SCRAPBOOK LEARNING MEDIA IN CLASS X ECOSYSTEM MATERIALS

Eva Wulan Septiana [1], Marinda Sari Sofiyana[2], Devita Sulistiana [3]

[1-3]Balitar Islamic University, East Java, Indonesia.
[1]*wulanseptianaeva@gmail.com*, [2]*sarisofiyana@gmail.com*
[3]*devitasulistiana17@gmail.com*,

ABSTRACT

Based on pre data study obtained results that eye lesson biology on class X high school level in particular Theory ecosystem still impressed difficult for students who have accept learning it's on the spot observation researcher, with reason boring, no interesting, lots memorization, a lot sentence scientific / foreign words and lazy read. Still many student feel the media used the not yet efficient and not enough interesting in the learning process biology. This thing caused on non-maximal learning process teach. as a result student not enough concentration in learning the so that student feel bored and bored, finally the learning process not yet achieved with perfect. Study this aim for knowing appropriateness and quality as well as for knowing response student to learning media scrapbook on Theory ecosystem. Method research used in study this is RND with use developed design by Borg and Gall. Results from study Average score expert the is 91.36 % with criteria very worth. This thing show that quality of learning media scrapbook Theory developed ecosystem _ based on evaluation expert materials, media experts, and expert language very worthy used as a learning medium. Percentage evaluation by field teacher studies of 84.5 % criteria very worth. Whereas acquisition percentage test try scale limited of 95.2 % with criteria very worth. Results from test response student get percentage 90% with criteria very good. From result percentage the then the media can used with good in learning ecosystem class X high school.

Keywords : Ecosystem, Learning Media, Scrapbook

1. INTRODUCTION

Education is all efforts made to provide insight to each individual and assist them in their growth and development until they reach an age that is considered an adult. From here it is designed what the goals of education itself are. In the provisions of the MPRS and MPR educational objectives are formulated in such a way, so that their implementation can be in accordance with the objectives of education in Indonesia. Based on the Law of the Republic of Indonesia No. 20 of 2003 SISDIKNAS Chapter II Article 3, the purpose of education in Indonesia is to develop the potential of students so that they become human beings who believe and are devoted to God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become good citizens. democratic and responsible.

The third world's need for quality human resources has made education providers speak out more aggressively. They call for education is the main key to the success of a nation. This was then implemented in Indonesia by requiring every citizen to receive education for 12 years. In the above provisions it can be concluded that national

education has a very high goal to produce qualified and ready human resources for their future, the nation, and religion as the main pillar of Pancasila.

The purpose of education can be said to be successful if the learning process is carried out properly. According to Sagala in his book Concepts and Meaning of Learning (2009), learning is teaching students to use educational principles and learning theories which are the main determinants of educational success. Learning is a two-way communication process. Teaching is done by the teacher as an educator, while learning is done by students. Learning as a learning process built by teachers to develop creative thinking that can improve students' thinking skills, and can improve the ability to construct new knowledge as an effort to improve good mastery of the subject matter. According to Hamalik (2006) learning is a structured combination that includes human elements, material facilities, equipment, and procedures that influence the achievement of learning objectives.

In learning activities in Indonesia, currently implementing the 2013 curriculum, in this curriculum students do not make objects anymore, but are required to be more creative and innovative, including the teaching staff and interrelated components in the classroom. in it. The learning process is monotonous and the learning media are less varied, such as using worksheets and textbooks as learning resources, using PPT, video and LCD which can make students passive. Will make students become bored and not concentrate in following the lesson. This can cause students to lack understanding of the material and find it difficult.

One component that is quite important in the teaching and learning process is learning media because in the process the learning media functions as an intermediary tool . Sadiman (2009:7) states that learning media are everything that can be used to channel messages from senders to recipients so as to stimulate the thoughts, feelings, concerns, and interests of students in such a way that the learning process occurs. Supardi et al (2010) the use of media in learning can generate new desires and interests, generate motivation and stimulation of learning activities, and can even have a psychological effect on students.

The use of learning media at the learning orientation stage will greatly help the effectiveness of the learning process and the delivery of messages and lesson content at that time. Biology subjects in class X at the high school level, especially ecosystem material, still seem difficult for students who have received such learning at the researcher's observation site, namely MAN 2 Blitar, MA Hasanudin Gaprang and SMA N 4 Blitar City, with reasons that are boring, uninteresting, lots of memorization, many scientific sentences / foreign words and lazy to read. There are still many students who feel that the media used is not efficient and less attractive in the biology learning process. This results in the non-maximalization of the teaching and learning process. As a result, students lack concentration in learning so that students feel bored and bored, finally the learning process has not been achieved perfectly. Therefore, there is a need for innovation and improvement.

With simple learning media and can attract students' attention in learning, it allows the learning process to run smoothly. One of the learning media that can be used as an alternative to overcome these problems is using learning media *scrapbook* or scrapbook. *Scrapbook* is the art of pasting various photos, pictures, writings and the like on paper-based media. Through making *scrapbook media* students are required to be more active, students can develop ideas, and integrate biology subject matter in

scrapbook media . Based on previous research, *scrapbook learning media* has advantages, including:

1. With using learning *scrapbook* media will more interesting so that Theory learning will more easy for understood by students (Damayanti, 2017).
2. Students are more interactive with *Scrapbook learning media* (Payuk, 2019).
3. *Popscrap book* learning media is effectively used for learning (Fapriyani, 2017).
4. *Scrapbook* media can improve the quality of student learning so that learning achievement increases (Mardiyyah, 2018).
5. *scrapbook* media has a significant influence on students' critical thinking skills (Aulisia, 2019)

2.   METHODOLOGY

This research is a type of research *and development* (R&D). According to Sugiyono (2009: 297) R&D research is research that tries to produce certain products and test the feasibility of these products. The product that will be tested for feasibility in this research is a learning media in the form of *Scrapbook* on ecosystem material. The development model used in this study is the Sugiyono model (Figure 1) because in this research step there are stages of testing to several experts and several respondents so that this research model stage is useful for testing the feasibility of a product.
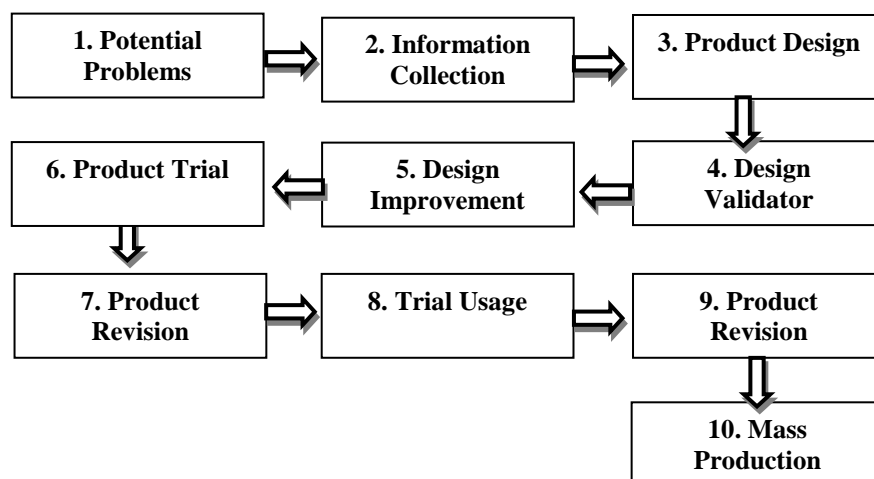

Figure 1 Research steps R n D according to Sugiyono (2009)

Scrapbook media research and development used consists of 10 stages but due to the limited time, effort, cost and opportunity, this research and development only uses 7 stages of research and development, which are as follows:

1.   Potential Problems

To find out potential problems, what the researcher did was to observe and interview 3 biology teachers and 121 class XI students in 3 high school levels in Blitar district and Blitar city regarding all teaching and learning processes and activities.

2.   Data/Information Collection

After exploring potential problems, the next step is to collect information. Information collection is done by recording the information from the biology teacher interviews and summarizing it as planning material and the basis for consideration for making products that are expected to solve problems. To support information and

support the manufacture of products, researchers also collect journals and the results of previous researchers to develop the final product, namely *scrapbook* .

3. Product Design

The product design that will be carried out is adjusted based on potential problems by looking at the data that has been collected during the research process and initial data collection. Product design begins with collecting supporting materials and pictures from various literature studies, both from books, journals and articles. Then proceed with compiling a *scrapbook framework* consisting of: making media designs, collecting materials needed to design products for each sheet. Develop a plan for making media that begins with compiling a framework for making *scrapbook media.* References in the preparation of *scrapbook media* are product specifications that have been made. The second step is to develop a framework for making media, after which the researcher collects the tools and materials needed such as scissors, various types of paper, *cutter*, *double-sided tape*, glue gun, ruler, fox glue, insulation, *stero foam* , ballpoint pen, sticker paper and other materials. to support the product to be attractive.

4. Design Validation

Scrapbook learning media products that have been made are then validated by experts. Validation is carried out by experts including material experts and media experts. by means of researchers making product validity questionnaires for media experts and material experts. The expert product validity questionnaire consists of aspects of coloring, use of words or language, graphics, and design. The material validity questionnaire consists of learning aspects related to the content of the material and the suitability of the learning media. Scrapbook learning media design validation (*scrapbook*) by media experts, material experts and linguists. The purpose of validation is to get assessments and advice from experts regarding the effectiveness and feasibility of the products that have been made. Each expert will be asked to assess the design both in terms of advantages and disadvantages. The expert's assessment is used as the basis for improving the products developed in order to improve the final product to be produced .

5. Design Improvements

After getting input from experts, the weaknesses are known. These weaknesses are reduced by improving the products developed. Products that have been revised and received a good predicate, then the product is continued to the next stage, namely the product trial stage.

6. Product Trial

Due to time constraints, researchers at the product trial stage used small/limited group trials.

7. Product Revision

The product revision stage is a process to analyze the media at the product testing stage, there are still shortcomings and weaknesses or not. If there are no more revisions, the media will be tested on a wider scale, but due to time constraints, researchers can only revise the product. At this stage, what the researcher did was to improve the product through suggestions and comments that had been given at the stage of the readability test for students and biology teachers after the researchers demonstrated on students and gave an explanation of the use of the product to the biology teacher.

3. RESULTS AND DISCUSSION

JARES (Journal of Academic Research and Sciences), (8)1, *page* 25-34.

The result of research product development is by validating the product to the validator. The validation results are as follows:

a. Material expert

The material expert in this study has a minimum education of S1 or who has at least 4 years of teaching experience and masters ecosystem materials. The results of the author's material experts are recorded in the following table (Table 1).

Table 1 *Scrapbook* Material Assessment Results by Material Experts

Statement to	Expert 1	Expert 2	Expert 3	Total Score
1	4	3	4	11
2	4	3	4	11
3	4	3	3	10
4	4	3	3	10
5	4	4	4	12
6	4	4	4	12
7	4	3	4	11
8	4	3	3	10
9	4	4	4	12
10	4	3	4	11
Amount	40	33	37	110
Criteria score				120
Percentage				91.6%

The percentage gain is 91.6%. This value is in the range of 80% - 100% in the very feasible scoring criteria so that the *scrapbook learning media* is included in the very appropriate category for use.

b. Media expert

Media experts are people who are experts and experienced in the preparation of learning media, have a minimum education of S2 or are lecturers in charge of learning media courses or experienced teachers as learning media validators. The results of the author's media experts are summarized in the following table (Table 2).

Table 2 *Scrapbook* Media Assessment Results by Media Experts

Statement to	Expert 1	Member 2	Member 3	Total Score
1	4	3	3	10
2	4	3	3	10
3	4	3	3	10
4	4	3	3	10
5	4	3	3	10
6	4	3	4	11
7	4	3	4	11
8	3	3	3	9
9	3	3	3	9
10	3	3	3	9
Amount	37	30	32	99
Criteria score				120
Percentage				82.5%

JARES (Journal of Academic Research and Sciences), (8)1, *page* 25-34.

The percentage gain is 82.5%. This value is in the range of 80% - 100% in the very feasible scoring criteria so that the *scrapbook learning media* is included in the very appropriate category for use.

c.   Linguist

A linguist is a person who is competent and understands the systematics of language writing or a language teacher with a minimum education of S1 and has been teaching for at least 1 year.

Table 3   *Scrapbook* Media Assessment Results By Linguists

Statement to	Expert 1	Expert 2	Expert 3	Total Score
1	4	4	4	12
2	4	4	4	12
3	4	4	4	12
4	4	4	4	12
Amount	16	16	16	48
Criteria score				48
Percentage				100%

Based on Table 3 the assessment results of 3 linguists have a score of 48 out of 48 criteria. The percentage gain is 100%. This value is the maximum score and is included in the very appropriate category for use.

The readability test was carried out on 6 students of class XI with the assumption that they had received the ecosystem material and 3 biology teachers. The total score obtained from the student readability test on the *scrapbook media* is 160 from the criterion score of 168. The percentage gain in the student readability test is 95.2%. This value is included in the 80%-100% range with a very decent category. While the total score obtained from the teacher's readability test on the *scrapbook media* was 71 from the criterion score of 84. The percentage gain in the student readability test was 84.5%. This value is included in the 80%-100% range with a very decent category.

Table 4   *Scrapbook* Media Assessment Results on Student Readability Test

Statement to	Evaluation						Total score
	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	
1	4	4	4	4	4	4	24
2	4	4	4	4	4	2	22
3	4	4	4	4	4	3	23
4	4	4	4	4	4	3	23
5	4	4	3	4	4	2	21
6	4	4	4	4	4	3	23
7	4	4	4	4	4	4	24
Total score	28	28	27	28	28	21	**160**
Criteria score							168
Percentage							95.2%

Table 5   *Scrapbook* Media Assessment Results on Teacher Readability Test

Statement to	Evaluation			Total score
	Teacher 1	Teacher 2	Teacher 3	
1	4	3	3	10
2	4	3	3	10
3	3	3	4	10
4	3	3	3	9

5	4	3	3	10
6	4	4	4	12
7	4	3	3	10
Total score	26	22	23	**71**
Criteria score				84
Percentage				84.5%

a. Student response test

Test the response of students in class XI as many as 20 children with the assumption that they have received ecosystem materials. The total score obtained from the student readability test on the *scrapbook media* was 648 from the criterion score of 720. The percentage gain in the student readability test was 90%. This value is included in the 80%-100% range with a very decent category.

Table 6 *Scrapbook* **Media Assessment Results on Student Response Test**

Statement to	Total score
1	69
2	71
3	72
4	72
5	72
6	69
7	75
8	73
9	75
Total score	**648**
Criteria score	720
Percentage	90%

Discussion

Scrapbook learning media on ecosystem materials for class X SMA refers to an assessment instrument consisting of three assessment components, namely the material component, the presentation component and the linguistic component. The linguistic component shows a percentage of 100% with very feasible criteria. The language used in the teacher's and student's manuals uses language that is easy to understand, the level of conformity of the language with the rules of the language is appropriate, the level of consistency of the language used and the suitability of the type of font in the media manual is correct. Students and teachers can run the instructions for using the media with the manual used in the *scrapbook media* .

The media feasibility component obtained a percentage of 82.5% with very decent criteria and included in the vulnerable assessment of very feasible criteria. *Scrapbook* media is suitable for learning with ecosystem materials and can be used for X grade high school students. Based on media criteria, the display is attractive to students, the images on the media are clearly visible and in accordance with the material, namely the ecosystem, the font size and color combinations are clear so that they do not interfere with the writing of material on the media. Sadiman (2009:7) states that learning media are everything that can be used to channel messages from senders to recipients so as to stimulate the thoughts, feelings, concerns, and interests of students in such a way that the learning process occurs (Sadiman 2009; Sofiyana *et al.* 2019;.

The material components have met the feasibility with the results of the percentage of experts, namely 91.6% and included in the very feasible range of criteria. The basis

JARES (Journal of Academic Research and Sciences), (8)1, *page* 25-34.

of the assessment of the feasibility of the material in the media is that the material is assessed according to the indicators and the material is easy to use by the teacher for students, because in each sub material there are indicators of achievement and equipped with a concept map so that the focus material is not too wide. This can speed up the delivery of information/materials submitted. The presentation/content of the material is easy for students to understand. The images contained in the material clearly correspond to the sub material. The use of media in learning can generate new desires and interests, generate motivation and stimulation of learning activities (Intisari *et al.* 2021), and can even have a psychological effect on students (Riyanto *et al.* 2019; Sofiyana 2021; Sofiyana 2022; Supardi *et al* 2010). According to Sagala in his book Concepts and Meaning of Learning (2009), learning is teaching students to use educational principles and learning theories which are the main determinants of educational success. Learning is a two-way communication process. Teaching is done by the teacher as an educator, while learning is done by students. Learning as a learning process built by teachers to develop creative thinking that can improve students' thinking skills (Sofiyana 2022), and can improve the ability to construct new knowledge as an effort to improve good mastery of the subject matter (Malahayati & Sofiyana 2019).

Based on the calculation of the validation questionnaire by the experts at 100%, 82.5% and 91.6%, so that an average of 91.4% can be obtained, the value falls within the range of 80 < x 100% with very feasible criteria. This is in accordance with Payuk's previous research (2019) on the development of *scrapbooks as picture and picture* learning media on *plantae* material for class X SMA, showing that the *scrapbook media products* developed have a decent quality for use in learning because they have an average value of 3.45 or 86.25% in the "very good" category.

The results of the student response test of 20 children obtained a score of 648 from a score of 720 criteria and obtained a percentage of 90%, this value was included in the range of 80% < x 100% with very good criteria. From the results of these percentages, the media can be used properly and effectively used in learning ecosystems for class X SMA. This research is also supported by research by Fapriyani (2017) with the title "Development of *Popscrap Book Media* on Social Science Content, The Beauty of Togetherness Theme to Improve Learning Outcomes of Fourth Grade Elementary School Students" with the results of the t-test analysis research showing the difference in the average *pretest* and *posttest* of 25,333 and there is an increase in the average student learning outcomes supported by an average skill score of 78.5 with a "good" criterion. This *popscrap book* media is effectively used in social studies learning the theme of the beauty of togetherness.

4. CONCLUSION

Based on the data analysis that has been done, it can be concluded as follows:

1. Based on the assessments of linguists, media experts, and material experts, respectively, they were 100%, 82.5%, and 91.6%. The average value of the expert is 91.36%, this value is included in the range of 80% < x 100% with very feasible criteria. This shows that the quality of the ecosystem material *scrapbook learning media* developed based on the assessment of material experts, media experts, and linguists is very suitable to be used as a learning medium. The percentage of assessment by teachers in the field of study is 84.5%. This value is included in the range of 80% < x 100% with Very Eligible criteria. Meanwhile, the percentage of limited-scale trials was 95.2%. This value is included in the

JARES (Journal of Academic Research and Sciences), (8)1, page 25-34.

range of 80 < x 100% with very feasible criteria. This shows that the *scrapbook* developed is worthy of being used as a learning medium.
2. The results of the student response test obtained a percentage of 90%, this value was included in the range of 80% < x 100% with very good criteria. From the results of these percentages, the media can be used properly in learning ecosystems for class X SMA.

REFERENCES

Alfiah, Amnah Nur. Etc. 2018. *Scrapbook Media* as a Reflection Journal to Improve Cognitive Ability and Self-Regulation. (Journal of Education (Theory and Practice) Volume 3 Number 1 Year 2018 Pages: 57-67)

Aulisia, Yesica Lita. Ganesh Gunansyah. 2019. The Effect of Using Natural Resource Material *Scrapbook* Media on Students' Critical Thinking Ability in Social Studies Learning. (Journal of *JPGSD. Volume 07 Number 01 Year 2019, 2549-2558)*

Bruner, JS 1960. The Process of Education. New York: Vintage Book

Damayanti, Maita. 2017. The Effect of *Scrapbook Media* (Pastebook) on Student Learning Outcomes on Diversity of Traditional Houses in Indonesia Grade IV Elementary School. (JPGSD Volume 05 Number 03 Year 2017)

Hamalik, Oemar. 2006. Teaching and Learning Process. Jakarta: PT. Earth Literature.

Hamalik, Oemar. 2000. Psychology of Teaching and Learning. Bandung : Sinar Baru Algesindo.

Intansari, R. W., Sofiyana, M. S., & Sholihah, M. A. (2021). AGAMI MEDIA FOR THEMATIC LEARNING AT GRADE III OF ELEMENTARY SCHOOL. PRIMARY: JURNAL PENDIDIKAN GURU SEKOLAH DASAR, 10(5), 1079-1090.

Johnson, Elaine B. 2008. Contextual Teaching and Learning (Setiawan's translation). Bandung:MLC

MPRS Decree XXVII, 1966, IKIP Malang, 1968

Luciana Suriya Putri, "software development to design scrapbook display for children teenagers",(*Surabaya university student scientific journal vol 3 no 1)* , 2014.

Malahayati, E. N., & Sofiyana, M. S. (2019). PROJECT BASED LEARNING BERBASIS OUTDOOR STUDY UNTUK MENGANALISIS KUALITAS AIR TANAH WARGA SEKITAR TPA SAMPAH NGEGONG KOTA BLITAR PADA MATA KULIAH PENGETAHUAN LINGKUNGAN. Konstruktivisme: Jurnal Pendidikan Dan Pembelajaran, 11(1), 12-19.

Mardiyyah, Erma. 2018. Mini *Scrapbook Review Series* to Improve Junior High School Students' History Learning. (Journal of Basic Education Dikdactic Vol 2, No. 1, p. 112)

Nabilah, Princess Iztihar. Asri Susetyo Rukmini. 2017. The Effect of Using Scrapbook Media on Narrative Writing Skills for Fourth Grade Elementary School Students in Sidoarjo District. (Journal of JPGSD Volume 05 No. 03 p. 1522-1530)

Government Regulation of the Indonesian Public Year. No. 27-28-29-30 of 1990 concerning the *Implementation of the National Education System and its Explanation* : 163-164

Grace, Ana. Etc. 2015. Student Creativity Program Title Program The Effectiveness of Using *Scrapbooks* as a Learning Media to Build Flat for Students of SMPLB-A YPAB Surabaya. PKM-Research UNESA.

Riyanto, S., & Sofiyana, M. S. (2019). Android-based rusa (Ruang Siswa) learning media with Appypie application to enhance learning motivation and outcome of animalia material of grade X students of senior high school: a research and development. JOSAR, 4(2).

Sofiyana, M. S. (2021). VALIDASI ATLAS LIKEN DI KOTA BLITAR. Konstruktivisme: Jurnal Pendidikan dan Pembelajaran, 13(2), 152-157.

Sofiyana, M. S. (2022). Development of BOBI (Blog Biologi/Biology Blog) for Grade XI Students of Senior High School. BIOEDUKASI: JURNAL PENDIDIKAN BIOLOGI, 15(1), 1-8.

Sadiman, Arief S. Etc., Media Pendidikan, Jakarta: Raja Grafindo Persada, 2008.

Sagala, Syaiful (2010). *The Concept and Meaning of Learning.* Bandung : Alphabeta

Satiadarma, MP and Waruwu, FE 2003. Educating Intelligence. Jakarta: Torch Popular Library.

Slamet. 2003. Learning and Factors Affecting It. Jakarta: Rineka Cipta.

Sofiyana, M. S., Rohman, F., & Saptasari, M. (2016). Pengembangan buku referensi bioekologi berdasarkan kajian struktur komunitas lumut epifit di Taman Nasional Bromo Tengger Semeru. Konstruktivisme: Jurnal Pendidikan dan Pembelajaran, 8(2), 117-130.

Sofiyana, M. S. (2022). An analysis of preservice teachers critical thinking skills at Universitas Islam Balitar. Edubiotik: Jurnal Pendidikan, Biologi dan Terapan, 7(02), 36-42.

Sugiyono. 2012. Educational Research Methods Quantitative, Qualitative, and RND Approaches. Bandung : Alphabeta.

RI Law No. 20 of 2003 concerning the National Education System, Citra Umbara, Bandung, 2003: 7

RI Law No. 20 of 2003 *Op. cit* : 7

Yukeun Heryaneu, "Effectiveness of Using Scrapbook Media to Improve Writing Essay Writing Ability" (*Journal of German Language Education, Faculty of Language and Arts Education, UPI*), 2014