learning media based on Adobe Animate software as a facility for students in learning Reading and Understanding Reading materials. Learning media can be accessed by students via Android smartphones and laptops/computers so that they

can be used anytime and anywhere without being constrained by space and time.

c. Format selection

The learning media developed is an application that can be used by students via Android smartphones (.apk format) and laptops/computers (.exe format). Learning media is created using Adobe Animate software. Learning media can be accessed by students online or offline.

d. Initial design

The initial design is done to create a design for the selected learning media according to the format. The initial design begins by creating a flowchart and storyboard. The design that has been made is continued into a learning media product. The initial design is called product draft 1. The following is a display of the learning media application based on the 5E learning cycle with Adobe Animate software.

Figure 1. Display of the home page of Indonesian Language Learning Media Based on Learning Cycle 5E

The specifications of the learning media include one material on Reading and Understanding Reading. The Reading and Understanding Reading material in the learning media is divided into five sub-materials, namely the Fiction Reading and Non-Fiction Reading sub-materials. This Indonesian Language learning media has features, namely information, competency, material, and evaluation menus. This application contains material, images, animations, videos, simulations, and evaluations. The application is 78 MB in size and can be accessed offline and online to access the LKPD URL link and evaluation questions via an Android smartphone requiring a minimum of Android 5.0 operating system. The learning media application can be downloaded via the Google Drive link and then installed on an Android smartphone and computer or laptop (OS. Windows).

Learning media has 4 menus, namely (1) Information menu which contains instructions for using media, learning media developers, reference sources, (2) Competency menu which contains core competencies, basic competencies, competency achievement indicators, concept maps, competency maps, (3) Material menu which contains 2 sub-materials, namely fictional reading material and non-fiction reading material. In the material menu there are phases of the Learning Cycle SE learning model which are found in each sub-learning material. The stages of the Learning Cycle SE learning model include engagement, exploration, explanation, elaboration, and evaluation. The engagement phase in learning media contains apperception to motivate students by displaying videos and images of phenomena. The exploration phase in learning media contains a discussion room, students are given the opportunity to work together in small groups to discuss the student worksheets that have been given by the teacher. The explanation phase in learning media contains learning materials. The elaboration phase contains reinforcement of questions in the form of 2 practice questions and discussion questions in the form of quizzes. (4) The evaluation menu is the evaluation phase in learning media containing 25 multiple choice questions that can be worked on via the forms office with a time of 40 minutes. After students have finished working, a display of the score or value obtained by students and details of the number of correct and incorrect answers will appear.

3. Development Stage

The development stage is to produce the final form of the product after going through revisions based on comments, suggestions, and assessments. The following are the stages of developing learning media:

a. Expert Validation

Expert validation was conducted by two supervisors by providing assessments and input in the form of comments and suggestions on all aspects, namely software engineering aspects, learning design aspects, and visual communication aspects used to improve learning media products. Expert validation used a questionnaire consisting of 30 questions with a rating scale using a Likert scale of 1-4. The results of expert validation are presented as quantitative data. The following is a summary of the results of expert validation on all aspects presented in table 2.

TABLE 2. SUMMARY OF EXPERT VALIDATION RESULTS

Score interval	Criteria	Frequency	Presentation
98<X	Very good	2	100%
83<XS98	Good		
68<XS83	Enough		
53<XS 68	Not enough		
XS 53	Very less		

The validation result of expert 1 is 114, while expert 2 is 116. Based on the data in table 2, the assessment of two experts obtained a percentage of 100% with a score interval of 98 <X. Both expert validation results are included in the very good category. The following is the assessment of learning media in each aspect:

1) Validation of Software Engineering Aspects

Validation of software engineering aspects using a questionnaire consisting of 8 questions. The following is a summary of the results of the software engineering aspect assessment in table 3.

TABLE 3. SUMMARY OF EXPERT ASSESSMENT RESULTS FOR SOFTWARE ENGINEERING ASPECTS

Score interval	Criteria	Frequency	Presentation
26<X	Very good	2	100%
22<XS 26	Good		
18<XS 22	Enough		
14<XS 18	Not enough		
XS14	Very less		

Based on the data in table 3, a percentage of 100% was obtained with a score interval of 26 < X, including the very good category, so it can be concluded that the assessment of the software engineering aspect meets the very good criteria.

2) Validation of Learning Design Aspects

Validation of learning design aspects using a questionnaire consisting of 13 questions. The following is a summary of the results of the learning design aspect assessment on table 4.

TABLE 4. SUMMARY OF EXPERT ASSESSMENT RESULTS FOR LEARNING DESIGN ASPECTS

Score interval	Criteria	Frequency	Presentation
42<X	Very good	2	100%
36<XS 42	Good		
29<XS 36	Enough		
23<XS 29	Not enough		
XS 23	Very less		

Based on label 4 data, a percentage of 100% was obtained with a score interval of 42 < X, which is included in the very good category, so it can be concluded that the assessment of the learning design aspect meets the very good criteria.

3) Validation of Visual Communication Aspects

Validation of visual communication aspects using a questionnaire consisting of 9 questions. The following is a summary of the results of the visual communication aspect assessment in table 5.

TABLE 5. SUMMARY OF EXPERT ASSESSMENT RESULTS FOR VISUAL COMMUNICATION ASPECTS

Score interval	Criteria	Frequency	Presentation
29<X	Very good	2	100%
25<XS 29	Good		
20<XS 25	Enough		
16<XS 20	Not enough		
XS16	Very less		

Based on the data in Table 5, a percentage of 100% was obtained with a score interval of 29 < X, which is included in the very good category, so it can be concluded that the assessment of the visual communication aspect meets the very good criteria.

Input in the form of expert comments and suggestions made by two supervisors included a revision, namely the font size used was too small. The comments and suggestions obtained were used to improve the learning media in the first stage of revision.

b. Peer Reviewer and Education Practitioner Assessment

The validation of peer reviewers and education practitioners was carried out by five students of the Indonesian Language Education Study Program and three Indonesian language subject educators at Elementary Schools in Lebak Regency by providing assessments and input in the form of comments and suggestions on all aspects, namely the software engineering aspect, the learning design aspect, and the visual communication aspect used to improve learning media products based on the Learning Cycle SE. This validation used a questionnaire consisting of 30 questions with a rating scale using a Likert scale of 1-4. The following is a summary of the results of the validation of peer reviewers and education practitioners on all aspects presented in Table 6.

TABLE 6. SUMMARY OF PEER REVIEWER AND EDUCATION PRACTITIONER ASSESSMENT RESULTS

Score interval	Criteria	Frequency	Presentation
98<X	Very good	8	100%
83<XS98	Good		
68<XS83	Enough		
53<XS 68	Not enough		
XS53	Very less		

Based on the data in Table 6, a percentage of 100% was obtained with a score interval of 98 < X, including the very good category, so it can be concluded that the assessment of learning media by peer reviewers and education practitioners in all aspects meets the very good criteria. The following is the assessment of learning media in each aspect:

1) Validation of Software Engineering Aspects

Validation of five peer reviewers and three educational practitioners on the software engineering aspect using a questionnaire consisting of 8 questions. The following is a summary of the assessment results of five peer reviewers and three educational practitioners on the software engineering aspect in Table 7.

TABLE 7. SUMMARY OF SOFTWARE ENGINEERING ASPECT ASSESSMENT RESULTS

Score interval	Criteria	Frequency	Presentation
26<X	Very good	8	100%
22<XS 26	Good		
18<XS 22	Enough		
14<XS 18	Not enough		
XS14	Very less		

Based on the data in Table 7, a percentage of 100% was obtained with a score interval of 26 < X, which is included in the very good category, so it can be concluded that the assessment of peer reviewers and practitioners of software engineering aspects meets the very good criteria.

2) Validation of Learning Design Aspects

Validation of five peer reviewers and three education practitioners on the learning design aspect using a questionnaire consisting of 13 questions. The following is a summary of the assessment results of five peer reviewers and

three education practitioners on the learning design aspect in Table 8.

TABLE 8. SUMMARY OF LEARNING DESIGN ASPECT ASSESSMENT RESULTS

Score interval	Criteria	Frequency	Presentation
42<X	Very good	7	88%
36<XS 42	Good	1	13%
29<XS 36	Enough		
23<XS 29	Not enough		
XS 23	Very less		

Based on the data in Table 8, 7 people with a percentage of 88% with a score interval of 42 < X are included in the very good category and 1 person with a percentage of 13% with an interval of 36 < X s 42 are included in the good category.

3) Validation of Visual Communication Aspects

Validation of five peer reviewers and three education practitioners on the visual communication aspect using a questionnaire consisting of 9 questions. The following is a summary of the assessment results of five peer reviewers and three education practitioners on the visual communication aspect in Table 9.

TABLE 9. SUMMARY OF VISUAL COMMUNICATION ASPECT ASSESSMENT RESULTS

Score interval	Criteria	Frequency	Presentation
29<X	Very good	8	100%
25<XS 29	Good		
20<XS 25	Enough		
16<XS 20	Not enough		
XS16	Very less		

Based on the data in Table 9, the assessments from five peer reviewers and three education practitioners obtained a percentage of 100% with a score interval of 29 < X, including the very good category, so it can be concluded that the assessments of five peer reviewers and three education practitioners on the visual communication aspect meet the very good criteria.

c. Phase 1 Revision

Revision stage 1 is done after the assessment of learning media by experts, peer reviewers, and educational practitioners. In revision stage 1 there are several improvements, namely changing the font size used because it is too small, and in the tutorial on using the application on an Android phone, the minimum requirements or specifications of the Android that can be used are added. If the draft product stage 1 has been improved, it will produce a new product draft, namely the draft product stage 2, then a limited trial is carried out on students.

d. Limited Trial

Limited trials were conducted on representatives of each class as many as three students of grade 3 of Lebak District Public Elementary School. Limited trials were conducted by distributing questionnaires covering 3 aspects, namely software engineering, learning design, and visual communication aspects which were detailed as many as 16 questions. The assessment scale used the Guttman scale with two answers to choose from, namely "Yes" and "No". When choosing the answer "Yes" gets a score of 1 and the answer "No" gets a score of 0. The following is a summary of the results of the limited trial assessment in Table 10.

TABLE 10. SUMMARY OF LIMITED TRIAL ASSESSMENT RESULTS

Score interval	Criteria	Frequency	Presentation
13<X	Very good	9	100%
10<XS 13	Good		
8<XS 10	Enough		
5<XS 8	Not enough		
XS5	Very less		

Based on the data in Table 10, a percentage of 100% was obtained with a score interval of 13 < X, which is included in the very good category, so it can be concluded that the limited trial assessment meets the very good criteria.

e. Phase 2 Revision

Revision stage 2 was carried out after the assessment of the learning media by students during a limited trial. In revision stage 2, no improvements were made because the learning media already contained complete material, if the application runs slowly there are several factors, namely small or empty memory storage, learning media has too many assets included in making the application, the Android version is not suitable, this causes the performance of the learning media application to be a little slow. It is recommended to open the application using a laptop version to reduce delays. Also, the application cannot be registered in the app store because all applications registered in the Apple App Store must meet high standards with strict guidelines. Then, it was continued with the draft product stage 3 and a limited trial was carried out on students.

f. Field trials

Field trials were conducted on grade 3 students of Lebak District Public Elementary Schools. Field trials were conducted by distributing questionnaires covering 3 aspects, namely software engineering, learning design, and visual communication, which were detailed in 16 questions. The assessment scale used the Guttman scale with two answers to choose from, namely "Yes" and "No". When choosing the answer "Yes" gets a score of 1 and the answer "No" gets a score of 0. The following is a summary of the results of the limited trial assessment in Table 11.

TABLE 11. SUMMARY OF FIELD TRIAL ASSESSMENT RESULTS

Score interval	Criteria	Frequency	Presentation
13<X	Very good	91	97%
10<XS 13	Good	1	1%
8<XS 10	Enough		
5<XS 8	Not enough	2	2%
XS5	Very less		

Based on the data in Table 11, 91 people with a percentage of 97% with a score interval of 13 < X are included in the very good category, 1 person with a percentage of 1% with a score interval of 10 < X s 13 are included in the good category, 2 people with a percentage of 2% with a score interval of 5 < X s 8 are included in the less category.

g. Revision Stage3

Revision stage 3 was carried out after the assessment of the learning media by students during the field trial. In revision stage 3, no improvements were made because publishing learning media for iOS on Adobe Animate software was still relatively complicated, so that /OS users could not access the learning media. Adobe Animate software in creating 3D graphic projects is not very capable. Developers provide an alternative for /OS users by creating learning media that can be accessed via laptops or Windows. Revision stage 3 is the last stage of research revision that was carried out in the field trial for the draft product stage 3. The draft product stage 3 is the final product and is declared complete.

4. Disseminate Stage (Spreading)

The dissemination stage is carried out by disseminating the results of the development of Indonesian language learning media based on Learning Cycle SE using Adobe Animate Software on the material Reading and Understanding Reading. Dissemination of learning media through publication of articles from research results.

Based on the results of the validation data analysis carried out by experts, peer reviewers, and education practitioners, namely the learning media meets the criteria for very good in terms of software engineering, learning design, and visual communication. Based on the results of the limited trial data analysis and field trials, namely meeting the criteria for very good. There are various inputs in the form of comments and suggestions from experts, peer reviewers, education practitioners, and students, namely revision stage 1, then continued with revision stage 2, and the last revision, namely revision stage 3 which produces a draft of the final product. From the results of the data analysis that has been carried out, it can be concluded that the Indonesian language learning media based on Learning Cycle SE using Adobe Animate Software on the Reading and Reading Understanding material meets the criteria for very good.

Learning media can be used for independent learning because it can be accessed anytime and anywhere so it is flexible and not constrained by space or time. Students can use learning media independently by studying materials, doing simulations, working on LKPD, working on quizzes, practice questions, and evaluation questions. Limitations on learning media products are that learning media can only be used on Android smartphones and laptops meanwhile, the system/OS cannot be used yet, due to the developer's limited ability to export media. In addition, this learning media cannot write text equations, cannot record user work when working on quizzes or practice questions, when students operate the learning media it is still found to be running slowly/delayed due to several factors, namely small or empty memory storage, learning media has too many assets included in the application creation, the Android version is not appropriate. It is recommended to use an Android S.0-Android 13.0 operating smartphone, large storage/RAM, if the smartphone is inadequate then the application can be opened using the laptop version to reduce delays.

IV. CONCLUSIONS

The conclusions that can be drawn from this study are: (1) The media specifications developed have 4 menus, namely information, competence, material, and evaluation. The information menu contains instructions for using the media, learning media developers, reference sources. The competence menu contains core competencies, basic competencies, competency achievement indicators, concept maps, competency maps. The material menu contains 2 sub-materials, namely Elasticity material, Fiction reading material and non-fiction reading material. The evaluation menu contains 25 multiple choice questions that can be worked on via office forms with a time of 40 minutes. The application is 78 MB in size and can be accessed offline and online (2) Learning media based on Learning Cycle SE using Adobe Animate software on the Reading and Understanding Reading material meets the criteria very well based on aspects of software engineering, learning design, and visual communication reviewed from the results of expert validation, peer reviewers, education practitioners, and students.

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