MIND MAPPING BASED IN MATERIAL DEVELOPMENT TO INCREASING CREATIVE THINKING SKILLS OF STUDENTS AT 3rd GRADE SDN GADANG 2 MALANG

THESIS

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MAULANA MALIK IBRAHIM STATE ISLAMIC UNIVERSITY OF MALANG

August, 2018

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THESIS

Presented to Tarbiyah and Teaching Training Faculty Maulana Malik Ibrahim State Islamic University of Malang in partial fulfillment of the requirement for the degree of Bachelor Education (S.Pd)

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DEDICATION

Praise to God Almaighty for giving everything in my life. This thesis is a great effort in the realization of my inspiration. Shalawat and salam always bless to prophet Muhammad SAW because of him we get the brilion religion.

This thesis work is dedicate to my Mother, Mrs. Umi Kulsum, who have always loved me unconditionally and whose good example have taught me to work hard for the things that i aspire to achieve. I also dedicate this thesis to my beloved sisters Mrs. Mega Aprilia, my niece, my nephew who always support me and all of big family who has been encouragement in my life. Hopefully this thesis could be the motivation to reach your dreams.

MOTTO

مَنْ أَرَادَ الدُّنْيَا فَعَلَيْهِ بِالْعِلْمِ، وَمَنْ أَرَادَ الآخِرَةَ فَعَلَيْهِ بِالْعِلْمِ، وَمَنْ أَرَادَهُمَا فَعَلَيْهِ بِالعِلْمِ

"Barangsiapa yang menginginkan dunia maka hendaklah berilmu.Barangsiapa yang menginginkan akhirat, maka hendaklah dengan ilmu.Barangsiapa yang menginginkan keduanya, maka hendaklah dengan ilmu."

(Imam As-Syafi'i)

Berpedoman pada niat yang baik sesungguhnya akan mengarahkan pada kebaikan. Menjadi pribadi yang profesional dan totalitas dalam pengabdian yang diberikan pada negara

فَإِنَّ مَعَ الْعُسْرِ يُسْرًا

"Karena sesungguhnya sesudah kesulitan itu ada kemudahan."

(Q.S Al-Insyiroh ayat 5)

Dr. Hj.Like Raskova Oktaberlina, M.Ed
The Lecture of Tarbiyah and Teaching Training Faculty
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ADVISOR OFFICIAL NOTE

Matter : Thesis of Ratna Sasi Suci

Appendixes : 4 (four) Exemplar

Dear,

Dean of Tarbiyah and Teaching Training Faculty

Maulana Malik Ibrahim State Islamic University of Malang

Assalamu'alaikum Wr. Wb

After carrying out several times for guidance, both in terms of content, language and writing techniques, and after reading the following thesis:

Name : Ratna Sasi Suci

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Title of Thesis : Mind Mapping Based In Material Development To Increasing Creative Thinking Skills Of Students At 3rd Grade Sdn Gadang 2 Malang

As the advisor, we argue that this thesis has been proposed and tested decent.

Thus please tolerate presence.

Wassalamu'alaikum Wr. Wb

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CERTIFICATE OF THESIS AUTHORSHIP

I hereby declare that this thesis is originally written by Ratna Sasi Suci, student of Islamic Primary Teacher Education Program (PGMI) as the requipment for degree of Sarjana Pendidikan (S.Pd), Faculty of Education and Teacher Training at Maulana Malik Ibrahim Stase Islamic University, Malang. This research writing does not incorporate any material previously written or published by other parties to achieve the other *Sarjana* status of other Higher Tertiary Education, except those wich are indicated in the notes, quotation and bibliography. Therefore, i am the only person who is responsible for the thesis if there is any objection or claim from others.

Malang, August 6th, 2018
Author

Ratna
NIM. 14140095

Translation Guidelines of Arab Latin

Translation of arab latin in this thesis utilize the translation gudelines based on the agreement and decision together between Ministry of Religion and Ministry of Education and Culture of Republic of Indonesia No. 158, 1987 and No. 0543b/U/1987. That is could explained as follow:

A. Letter

ا	=	A	ز	=	Z	ق	=	Q
ب	=	B	س	=	S	ك	=	K
ت	=	T	ش	=	Sy	ل	=	L
ث	=	Ts	ص	=	Sh	م	=	M
ج	=	J	ض	=	Dl	ن	=	N
ح	=	H	ط	=	Th	و	=	W
خ	=	Kh	ظ	=	Zh	ه	=	H
د	=	D	ع	=	‘	ء	=	,
ذ	=	Dz	غ	=	Gh	ي	=	Y
ر	=	R	ف	=	F			

B. VokalPanjang

Vokal (a) panjang = â

Vokal (i) panjang = î

Vokal (u) panjang = û

C. Vokal Diphthong

أوْ	=	Aw
أيْ	=	Ay
أوْ	=	Û
إيْ	=	Î

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Praise and gratitude to Allah te all merciful and the compassionate. Thanks to Allah because of all blessing and guidance, so the writer is be able to finish the arrangment of qualitative research "Mind Mapping Based in Material Development at 3rd Grade to Increasing Creative Thinking Skills Students in SDN Gadang 2 Malang" as the final project to get the academician degree at Maulana Malik Ibrahim State Islamic University, Malang. Sholawat amd salam uninterruptedly extended except only to our prophet of Muhammad SAW who we are waiting for the intercession in the hereafter later.

The aim of this thesis is the requirement for obtaining bachelor of education (S.Pd). the specific purpose of this thesis is as discours of education that is still a lot of things from an education that must be developed. I hope that with finish this thesis will give benefits to all of the parties.

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The writer awwared that in the preparation of this report there are still many mistake for arrange this report, so writer expected critiques ad suggestions from all parties to improve the next report. I hope that this thesis provides benefits to all parties. *Amin Yaa Rabbal 'Alaimiin.*

Malang, August 4th, 2018

Writer

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ABSTRAK

Suci, RatnaSasi. 2018. *Pengembangan Buku Mind Mapping untuk meningkatkan kemampuan berpikir kreatif siswa kelas 3 SD/MI*. Skripsi, Program Studi Jurusan Guru Madrasah Ibtidaiyah (PGMI), FakultasIlmuTarbiyahdanKeguruan, Universitas Islam NegeriMaulana Malik Ibrahim Malang. Pembimbing Dr.Hj.Like raskova Oktaberlina, M.Ed

Kata Kunci:*Pengembangan, Mind Maping, berpikir kreatif, materi IPA SD*

Berpikir kreatif merupakan salah satu kemampuan berpikir siswa dalam menyelesaikan masalah didalam proses kegiatan belajar. Pemikiran yang kreatif menghasilkan produk atau ide baru sebagaimana sesuai pemikiran pribadi. Setiap siswa memiliki pemikiran yang berbeda dalam penalarannya. Pemikiran yang berbeda menghasilkan sesuatu yang inovatif dan kreatif, untuk itu guru dan siswa harus melatih kemampuan berpikir kreatif.

Namun, fakta menunjukkan bahwa kemampuan berpikir kreatif dikalangan kelas 3 SD/MI belum seperti yang diharapkan. Hal ini tercermin dari banyak siswa yang masih meniru jawaban dari teman atau buku teks yang dipelajari. Dan media yang kurang mendukung dalam meningkatkan kemampuan berpikir kreatif siswa. Oleh sebab itu, perlu adanya pengembangan media pembelajaran dalam bentuk buku Mind Mapping kelas 3 SD/MI dalam meningkatkan kemampuan berpikir kreatif. Tujuan penelitian ini adalah menghasilkan produk berupa media cetak Buku Mind Mapping yang diharapkan mampu meningkatkan kemampuan berpikir kreatif siswa. Kegiatan membuat peta pikiran dengan garis, simbol, dan kata penting dalam merangkum materi pelajaran dengan kreatifitasnya.

Dalampengembangan media pembelajaran ini, peneliti menggunakan model pengembanganmenurut Borg & Gall dengansepuluhlangkah yang sistematis di dalamnya.Dalam pengembanganinihanya enam tahap yang dilaksanakan, yaitu: (1research and starting information, (2) planning, (3) development preliminiary form of product, (4) testing products (Level of Validity), (5) product revision, (6) mind field testing.

Hasil pengembangan media pembelajaran dalam bentuk buku Mind Mapping Book ini memenuhi kriteria sangat valid dengan hasil (1) Hasil validasi mecapai kriteria sangat valid dengan total**100%.**(2) Hasil validasi media mencapai kriteria sangat valid dengan total **96.6%.**(3)Hasil validasi pembelajaran oleh guru kelas 3rd SDN Gadang 2 Malang mencapai **96%.**

Dari hasil penelitian diperoleh nilai rata – rata post-test lebih baik dari pada pre-test yaitu hasil pre-test X^1 =57,75 % dan post-test yaitu X^2 = 91% pre-test lebih kecil dari postest yaitu 57,75<91 , maka dari itu, dapat dikatakan bahwa Mind Mapping Book dalam pembelajaran sangat efektif untuk memperbaiki kemampuan berpikir kreatif siswa. hasil perhitungan dapat ditunjukkan dengan thitung = 3,975 t table = 2.093.kesimpulan, $H_o$ditolak and $H_a$diterima, sehingga terdapat uji beda dalam peningkatan kemampuan berpikir kreatif siswa.

ABSTRAK

Suci, RatnaSasi. 2018. *Pengembangan Buku Mind Mapping untuk meningkatkan kemampuan berpikir kreatif siswa kelas 3 SD/MI.* Skripsi, Program Studi Jurusan Guru Madrasah Ibtidaiyah (PGMI), FakultasIlmuTarbiyahdanKeguruan, Universitas Islam NegeriMaulana Malik Ibrahim Malang. Pembimbing Dr.Hj.Like raskova Oktaberlina, M.Ed

Kata Kunci: *Development, Mind Mapping, Creative Thinking, Nature Science IPA SD*

Creative thinking is one of the students' thinking skills in solving problems in the learning process. Creative thinking produces new products or ideas as per personal thought. Each student has a different thought in his reasoning. Different thoughts produce something innovative and creative, for that the teacher and students must practice creative thinking skills.

However, the facts show that the ability to think creatively among class 3rd SD / MI is not as expected. Media that is less supportive in improving students' creative thinking ability. These conditions cause students are not interested to train their creative thinking skills. Therefore, it is necessary to develop learning media in the form of Mind Mapping books in grade 3rd SD / MI in improving creative thinking skills. The purpose of this research is to produce a product in the form of print media Mind Map Book which is expected to be able to improve students' creative thinking skills. There are a symbol, color and picture to create the materials as creative thinking skills student.

In developing this learning media, researchers used learning media developed using the development model according to Borg & Gall with ten systematic steps in it. However, in this development only seven stages were carried out, namely: (1) research and starting information, (2) planning, (3) the development of preliminary form products, (4) level of validity, (5) product revision, (6) Mind field testing.

The results of the development of instructional media in the form of the book Mind Map Book meet valid criteria with results (1) The results of the validation of materials experts have achieved very valid criteria with a total percentage of **100%.**(2) Validity of instructional media design experts reached very valid criteria with a total percentage of **96.6%.**(3) The results of the validation, learning experts with teachers class 3rd in SDN Gadang 2 Malang achieved very valid criteria on the percentage of **96%.**

Result of the research has value average post-test more than pre-test it is pre-test results can be seen that X1 =57,75 % and post-test can be known that X2 = 91% pre-test is smaller than the post- test is57,75<91 , then it can be said that teaching materials in the form of mind mapping books on creative thinking skills are significantly effective in improving the ability to find key points in the reading grade 3 SD / MI.The calculation results show that it counts = 3,975 t table = 2.093. In conclusion, H_o is rejected and H_a accepted, so there is a significant improvement between the creative thinking ability of students.

الملخص

سو جي ، راتناساسي .2018 .تطوير كتاب رسم الخرائط الذهني لتحسين مهارات التفكير الإبداعي لدى المقدسة ، طلاب الصف الثالث في .SD / MI أطروحة ، برنامج دراسي ، قسم المعلمين الإبتدائية (PGMI)، كلية التربية وتدريب المعلمين ، جامعة مولانا مالك الإسلامية الإسلامية في ولاية مالانج . مستشار ، مثل Dr. Hj. Like Raskova Oktaberlina M. Ed

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الكلمات المفتاحية :التطوير ، التفكير الذهني ، التفكير الإبداعي ، مادة العلوم الأساسية

التفكير الإبداعي هو أحد قدرات التفكير لدى الطلاب في حل المشكلات في عملية التعلم .ينتج التفكير **الإبداعي** منتجات أو أفكارًا جديدة بما يتناسب مع التفكير الشخصي .كل طالب لديه أفكار مختلفة في **المنطق** .تنتج الأفكار المختلفة شيئًا مبتكرًا ومبدعًا ، حيث يجب على المعلم والطلاب ممارسة مهارات **التفكير** الإبداعي.

ومع ذلك ، فإن الحقائق تظهر أن القدرة على التفكير بشكل خلاق بين فئة 3 SD / MI ليست كما هو **متوقع** .وينعكس هذا في العديد من الطلاب الذين ما زالوا ينسخون إجابات من الأصدقاء أو الكتب **الدراسية** التي تجري دراستها .وسائل إعلام أقل دعماً في تحسين مهارات التفكير الإبداعي لدى الطلاب . **لذلك** ، من الضروري تطوير وسائط تعليمية في شكل كتب رسم الخرائط الذهنية في الصف 3 SD / MI **في تحسين** مهارات التفكير الإبداعي .الغرض من هذا البحث هو إنتاج منتج في شكل كتاب رسم خرائط **العقل** للوسائط المطبوعة والذي من المتوقع أن يتمكن من تحسين مهارات التفكير الإبداعي لدى الطلاب . **إن نشاط** إنشاء خريطة ذهنية مع الخطوط والرموز والكلمات مهم في تلخيص الموضوع بإبداعه.

في تطوير هذه الوسائط التعليمية ، استخدم الباحثون نموذج التطوير وفقًا لـ Borg & Gall مع عشر **خطوات** منهجية .في هذا التطوير تم تنفيذ ست مراحل فقط ، وهي 1) :البحث وبدء المعلومات ، (2) **التخطيط** ، (3) شكل التطوير التمهيدي للمنتج ، (4) اختبار المنتج) مستوى الصلاحية (، (5) مراجعة **المنتج** ، (6) اختبار المجال العقل.

نتائج تطوير وسائل الإعلام التعليمية في شكل كتاب العقل رسم الخرائط تطابق معايير صالحة للغاية مع **النتائج** (1) نتائج التحقق من صحة تحقيق معايير صالحة للغاية مع ما مجموعه 100 ٪ (2) .نتائج **التحقق** من صحة وسائل الإعلام تصل إلى معايير صالحة للغاية مع ما مجموعه 96.6 ٪ (3) .بلغت نتائج **التحقق** من صحة التعلم من قبل معلمي الصف 3 من SDN جادانج 2 مالانج 96 ٪.

من نتائج الدراسة تم الحصول على متوسط قيمة ما بعد الاختبار أفضل من الاختبار القبلي ، كانت نتائج **الاختبار** المسبقX^1 = 57.75 ٪ وما بعد الاختبار هوX^2 = 91 ٪ قبل الاختبار أصغر من الاختبار البعدي **الذي هو** 91 % 57.75 ، **لذلك ، يمكن القول أن كتاب رسم خرائط العقل في التعلم فعال للغاية لتحسين مهارات التفكير الإبداعي لدى الطلاب .يمكن إظهار نتائج الحساب بواسطة** t count = 3.975 t table = 2.093.**الاستنتاج ، رفض** H_o **ويتم قبول** H_a **، لذلك هناك اختبارات مختلفة في تحسين مهارات التفكير الإبداعي لدى الطلاب.**

CHAPTER I

INTRODUCTION

This chapter will discuss about (a) background of the research (b) formulation of the problem, (c) the goal of research and development, (d) benefits of research and development, (e)the research and development assumptions, (f) the scope of research and development, (g) product specifications, (h) original of the product, (i) Key terms (j) systematic of the writing.

A. Background of The research

Mind Mapping is a recording technique that combines images, symbols, colors, letters, and interconnected words as an explanation of something.[1] Mind Mapping based learning is done by making a summary of the subject matter in the form of a branched theme, created by the students' creative thinking. The use of Mind Mapping based on thematic learning, is expected to improve students' creative thinking ability in finding the summary or important points in reading and having innovative attitude. In accordance with its function, Mind Maping is effective for students because it can know the concept easily so as to help students in learning as a whole.

The importance of Mind Mapping for students in the learning process makes student activity easier and fun. One of them is science learning in 3rd grade of elementary school that can improve students 'thinking ability in finding out factual, systematic, and procedural information sources based on students' personal experiences.The ability to think is something that can be

[1]Buzan, Tony. 2006. *Mind Map untuk Meningkatkan Kreativitas.* Translated by Eric Suryaputra. 2006. Jakarta : Gramedia.page 9

done as a mental activity to help formulate or solve a problem, make a decision or fulfill the desire of curiosity (fulfill a desire to understand).[2] Students' thinking skills include critical thinking skills, creative thinking skills, reflective skills, and metacognitive abilities. The ability to think is very influential for student learning outcomes, one of them the ability to think creatively.

Creative thinking is a unity or a combination of logical thinking and divergent thinking to produce something new. The importance of improving creative thinking skills, in order to produce productive, innovative and creative generations in accordance with Government Regulation Number 17 of 2010 concerning Management and Implementation of Education aims to build the foundation for the development of the potential of students to become human beings who: 1) believe and fear God Who Almighty, noble, and noble personality, 2) knowledgeable, capable, critical, creative, and innovative, 3) healthy, independent, and confident, and 4) tolerant, socially sensitive, democratic and responsible[3]. Mind Mapping-based in Material Development to Increasing creative thinking skills student, is one of the effective ways that can help students understand the material summary easily and fun.

Students will also be trained in making Mind Mapping in solving problems related to summary material in accordance with the facts. Science learning related to the creative thinking ability of students requires media that helps the learning process and the appropriate media used in improving the

[2]Siswono, Tatag Yuli Eko (2005). *Upaya Meningkatkan Kemampuan BerpikirKreatif Siswa Melalui Pengajuan Masalah.* Jurnal terakreditasi"Jurnal Pendidikan Matematika dan Sains", FMIPA Universitas NegeriYogyakarta. Tahun X, No. 1, Juni 2005. ISSN 1410-1866, page 1-9.
[3]Kementrian Pendidikan dan Kebudayaan 2012. Dokumen Kurikulum 2013. Jakarta: Kemendikbud. Page 1

ability of creative thinking is Book Mind Mapping. Mind Mapping Book is a print media that is equipped with interesting images, connecting lines, and activities used in the learning process. Student-centered activities with more emphasis on creative thinking skills to seek and find out for yourself information from a problem in accordance with a summary of material according to the fact that there are surroundings of students. So that it can improve students' creative thinking skills related to science material in grade 3rd elementary school.

Material science lesson in grade 3rd elementary school, one of the main subject of interest and make students feel the difficulty that is Energy Resources. The material explains the kinds of energy sources and forms of energy produced. The subject matter of the energy source needs to be explained by the mind map in accordance with the concept of learning. Students make Mind Mapping directly, so that the students really know and understand the concept of the material. Does not because memorize and monoton with student's book, in making Mind Mapping is needed teacher guidance. The learning activities must be in accordance with the material characteristics of the Source of Energy and the appropriate learning media used in this material one of them is Book Mind Mapping in the development of science materials to improve students' creative thinking ability.

However, the facts on the ground are based on the results of interviews with teacher at 3rd grade in SDN Gadang 2 Malang, indicating that the learning process has not applied as desired above, in the science learning activities at

SDN Gadang 2 Malang the teacher-centering is dominant. The old teacher-centered learning paradigm is still frequently used in the learning process. Mind Mapping based learning has not been applied to student learning activities in the classroom. Mind Mapping is used once during the Green School festival (GSF) competition held by the Malang district government in 2014 in the adiwiyata framework. The ability of creative thinking of students is not optimal and extracting information about the material based on existing facts and the use of media used is still from textual books that I have made interesting for students in improving creative thinking skills.

From the above facts, the low ability of students to think creatively and extract information about the material, and the use of media for grade 3rd students at SDN Gadang 2 Malang on natural science materials related to the learning process that has not provided opportunities for students to improve creative thinking skills. That still use the old learning paradigm including the selection of learning media that are not in accordance with the characteristics of students.

Mind Mapping based in material development to improve students 'creative thinking ability by the researcher is needed. Because, it can be adapted to the characteristics of students, and the development of material based on Mind Mapping to improve students' creative thinking ability can answer the problem and difficulty in learning process.

The use of this Mind Mapping Book helps students to know firsthand things related to the material based on the fact that there is environment around

students and personal experiences of students, so that indirectly can improve students' creative thinking ability. the ability to think creatively based on students' personal experience, and is original. Learning is easier, fun and independent for students with clear results.

Based on the above background, it is necessary to conduct research and development on "Mind Mapping Based In Materials Development to Increasing Creative Thinking Skills of 3rdGrade in SDN Gadang 2 Malang ". Learning media that will be developed are Mind Mapping Books and are equipped with practical learning activities that can be applied directly.

B. Formulation of the problems

Based on the introduction above, formulation of the problems of this research and development with developing, Mind Mapping book as instructional media for the topic of Classification Creature for 3rd grade are:

1. How is the level of vailidity and attractiveness of learning media Mind Mapping Book if used in the science lesson Resources class 3rd SDN Gadang 2 Malang?
2. How is the influence of the use of media Mind Mapping Book in improving students' creative thinking ability on learning science materials Resources Class 3rd SDN Gadang 2 Malang?

C. The goal of research and development

Based on the formulation of the problems, the objective of developing are :

1. To describe the level of vailidity and attractiveness of learning media Mind Mapping Book if used in the science lesson Resources class 3rd SDN Gadang 2 Malang.
2. To describe the influence of Mind Mapping Book in increasing students' creative thinking ability on learning science materials Resources Class 3rd SDN Gadang 2 Malang.

D. Benefit of Research and Development

1. School

a. Provide a positive contribution to improve the media lacking in its application.
b. Input in the development of media used by teachers or students.
c. Can be a consideration to solve learning problems so as to help students' creative thinking ability.

2. For next developers

Increase knowledge and insights of researchers in designing, making, and evaluating the development of instructional materials based on picture books oriented mind mapping models with material thematic on theme 7 to measure the effectiveness of the instructional materials that have been made.

3. Teacher

a. As a feedback to know the student's learning difficulties in creative thinking in thematic learning activities
b. Develop skills and knowledge in the Mind Map model for creative thinking skills.

E. The research and development assumption

Development of learning media, picture book mind mapping model refers to several assumptions that are as follows.

a. Students can use and utilize instructional media visual book model of the mind map in addition to the textbook.
b. The student center learning approach can be done by using teacher learning media Mind Mapping book.
c. Students can interact with the thematic learning process by utilizing the learning media Mind Mapping Book.
d. Learning media Mind Mapping Book created with the aim of providing convenience to students to be able to think systematically and creatively to the various themes and sustainable learning.
e. Mind Mapping Book is a medium of print learning that uses graphic design by combining colors, images, and text creatively

F. The Scope Of Research and Development

In this section the researchers determine the variables of research which is used as a point seek to address the problems faced. These variables are:

1. Material Discussed

The material discussed is a thematic lesson in grade 3 theme 7 "Energi dan Perubahannya". There are 3 subthemes, namely subtheme 1 on energy sources, subtheme 2 energy changes, subtema 3 alternative energy. The discussion is fundamentally reviewed on source of energy. Dealing with the daily life of the students. Energy sources include heat energy, motion

energy, and alternative energy. Changes in energy and related to the daily life of the students. The focused of material discuss is theme 1 the source of energy.

2. Subject Research

Subject Research is a student in 3rd at SD Gadang 2 Malang. The test subjects in this study were class 3rd totaling 20 students. Researchers are interested in taking the third grade subject of SDN Gadang 2 because there is no development media in the form of a Mind Mapping Book. The use of Mind Mapping Book media helps students to find key words in reading and make interesting connecting lines that help students to train creative thinking skills.

G. Product Specification

Product development research, who yield is a media learning with the meterials on theme 7 about ”Energi dan Peubahannya” ". There are 3 subthemes, namely subtheme 1 on energy sources, subtheme 2 energy changes, subtema 3 alternative energy. At 3rd grade SD Negeri Gadang 2 Malang. Product made by development of research has criteria are:

1. The material who applied in Mind Mapping Book is the source of energy. The material discussed about energy sources. renewable and non-renewable energy sources. energy sources can produce forms of energy in the form of electrical energy, heat energy, energy motion and other energy. and how to conserve energy sources properly and save energy.

2. This form of learning media in the form of book Mind Mapping. there are pictures of energy sources and some exercise problems for students, and making MindMapping.
3. The learning media is a discussion of the wider energy source of the student book. the study of the material in it comes from several scientific articles and basic science books.

H. Original of the Product

Previously of the study is used to compare between the teaching media that has researcher developed with the teaching media that has developed before researching. Related to the previous of the researches, researcher has identified thesis about developing picture books as instructional media. The researcher has found the previous research which related to picture books as teaching media, they are:

(1) Thesis Sofiana, Elok Wardha. 2017. *Development Of Picture Books as Media To Write Acrostic Poem for 4 Grade of Elementary*.Thesis, Islamic Primary Teacher Education Program Tarbiyah and Teacher Training Faculty, State Islamic University Maulana Malik Ibrahim of Malang. The research objective of this study is for getting the product of learning media in the form of acrostic poem which are expected to be able to increase the effectiveness and students' skills inwriting poem in accordance with the correct vocabulary, sound, language and theme.

In the development of teaching materials, the researchers use teaching materials that are developed using a model of development according to Borg

& Gall with ten systematic steps. But these development only six stages were implemented, namely: (1) analyzing the needs and characteristics of students, (2) Formulating instructional purposes. (3) Formulating the materials, (4) Developing a gauge of success, (5) Jot text media, (6) Conducting tests and revisions.The result of the development of teaching materials in picture book of acrostic poem have valid criteria with results (1) Validation of expert matter 97%, (2) Validation of experts design of picture books 95%, (3) Validation of linguists 96%, (4) Validation and testing of teachers class IV 90%, (5) The field trials 91%. The results which were obtained value - average post-test are better than pre-test yaitu 80,3>41,8. While in test calculation of t manual with significance level of 0.05 was obtained results $t_{hitung} \geq t_{table}$ is 5.93>2.02 means that Ho and Ha is accepted. So there is a significant differences to the teaching materials developed. Thus, the development can already be used in learning.

(2) Thesis Fikria, Ida. 2017. *The Development of Practical Procedure Based on Do It Yourself (DIY) Mind Map to Increase Understanding of The Concept Material Structure and Function of Plant Parts in Srudents Grade 4 MIN Sukosewu Blitar*. Thesis. Islamic Primary Teacher Education Program. Faculty of Tarbiyah and Teaching Training. Maulana Malik Ibrahim StateIslamic University, Malang. This research was conducted at MIN Sukosewu Blitar. Form of research that writer use is descriptive with data analysis qualitative and quantitative. This type of research is Research & Development, the development of its own materials refers to the development of Borg & Gall which has 10 steps in its development procedure. The research was conducted on the fourth grade students of Diponegoro by taking samples of 30 students and Class

IV Imam Bonjol by taking samples of 29 students, science subjects material structure and function of plant parts. The result of teaching material development in the form of practicum procedure based on Do It Yourself (DIY) Mind Map for science subjects meet valid criteria with content expert validation reach 90%, subject experts reach 82% level, design expert reaches 96%. From the research result, the post test experiment class is better than the level of post test of control class that is 80,167> 71,034, whereas in t-test calculation with significance level 0,05, hail t count> t table that is 4,715> 2,045 means Ho rejected and H_a accepted. So there is a significant difference to the developed teaching materials. This indicates that the product developed has a high level of validity, and the teaching materials are worthy of use in the learning process.

(3) Thesis Rahmi Rosyidah SusantoNIM 11105244028Jurusan Kurikulum dan Teknologi Pendidikan, Fakultas Ilmu PendidikanUniversitas Negeri YogyakartaThe results of research and development there are two points, namely (1) researchproduce a decent Mind Mapping Book learning mediumSociology lesson for high school student of SMA / MA with Social Integration materialas evidenced by the results of media validation with the score (4.51) and validationmaterial with score (4.2). Eligibility is also reinforced by initial test resultswith scores (4.3), field trials with scores (4.2) and field trials withscore (4.64). (2) The learning media product of Mind Mapping Book is considered effectivefor Sociology lesson for students of class XI MAN 1 Yogyakarta. This matterevidenced from the results of the initial test calculation and the final test of the Effectiveness Test class,namely class XI IPS 3 MAN 1

Yogyakarta. From the results of the data, obtained tcountequal to -2.379 with df = 31 and p by 0,024 at the error rate of 0.05(5%).

Tabel 1.1

The differences and similarities original product

No	TITLE	SIMILARITIES	DIFFERENCES
1.	Thesis Sofiana, Elok Wardha. 2017. *Development Of Picture Books as Media To Write Acrostic Poem for 4 Grade of Elementary.*	In the development of teaching materials, the researchers use teaching materials that are developed using a model of development according to Borg & Gall with ten systematic steps. But these development only six stages were implemented, namely: (1) analyzing the needs and characteristics of students, (2)	The research objective of this study is for getting the product of learning media in the form of acrostic poem which are expected to be able to increase the effectiveness and students' skills inwriting poem in accordance with the correct vocabulary, sound, language and theme. This research only to increase effectiveness and

		Formulating instructional purposes. (3) Formulating the materials, (4) Developing a gauge of success, (5) Jot text media, (6) Conducting tests and revisions.	student skills in writing not to train creative thinking skills of student.
2.	Thesis Fikria, Ida. 2017. *The Development of Practical Procedure Based on Do It Yourself (DIY) Mind Map to Increase Understanding of The Concept Material Structure and Function of Plant Parts in Srudents Grade 4 MIN Sukosewu Blitar*.	This research use Mind Mapping method as instructional learning and focus on Science lesson. Form of research that writer use is descriptive with data analysis qualitative and quantitative. This type of research is Research	This research use mind mapping to increase understanding of the concept material and based on Do It Yourself.

		&Development, the development of its own materials refers to the development of Borg & Gall.	
3.	Thesis Rahmi Rosyidah Susanto NIM 11105244028 Department of Curriculum and Educational Technology, Faculty of Education, Yogyakarta State University. Mind Mapping Book Development For Lesson Sociology For Student Class XI Secondary School.	research produce a decent Mind Mapping Book learning and The learning media product of Mind Mapping Book is considered effective for the student.	This research focus on sociologhy lesson for senior high school to implementation Mind Mapping book.

I. Key Term

There are key terms to avoid the missing understanding of perceptions in developing research, they are:

1. Mind Mapping Books

The Mind Mapping book is an instructional lesson for elementary school of 3rd grade discussed science lesson about the theme 7 "ENERGI

DAN PERUBAHANNYA" which is more focused on students 'creative thinking ability and is equipped with colorful drawings designed to train students' creative thinking ability. Mind mapping or mind map is the technique combines images, symbols, colors, letters, and interconnected words as an explanation of a thing.

2. Creative thinking skill

Creative thinking here, is the skills of student to think a new idea, new product and new creativities. The student can be creative thinking with their experiences who applied in learning process as instruction. Learning activities the student use their brain to be create the material nature as summary as inovative and creative.

3. Material Nature

Material nature here, is a one of topic in theme Energy and the changes that is a source energy. This material develop by the researcher from other references. Source energy who discussed about the meaning of energy, the variant of energy, the uses of energy and how to recycle the energy.

J. Systematic of the Writing

Systematic of the writing in this theses will be planning into chapter I until chapter VI.

Table 1.2 the Systematic Writing in the Theses

Chapter 1	Background of the study, formulation of the problem, the goal of research and development, benefit of research and development, the research and development assumption, the scope of research and development, product specification, original product, key terms, and systematic of the writing.
Chapter II	Development Research and Development, Media, Mind Mapping, Creative Thinking, Natural Science, Instructional Materials, and research Framework.
Chapter III	Type of Research, Model of Development, The Development Procedure, Product Trial, The Design of The Trial, Subject Trial, Type of Data, Data Collection Instrument, Data analysis Technique. Development and analysis.
Chapter IV	Result of Mind Mapping Book Development, Presentation of data Expert Validation and analysis of creative Thinking Skills, Attractiveness Materials
Chapter V	Analysis of Product Development Mind Mapping Book to Increasing Creative Thinking Skills of 3rd Grade SD/MI, Analysis the result of attractivenes and influence of Mind Mapping Book basen in Material Development to Increasing Creative Thinking Skills Student at 3rd Grade SDN Gadang 2 Malang
Chapter VI	Conclusion and Suggestion

CHAPTER II

LITERATURE REVIEW

1. Development Research and development

a. Understanding Development

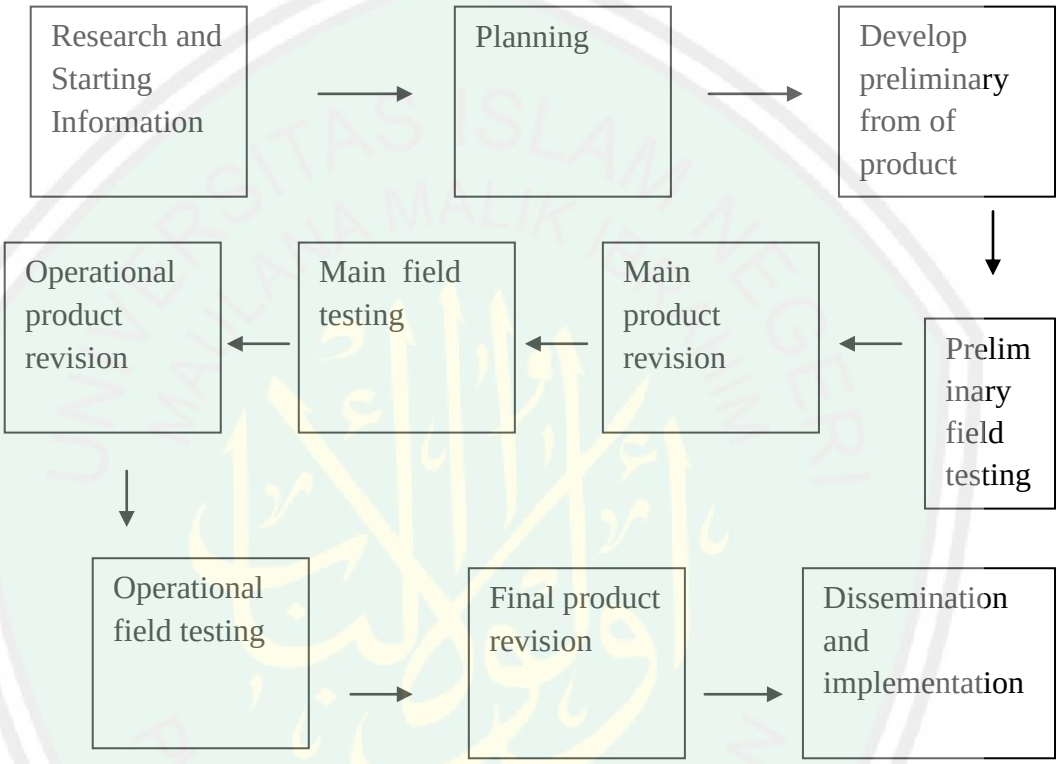
Research and development is at the type of research used to generate a particular product, and test validity and the influence of the use of such products.[4] These following are the steps of Research and Development cycle taken from Borg & Gall, which are researched and information collecting, planning, develop a preliminary form of product, preliminary field testing, main product revision, main field testing, operational product revision, operational field testing, final product revision, dissemination and implementation.[5]The process of the R & D cycle in this research will however be helpful for the researcher. In the other words, R & D cycle can be categorized into three main stages which are researched and information collecting, developing preliminary product and evaluating. This design is going to use one class or one gopu pre – test and post – test design.

The class that has been chosen will be observed in the classroom. After observing as the first step, the researcher will conduct the document analysis and interview to get the more detail data that is useful to have some

[4] Sugiyono, Metode Penelitian Pendidikan (Bandung: Alfabeta 2013), page. 407

[5]Thesisdeveloping comic as instructional media for the topic of muscle and nerve for 4th grade written by: irfa'i alfian mubaidilla nim 13140093 International Class Program (ICP) Islamic Elemntary School Teacher Program Islamic Elementary School Teacher Education Department Tarbiyah And Teaching Training Faculty State Islamic University Maulana Malik Ibrahim Malang May, 2017.page 56

overview of what basically learning materials given for young learners and interviews theteacher. Then, materials, design will be conducted in teaching. There will be the try out in the classroom to find out how the materials work well.



Picture 2.1 R&D cycle from Borg & Gall (Eny, 2012: 24)

b. Principles of Development

Development principles that need to be considered and implemented sequentially. Those principles are:

1) Materials development proceeds from the easier to understand the difficulties, from concrete to abstract understanding.
2) The repetition of words or sentences will strengthen the understanding.

3) The positive feedback from the teaching materials created will provide corroboration for student understanding.
4) Students become motivated to learn is high, it is one of the critical success factors of learning.
5) Existing development of teaching materials will achieve the goals like climbing stairs, step by step, will eventually reach a certain height.
6) And as a result, we will know what has been achieved and will encourage students to continue to achieve the goal. [6]

2. Media

a. Understanding of Media

Media learning is important material for the learning process. The object of education needs the media for learning to make the student creative, critical and to develop the thinking skills of students. In the book of Media Learning, the meaning of media is:[7]

> "Media merupakan sesuatu yang bersifat menyalurkan pesan dan dapat merangsang pikiran, perasaan, dan kemauan audien (siswa) sehingga dapat mendorong terjadinya proses belajar pada dirinya".

The use of learning media for education is very influential for teaching and learning activities. Interesting media, creative and innovative will affect the ability or potential students. Learning media can be defined as

[6]Sofan Amri dan Lif Khoiru Ahmadi, *Konstruksi Pengembangan Pembelajaran* (Jakarta: PT Prestasi Pustakarya, 2010) page.160

[7]asnawir, dkk. media pembelajaran. (jakarta : ciputat pers, 2002) page.11

aids in the form of physical and non-physical are deliberately used as an intermediary between teachers and students in understanding learning materials to be more effective and efficient. So that the learning materials more quickly accepted students intact as well as attract students to learn more.

In short, the media is a tool used by teachers with customized design to improve the quality of learning.[8]The role of media in learning is as a messenger technology (information) that can be utilized for the purposes of teaching or physical means to convey the content or learning materials.[9] The researcher, summarize that Purpose of Learning Media are:

1) Easing the learning process in the classroom
2) Improve the efficiency of the learning process
3) Maintain relevance between subject matter and learning objectives
4) Assist the concentration of learners in the learning process.

b. Classification of Media

Experts have different points of view from each other inside. Classify learning media. Learning media can be divided into several groups as The following:

First, the graphics media or often called two-dimensional media such as Pictures, photographs, graphs, charts or diagrams, posters, cartoons, comics, etc.;

[8]Musfiqon, *Pengembangan Media dan Sumber Pembelajaran* (Jakarta: PT. Prestasi Pustakaraya,2012), page. 28

[9]AH. Sanaky Hujair, *Media Pembelajaran* (Yogyakarta:Safiria Insania Press,2009), page. 6

Secondly, the media Three dimensions are in the form of models such as solid model, model Cross section, model stacking, work model, mock-up, diorama etc .;

Third, the media Material Lesson Master Strategy and Media Student Learning process Projections such as slides, film strips, films, use of OHP etc;

fourth, use Environment as a medium of instruction.[10]

Classifies the main characteristics of the media in the three principal elements of sound, visual, and motion. The visual form itself has distinguished again in three forms, namely visual images, lines (graphic liner) and symbols. In addition, also distinguishes broadcast media (transmission) and recording media (recording), so that there are 8 media classifications;[11]

1. Motion visual, audio media
2. Silent audio visual media
3. Semi-motion audio media
4. Media visual motion
5. Silencing visual media
6. Media visual semi-motion
7. Audio media, and
8. Print media

[10] nana sudjana and ahmad riva'i, *media pengajaran*, (bandung: sinar baru algensindo. 2011) page 3

[11] asnawir, dkk. media pembelajaran. (jakarta : ciputat pers, 2002) page. 27

c. Characteristics of media and thematic learning resources

As part of the learning system, the media have practical values of the ability to;[12]

(a) Concrete concepts,

(b) Bringing dangerous or difficult objects into the learning environment,

(c) Displaying too large objects,

(d) Displaying objects that cannot be observed with the naked eye,

(e) Observing movements that are too fast,

(f) Allow students to interact directly with their surroundings,

(g) Allow for uniform observations and perceptions for student learning experiences,

(h) Generate learning motivation;

(i) Give individual attention to the entire study group.) Provides consistent and reusable learning information,

(j) Presenting messages or learning information simultaneously, overcoming time and space constraints, and

(k) Controlling the direction and speed of student learning

3. Mind Mapping

a. Understanding Mind Map

Mind map is a way of recording the creative, effective, and literally will map our mind. Mind Mapping is a technique of recording that uses words, colors, lines, symbols and images by combining and developing the

[12] Trianto mengembangkan model pembelajaran tematik(Jakarta: Pt.Prestasi Pustakaraya 2009) page.202

potential work of the brain that allows a person to organize and remember all forms of information.[13]In addition it is also soothing, fun and creative. Mind mapping can help students and teachers in the learning process in the classroom by summarizing the subject matter into several mind mapping sheets that are much easier to learn and remember by the students. Mind maps allow the brain to use all of its images and associations in radial patterns and networks as the brain is designed, as the brain always uses internally and which ones need to let it get used to it again.[14]

Through mind mapping, all the information of key and important information of each learning material can be organized using radians that match the brain's natural work mechanism so that it is easier to understand and remember. A Mind Map Tutor is simply a Mind Map Guide that guides you through the subject that you are learning. The main components of a Mind Map Tutor are:[15]

1) Overview Mind Map
2) Detailed Mind Maps for each of the branches on the Overview
3) Detailed notes attached to the branches were required
4) Additional Mind Maps as needed

[13]Nuris Syahidah *prosiding seminar nasional 9 mei 2015*metode pembelajaran mind mapping sebagai upayamengembangkan kreativitas siswa dalam pembelajaran ekonomi*universitas negeri surabaya*nurissyahidah17@gmail.com *page.110*

[14]Pengembangan *Mind Mapping Book* Untuk Mata Pelajaran Sosiologi Bagi Siswa Kelas XI Sekolah Menengah Atas skripsi Oleh Rahmi Rosyidah Susanto Nim 11105244028 program studi teknologi pendidikanjurusan kurikulum dan teknologi pendidikanfakultas ilmu pendidikanUniversitas Negeri Yogyakartaoktober 2016, page 45

[15] Mind Map Tutor Handbook Creating and Using Mind Maps to learn faster and easierBy Faizel Mohidin Copyright © 2010, Faizel Mohidin Published by www.UsingMindMaps.compage .6

Mind mapping or mind map is a diagram used to present words, ideas (thoughts), tasks or other things connected from the brain's main idea. The mind map is also used to generalize, visualize and classify ideas and as aids in learning, organizing, problem solving, decision making and in writing.[16]Mind Map is the easiest way to get information from inside and outside your brain. The mind map is a new way to learn and practice fast and powerful.

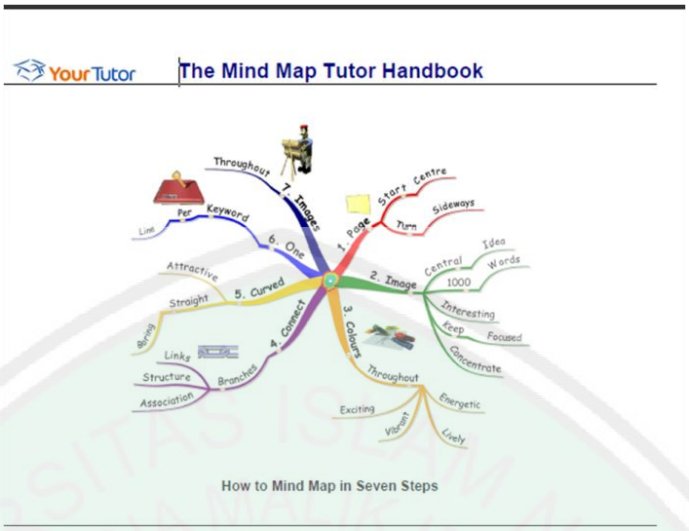
The mind map is a way of making notes that are not boring. Mind maps are the best way to get new ideas and plan projects. A mind map is created by words, colors, lines, and images. Mind mapping or mind map is a hierarchical graph of the concept of interconnection by connecting words with lines that form meaningful propositions.[17]

The technique of recording mind mapping combines images, symbols, colors, letters, and interconnected words as an explanation of a thing. Mind mapping learning method balanced right brain and left brain so that the expected results will be more lasting in the memory of students because they dig and find their own concepts. This method is effectively applied to improve students' understanding and memory. The type of mind mapping used is the Map Style with the main topic in the middle and covered with branching subtopics that are spread.[18]

[16] sri zuliyati arbai 4001409069 pengembangan modul ipa terpadu bermuatan *mind mapping* pada tema cahaya dan penglihatan untuk kelas viii smp/mts. *Skripsi* prodi pendidikan ipa fakultas matematika dan ilmu pengetahuan alam universitas negeri semarang 2013.Page 15

[17] Tony buzan, mind map (Jakarta : 2007)page. 4

[18]pengembangan modul ipa terpadu bermuatan *mind mapping* pada tema cahaya dan penglihatan untuk kelas viii smp/mts Pendidikan Program Studi Pendidikan IPA oleh Sri Zuliyati Arbai



2.2 picture how to Mind Map in Seven Steps by By Faizel Mohidin Copyright © 2010, Faizel Mohidin Published by www.UsingMindMaps.com

Mind Mapping is the overall approach of the brain that makes your brain capable of making a thorough record in one page. Using visual imagery and other graphical tools, mind maps will give a deeper impression. The mind map uses visual and sensory reminders now in a pattern of related ideas, such as road maps used for learning, organizing and planning. This map can generate original ideas and trigger easy memories.

b. Step Mind Mapping Preparation

Steps to formulate the mind mapping put forward in making mind maps are:

1) Make sure the main theme is in the middle.

2) From the main theme will appear derived themes.

3) Find the relationship between each theme and mark it with lines,

4001409069 prodi pendidikan ipa fakultas matematika dan ilmu pengetahuan alam universitas negeri semarang 2013page.10

colors or symbols.

4) Use capital letters.

5) Use mind maps on plain paper and remove the edits.

6) Leave room for adding them.[19]

c. How to Mind Map in Six Steps:[20]

(a). Start in the center of a blank page

(1) Turn the page sideways (Set your page to landscape on the computer)

(2) Your brain has more freedom to spread out in all directions

(b). Use an Image or Picture for your central idea

(1)An Image is worth a thousand words

(2)It stimulates your imagination

(3)It is more interesting

(4)It keeps you focused

(5)It helps you concentrate

(c). Use colors throughout

(1)Colors are exciting to the brain

(2)Colors add vibrancy and life to your Mind Map

(3)Colors add energy to your creative thinking

(4)Connect Main Branches to the central image

(5) Connect second and third level branches

(6) The brain works by association

[19] Tony buzan, mind map (Jakarta : 2007)page 22

[20] Mind Map Tutor Handbook Creating and Using Mind Maps to learn faster and easier By Faizel Mohidin Copyright © 2010, Faizel Mohidin Published by www.UsingMindMaps.compage.19 - 20

(7) The brain likes to link things together and create structure

(d). Make your lines curved

(1) Straight lines are boring

(2) Curved branches are attractive

(e). Use One Key Word per line

(1)Single Key Words give your Mind Map more power and flexibility

(2) Each word or image creates its own associations and connections

(3) Each Key Word is able to spark off new ideas and thoughts

(4) Phrases dampen this triggering effect

(f). Use Images throughout

(1)Each image is worth a thousand words

(2)10 images will give you 10 000 words!

d. Learning Theory Skinner strengthening is related to Mind Mapping

Through Skinner's research and experiments on the learning process with operand conditions, it can be concluded that the most important elements in learning are reinforcement and punishment. Skinner's strengthening learning theory has conformity with mind maping media as follows:[21]

a. In mind mapping media, many things can be used as learning reinforcement elements, such as drawing, coloring, giving key images.

[21]Pengembangan *Mind Mapping Book* Untuk Mata Pelajaran Sosiologi Bagi Siswa Kelas XI Sekolah Menengah Atas skripsi Oleh Rahmi Rosyidah Susanto Nim 11105244028 program studi teknologi pendidikanjurusan kurikulum dan teknologi pendidikanfakultas ilmu pendidikanUniversitas Negeri Yogyakartaoktober 2016, page 54

b. Skinner and mind mapping both appreciate the independence of students. In mind mapping media, every child must do it based on their own creativity.

c. Both emphasize understanding causation based on logical relationships. Based on Skinner's reinforcement learning theory, Mind Mapping Book media is the right learning media because all the reinforcement elements explained by Skinner are like rewards, a conducive environment can be applied to learning using the mind map method approach

4. Creative Thinking

a. Understanding Creative thinking

The ability to think is something that can be done as a mental activity to help formulate or solve a problem, make a decision, or fulfill the desire of curiosity (*fulfill a desire tounderstand*).[22] Improving the ability to think creatively means raising students' ability to understand problems, fluency, flexibility and novelty of problem solving.[23] Students are said to understand the problem when showing what is known and what is asked, Students have eloquence in solving problems if they can solve problems with logically correct answers.

Students have the flexibility to solve problems if they can solve the problem in two or more different and correct ways. Students have a novelty in solving problems when they can make answers that are different from

[22] Siswono, Tatag Yuli Eko (2005). *Upaya Meningkatkan Kemampuan BerpikirKreatif Siswa Melalui Pengajuan Masalah.* Jurnal terakreditasi"Jurnal Pendidikan Matematika dan Sains", FMIPA Universitas NegeriYogyakarta. Tahun X, No. 1, Juni 2005. ISSN 1410-1866, page 1-9.
[23] *International Journal of Social Science and Humanity, Vol. 4, No. 6, November 2014* Ali Salim Rashid Alghafri and Hairul Nizam Bin Ismail DOI: 10.7763/IJSSH.2014.V4.410 page 518

previous answers or commonly known to students. Creative thinking is defined as a mental activity that a person uses to build new ideas or ideas.[24]

In particular it can be said to think creatively as a whole or combination of logical thinking and divergent thinking in order to produce something new. Something new is one indication of creative thinking in science while other indications relate to logical thinking and diverging thinking.[25]Creative thinking is one of the highest levels of thinking, starting from recall, basic thinking, critical thinking, and creative thinking. Thinking that level above recall is called reasoning. While thinking that level above the basic thinking is called high-order thinking (high order thinking).[26] Hierarchically, the level of thinking is presented on:

[24] pengembangan kemampuan berpikirkreatif siswa dalam pembelajaranmatematika dengan pendekatanpendidikan matematika realistikindonesia (pmri)abdul aziz saefudinuniversitas pgri yogyakarta, jl. pgri 1 sonosewu no. 117yogyakarta*email: aa_ziz@yahoo.comAl-Bidāyah, Vol 4 No. 1, Juni 2012 page 39*

[25]Ruggiero dalam Siswono, Tatag Yuli Eko. 2007. *Pembelajaran Matematika Humanistik yang Mengembangkan Kreativitas Siswa*. Makalah disampaikan pada 'Seminar Nasional Pendidikan Matematika yang Memanusiakan Manusia' di Program Studi Pendidikan Matematika FKIP Universitas Sanata Dharma Yogyakarta tanggal 28-30 Agustus 2007 Pehkonen, Erkki. *The State of Art in Mathematical Creativity*, 1997. http://www.fiz.karlsruhe.de/ fiz/publications/zdm. Volume 29, Juni 1997, No. 3, Electronic Edition ISSN 1615-679X, [24 Juni 2010].page 11

[26]Krulik, Stephen, dan Rudnick, Jesse A. *The New Sourcebook for Teaching Reasoning and Problem Solving in Elementary School*. (Massachusetts: Allyn & Bacon, 1995). *Abdul Aziz Saefudin, Pengembangan Kemampuan Berpikir Kreatif Siswa* Hirarki berpikir (Krulik dan Rudnick) page 41

Picture 2.2 Krulik, Stephen, dan Rudnick, creative thinking hierarchically level

In creative thinking, one will go through the stages of synthesizing ideas, building ideas, planning the application of ideas, and applying those ideas to produce something or new product. Creativity is the ability to find many possible answers to a problem, where the emphasis is on quantity, usability, and diversity of answers. Creativity is a person's ability to create something entirely new or a combination of pre-existing works into a new work done through interaction with his environment to face problems and seek alternative solutions through divergent ways of thinking .[27]

In other words, these opinions state that creativity is a product of ability (creative thinking) to produce a new way or something in the face of a problem or situation.

[27]Nuris Syahidah *prosiding seminar nasional 9 mei 2015*metode pembelajaran mind mapping sebagai upayamengembangkan kreativitas siswa dalam pembelajaran ekonomi*universitas negeri surabaya*nurissyahidah17@gmail.com *page.29*

b. Strategies for developing creative thinking[28]

1. Focus on inquiry teaching;
2. Encourage questioning and use open-ended questions to challenge;
3. Deal with controversies thereby encouraging discussion, debate and discourse;
4. Bring students in to contact with real world problem solving;
5. Allow pupils to take risks, make connections and see relationships;
6. Allow for quiet reflection;
7. Make the most of unexpected events;
8. Allow pupils to 'take a lead';
9. Help pupils to develop criteria to make informed judgments;
10. Help pupils value different ways of working;
11. Give opportunities to explore ideas, keep options open and envisage what might be.

c. Creative thinking process

The creative thinking process is primarily used by someone to solve the problem. Explains that problem solving is a process that occurs in 4 (four) phases, namely:[29]

(a) The preparation phase, in the form of collecting information relating to the problem being solved.

[28] Developing Critical and Creative thinking in science department for children, schools, and families First published in 2008 Ref: 00054-2008DVD-EN the national strategies I secondary The Coalition Government took office on 11 May 2010. the Department for Education website www.education.gov.uk page,25

[29] Yuliani Nuraini Sujiono, Bambang Sujiono Bermain Kreatif Berbasis Kecerdasan Jamak (Jakarta; PT Indeks 2010),page41

(b) The maturation phase, the information that has been collected in the form of activities that have been related to the business of understanding the interconnection of one information with other information in order to solve the problem;

(c) Illumination phase, in the form of discovery of ways that need to be done to solve the problem andthe verification phase, in the form of activities related to the effort to evaluate whether the measures to be used in problem solving will yield appropriate results.

5. Natural Science (IPA)

a. Understanding of Natural Science

Science in Indonesian Dictionary have a meaning of knowledge about a scope arranged by applying certain methods, which can be used to explain certain knowledge.[30] IPA is science that examines phenomena in the universe, including the earth, forming concepts and principles.[31] Natural Science is a human activity that is active and dynamic. That is, the incessant human activity on the results of the experiment will produce a concept, then the concept will encourage the next trial.

Natural science use the universe as an object of investigation. The objective of the Natural science is to seek the truth, but that truth is relative because the aspect comprehensive of natural sciences. Science is derived from the latin word *scientia* meaning literally that is knowledge.

[30]Kamus Besar Bahasa Indonesia (http://kbbi.co.id/, accessed on March 12, 2018 on 12:30 pm)
[31]Maskoeri Jasin, Natural Science Basis (Jakarta: Rajawali Press, 2008). Page1.

Whereas Kuslan Stone mentions that Science is a collection of knowledge and the means to obtain and make use of that knowledge. Science is a product and a process can not be separated. "Real Science is both product and process, inseparably Joint"[32] According to Abdullah Ali, IPA is "theoretical knowledge obtained or compiled in a manner typical of or specific, i.e. by doing observation, experimentation, theory, drafting false assertion experimentation, observation and so on the way between Habib Dehghani hooks one by way of the other".[33] From the opinion expressed above, the nature of science is one of the disciplines knowledge that related to knowing nature systematically. Science is not just a set of knowledge in the form of facts, concepts or principles, but also is a process of discovery of the results of observation/experiment that will continue to be refined.

6. Instructional Materials

a. Understanding of Instructional Materials

Instructional material according to Pannen, materials or subject are arranged systematically used by teachers and students in the learning process. [34] Muhaimin in modules of insight instructional materials development reveals that instructional materials are any materials used to help teachers/instructors in the learning activities.

Meanwhile, according to Abdul Majid, instructional materials are any materials, information, tools and text that is used to help the

[32] Wikipedia, *Definisi Ilmu Pengetahuan Alam*, (http://id.wikipedia.org/wiki/Ilmu_alam, diakses tanggal 11 oktober 2014)
[33] Abdullah Aly & Eny Rahma, *Ilmu Alamiah Dasar*, (Jakarta: Bumi Aksara, 1998), page.12
[34] Dikutip oleh Tian Belawati dalam Materi Pokok Pengembangan Bahan Ajar Edisi ke Satu (Jakarta: Universitas Terbuka, 2003), page. 3

teacher/instructor in carrying out activities of teaching and learning. The material means could be written or unwritten materials. Instructional materials or materials curriculum (curriculum material) is the content or payload of the curriculum that must be understood by the students in an effort to achieve the objectives of the curriculum.[35]

Instructional materials or materials generally consists of knowledge, skills, and attitudes that students should be studied in order to achieve the standards of competence have been determined. In detail, the kinds of instructional materials consist of knowledge (facts, concepts, principles, procedures), skill, and attitude or a value to be learnt students in order to achieve the standards of competence have been determined. Curriculum materials or materials can be sourced from various disciplines that social science (social science) and the natural sciences (natural science). Further to note is how the scope and breadth and depth of the material or content in any field of study.

b. Function of Instructional Materials

Instructional material in learning context is one of the components that should be there, since the instructional material is a component that must be examined, observed, studied and made of material that will be covered by the student and at once can give you guidelines to learn them. Without the instructional material it will not produce anything.

[35] Abdul Majid, *Perencanaan Pembelajaran: Mengembangkan Standar Kompetensi Guru*, (Bandung: Remaja Rosdakarya, 2007), page.173

Instructional material are the external factors that students are capable of strengthening the internal motivation to learn. One of the learning event that is capable of influencing the activity of instructional material is by entering into such activity. Instructional materials are designed in full, in the sense that there are elements of the media and an adequate learning resources will affect the atmosphere of learning so that the learning process that occurs on a student be more optimal. With materials designed and equipped the content and illustrations of interest would stimulate students to make use of instructional materials as a learning material or as a source of learning.

Function ofinstructional material according to National Department Education mentioned in the book of Iif Khoiru Akhmadi that instructional material have many function, such us[36]:

a. Guidance for teachers who will direct her activities in the learning process, is the substance through the competence that should be taught to students.
b. Guidance for students who will be directing all of its activity in the learning process, is the substance through the competence that should be learned/master.
c. The evaluation tool of achievement/mastery learning outcomes.

The existence of instructional materials are necessary, so that the instructional materials are used as guidelines for teachers in the learning

[36]Iif Khoiru Ahmadi, Sofan Amri, *Pengembangan & Model Pembelajaran Tematik Integratif*, (Jakarta: Prestasi Pustaka, 2014),,page. 159

process, guidelines for directing students master the subject matter, and also used as a tool to evaluate student achievement against the material being taught.For the purpose of making learning materials include:[37]

a. Provide instructional materials that comply with the demands of the curriculum taking into account the needs of the students, the materials are in accordance with the characteristics and settings or the social environment of students.
b. To assist students in acquiring alternative instructional materials in addition to the books which happen it is difficult to obtain.
c. To make easy teachers in carrying out the study.

c. Kinds of Instructional Material

Classification of materials according to the Faculte de Psycologie et Sciences de I'EducationUniversite de Geneve in its website is a slate media, audio visual, interactive and integrated electronics, then referred to as themedienverbund (German which means integrated media) or mendiamix.[38] A learning materials include:

a. Lesson learned for students and teachers
b. Competencies to be achieved
c. Supporting Information
d. Exercises
e. Worksheet (LKS)
f. Evaluation

[37] *Ibid page.165*
[38] Abdul Majid, *Op.cit.*, page. 174

Instructional materials can be made from a variety of forms according to the needs and characteristics of the instructional material will be presented. Form of instructional materials are distinguished into four types, such as:

a. Printed materials (*printed*) are a number of materials prepared in paper, which can serve for the purposes of learning or the delivery of information. For example, handouts, books, student worksheets, module, brochure, leaflet, wall chart, photos/images, model/market.
b. Listening materials (*audio*) that directly can be played or heard by someone or group of people. For example, radio cassette, vinyl record and compact disk audio.
c. Materials viewpoint heard of *(audio-visual)* are the all things that can be listened and combined with moving pictures. For example, video compact disks, movies.
d. Interactive instructional materials is a combination of two or more users are manipulated by the media or given preferential treatment to control a command or the natural behavior of a presentation like a compact disk of material.[39]

d. The Principles of Instructional Materials Election

The existence of some principles that need to be considered in the preparation of instructional materials or learning material. The principles in

[39]Iif Khoiru Ahmadi, Sofan Amri.,*op.cit,*. page. 162.

the selection of instructional materials include principles of relevance, consistency and sufficiency.

a. The principle of relevance means that connectedness. The instructional materials should be relevant or no connection or relationship with the achievement of basic competencies and competency standards.
b. The principle of consistency that is consistent. If the basic competency that must be mastered students there are four kinds of instructional materials, then that should be taught must include four kinds.
c. The principle of adequacy means the material being taught should be quite adequate in helping students master the basic competencies are taught. The material should not be too little, and should not be too much. If too little will be less help reaching the standards of competence and basic competence. Conversely, if too much would be a waste of time and effort that does not need to learn it.[40]

e. Selecting of Instructional Material

Learning materials is an important element of learning which have to attention by the teacher. The subject matter is a medium to achieve the learning objectives "consumed" by the students. Therefore, the determination of the subject must be based on the objectives to be achieved.

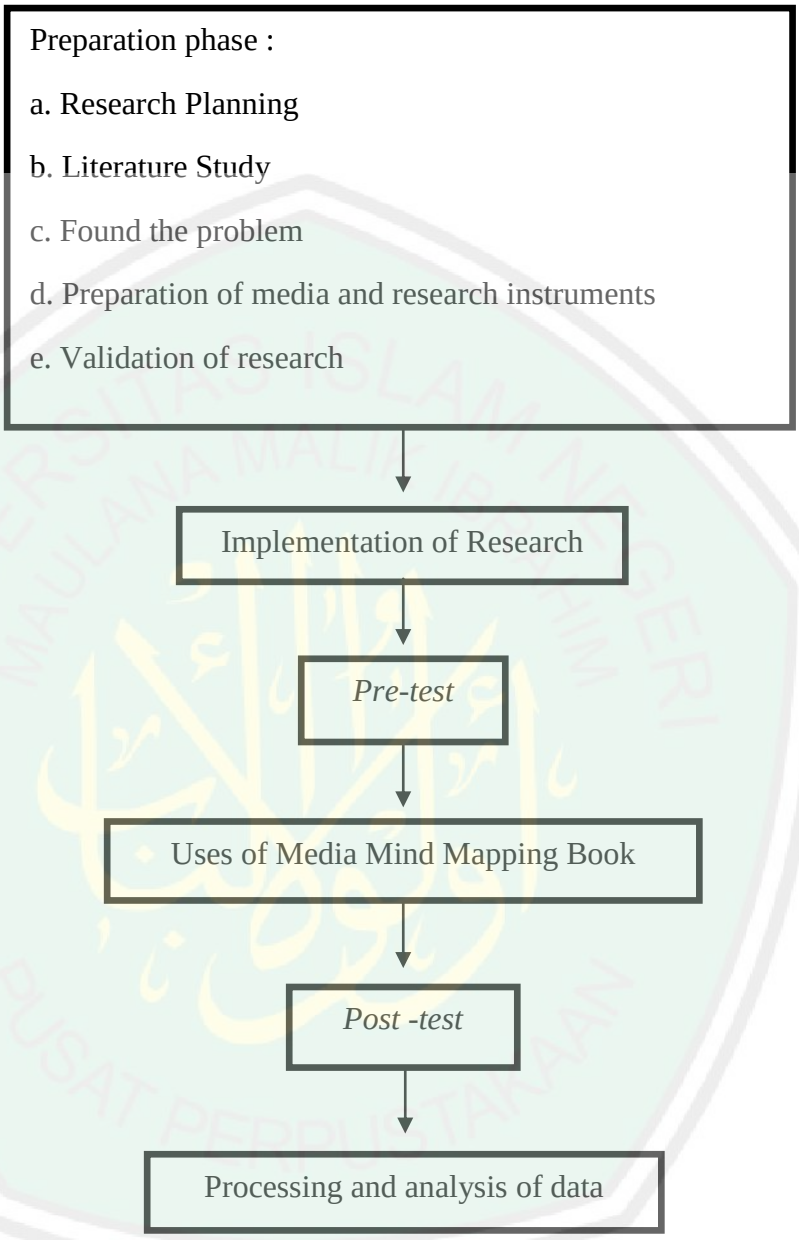
One important factor that affects be success of the overall learning is the ability of teachers to design instructional materials. Instructional material is essentially an integral part of the syllabus, namely planning,

[40] Abdul Ghofur, *Disain Intruksional: Langkah Sistematis Penyusunan Pola Dasar Kegiatan Belajar Mengajar* (Solo: Tiga Serangkai), page.17

predictions and projections on what will be done during the learning activity.

Generally, speaking can be argued that the learning materials (instructional materials) are the knowledge, skills, and attitudes that students must master in order to meet the standard of competence specified. Instructional material occupies a very important position of the overall curriculum, which must be prepared for the implementation of learning to achieve the target. The target must be in accordance with the Core of Competence and Basic Competence to be achieved by students. That is, the material specified for the learning activities should be material that really support the achievement of standards of competence and basic competences, as well as the achievement of indicators.

7. Research Framework



CHAPTER III

RESEARCH METHODS

In this chapter will be presented regarding (a) type of research, (b) model of development, (c) development procedure, (d) Product trial, (e) the design of the trial, (f) subject of trial, (g) type of data, (h) data collection instrument, (i) data analysis technique (j) development and analysis data.

A. Type of Research

Definition of research and development by Borg & Gall is a process that they use to develop and validate the educational product. This study follows a cyclically steps. The steps of research or development process consists of the study of research findings that the products will be developed, developing products based on these findings, conduct field trials in accordance with the setting in which the product will be used, and to revise the results of the field test.[41]

Type of Research that used in developing media is Research and Development Educational. According to Borg and Gall, educational research and development is a process used to develop and validate educational product.[42] R&D (Research and Development) is a method of investigation where it is assumed new scientific knowledge is discovered due to a series of

[41]Punaji Setyosari, *Metode Penelitian Pendidikan dan Pengembangan*, (Jakarta: Kencana, 2010), page.194

[42]borg, et al. *educational research: an introduction, fifth edition* (new york: longman, 1989), page.624

linear and sequential stages that consists of Basic Research, Applied Research and Development.[43]

Based on this research, the researcher would to develop including research and development or R&D research, as a result of this research is to develop teaching and learning's media products. The media product is a Mind Mapping book, by the title "Creative Thinking with Mind Mapping".

B. Model Of Development

Model of development used is a model development of Borg & Gall. Model Borg & Gall is one of descriptive model. In a development model of Borg & Gall, has been established 10 research and development following steps: (1) research and starting information, (2) planning, (3) development preliminiary form of product, (4) preliminiaryfield testing, (5) mind product revision, (6) mind field testing, (7) operational product revision, (8) operational field test, (9) the revision of the final product, (10) the dissemination and implementation.[44]The researchers only use the 6 stages of development including:(1research and starting information, (2) planning, (3) development preliminiary form of product, (4) testing products (Level of Validity), (5) product revision, (6) mind field testing.

C. The development procedure

The steps of the research or development process consists of a review of the findings of the research products that will be developed, developing products based on these findings, conduct field trials in accordance with

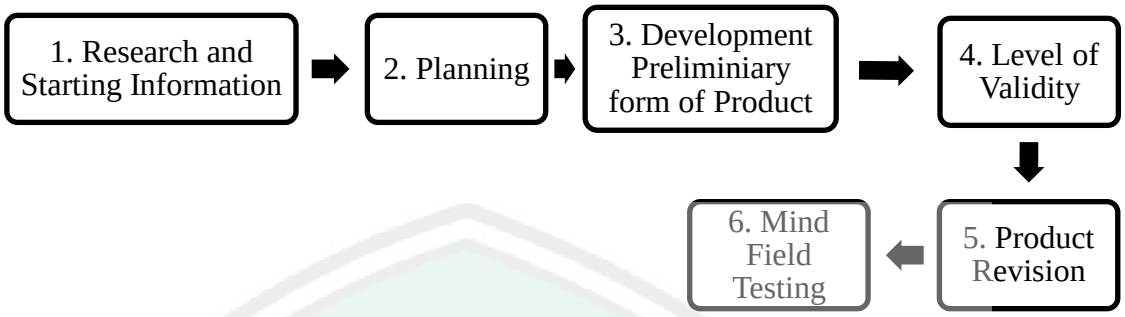
[43] sugiyono, *metode penelitian kuantitatif, kualitatif dan r&*d (bandung: alfabeta, 2011), page.294
[44] Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D*. (Bandung: Alfabeta, 2014). Page. 5.

thesetting in which the product It will be used, and do a revision of the results of the field test.[45]

Research and development of Mind Mapping Book, not all steps in the Borg & Gall model are used only the first step up to the sixth use. The steps used are (1research and starting information, (2) planning, (3) development preliminiary form of product, (4) testing products (Level of Validity), (5) product revision, (6) mind field testing. While the steps not used in this development research are (1) operational product revision, (2) operational field test, (3) the revision of the final product, (4) the dissemination and implementation.

The field test step is not used in this study because there is a limited research time. The subject of this research only in SDN Gadang 2 Malang at 3rd grade. The operational product revision is not done because the time is limited and the student will have an exam test. The final product revision stage is not done because the field test stage is not used in this development. The decimation and implementation stage is not used because the product produced in this research development has not been delivered or disseminated in certain forums. The resulting product is only tested at 3rd grade in SDN Gadang 2 Malang.Referring to Borg and Gall's research (R & D) development consisting of ten steps, the researcher takes only six steps in this process. This is done because researchers are only for one school and there are limited time, effort, and cost. The steps are as follows:

[45]Punaji Setyosari, *Metode Penelitian Pendidikan dan Pengembangan*, (Jakarta: Kencana, 2010), page. 194



Picture 3.1Adapt Model Research Developmentby Borg & Gall

1. **Research and starting information**

These activities as a step to begin implementation of the development research. Research and information gathering, such as the early Literatures of Theorems observation class, and prepare the initial report. These activities useful to get first information the development:

a. Analyzing Needs and Characteristics of Students

In the first stage of the study, the researcher must know the students' creative thinking skills. Knowing the creative thinking skills of students with the existing learning media class. Analyze the character of the 3rd grade students in the learning process activities. Researchers, conducted interviews with classroom teachers about learning media that can improve students' creative thinking ability.

At this stage, observation and interview with Mrs. Lilin Widi Rahayu Setjo,SS as the class teacher of 3rdgrade of SDN Gadang 2 Malang.From the results of observations and interviews on 21st May 2018, obtained information that the student learning media in the form of

thematic books provided by the government. Other media, in the form of textual reading books that are less attractive for students to improve the ability to think creatively.

In this creative thinking skill, teachers assign students to read textbooks that are limited and textually impressed in the form of IPA package books so that their creative thinking skills are lacking.

b. Identify learning objectives Indonesian second semester Class 3 SD / MI.

SDN Gadang 2 Malang implemented Thematic Learning in accordance with the 2013 curriculum. In the theme 7 subtema 1 on energy sources, the material is included in the field of Indonesian study. Low grade, (grade 1-3) elementary school for credits IPA is made into one in Bahasa Indonesia. So there is a transition between Bahasa Indonesia and Natural Science. Learning should be tailored to the purpose of field of study, KI, KD and Indicator.

Indonesian language lessons in elementary school aim to enable students to enjoy and utilize literary works to develop personality, broaden life insight and improve their ability and knowledge. Thus, the level of student achievement in existing behaviors in specific learning objectives can be measured by the test.

Based on National Education Regulation No.22 on Standart Content, the Competency Standards and Basic Competencies of Indonesian Class 3 are as follows:

Table 3.1 Competency Standards and Basic Competencies of Indonesian Class 3rd

Core Competence	Basic competencies
Understand the factual knowledge by observing [listening, seeing, reading] and asking questions based on curiosity about himself, God's creatures and activities, and the objects he encounters at home and at school	3.1 Dig information from informative report text of observations about changes in the shape of things, energy sources, energy changes, alternative energy, climate and weather changes, earth shape and changes, and the universe with the help of teachers and friends in spoken and written Indonesian with regional language vocabulary to aid understanding.
	4.1 Observing and processing informative text content of observations about changes in the shape of things, energy sources, energy changes, alternative energy, climate and weather changes, earth shape and changes, and the universe independently in spoken and written Indonesian which can be filled with vocabulary local languages to help with presentation

c. Indicator Analysis Of Competency Standards, Basic Competence, and Indicator.

Table 3.2 Analysis Of Competency Standards, Basic Competence, and Indicator.

Competency Standards	Basic Competence	Indikcator
Understand the factual knowledge by observing [listening, seeing, reading] and asking questions based on curiosity about himself, God's creatures and activities, and the objects he encounters at home and at school	3.1 Dig information from informative report text of observations about changes in the shape of things, energy sources, energy changes, alternative energy, climate and weather changes, earth shape and changes, and the universe with the help of teachers and friends in spoken and written Indonesian with	3.1.1 Describe the main idea of informative report text on the source energy orally or write correctly. 3.1.2 Make informative Mind Mapping about energy sources in writing correctly. 3.1.3 Mention some forms of energy in writing correctly. 3.1.4 Tells the informative Mind Mapping about energy sources verbally or written correctly.

	regional language vocabulary to aid understanding.	
	4.1 Observing and processing informative text content of observations about changes in the shape of things, energy sources, energy changes, alternative energy, climate and weather changes, earth shape and changes, and the universe independently in spoken and written Indonesian which can be filled with vocabulary local languages to help with presentation	4.1.1 Recount the text of an informative report on energy sources orally or write correctly

The writing of specific learning objectives is used as a basis in developing learning strategies and composing a grid of learning tests.

2. Planning

The planning is by analyzing the students' creative thinking ability SDN Gadang 2 Malang, analyzing the learning method, analyzing instructional media used by teachers and students, formulating specific objectives to determine the order of materials, and field trials. The researcher, make the interest media to increasing the creative thinking skills ability of student. Media visual like it a book, eho have a good picture, contextual reading and student center method in learning process.

The most important thing in this phase is to formulate the specific objectives to be achieved by the developed product. The specific purpose of this product development is to improve students' creative thinking ability by using Mind Mapping book. The researcher made " Mind Mapping Based in Material Development to Increasing Creative Thinking Skills Student at 3rd Grade in SDN Gadang 2 Malang" that will produce new, original, or self-based students.

3. Development preliminary form of product

Development of the initial product format, which includes the preparation of learning materials, and evaluation tools. The intended development is in the form of print media. Print media in the form of Book Mind Mapping for grade 3 students theme 7 Energy and Change subtema 1 Source of Energy. Products are produced in the form of Mind Mapping-

based teaching materials. From here then the product can be changed, plus or reduced again adjust to the results of initial field trials and validation from experts. The process is as follows:

a) Prepare materials on the grade 3 Primary School Energy Source.
b) Develop the material by with the simple language as well.
c) Make a Mind Mapping book to develop the material especially in source energy.

4. Preliminary field testing

Preliminary field testing here explain about expert validation. Expert validation is an activity process to assess whether the product design in this new system of work is rationally more effective than the old one or not. Said rationally, because the validation here is still a judgment based on rational thinking not field facts.Validation is done by 3 experts, each expert is experienced in the field. Namely expert product design experts, expert content of product content, and expert materials product learning to obtain initial product validation. Here's an explanation about the validator:

a) Lecturer of material validation / content of Mind Mapping book on energy source:
    1) PGMI lecturers who are competent in the field of natural science education Madrasah Ibtidaiyah.
    2) Have minimum education background S2.
    3) Knowing the SD / MI Science curriculum.
    4) Have written books on science and more.

b) Lecturer of media design validation:

1) Have minimum education background S2.

2) As the author of books, papers, and so on as well as observers ofeducation.

3) Have experienced in designing and designing books.

c) Master

1) As a teacher who has experienced teaching for 5 years.

2) Understanding the 2013 curriculum and thematic lessons in SD / MI.

5. Main product revision

After conducting initial trials, researcher can improve the product development, such as adding weight material or to add more interesting design in accordance with good advice or input from teacher classroom and expert content and design experts.After product design, validated through discussion with experts and other experts, it will be known weaknesses. The weakness is then tried to be reduced by improving the design. In charge of improving the design here is the researcher who wants to produce the product.

Based on the results of initial testing the product researcher conducted product development improvement input from expert design experts, expert material content experts and expert materials learning materials.

6. Mind field testing

Mind field testing here is a testing the product to the student at 3rd grade. The test one group pre – test (on 28 May 2018) and post - test design

(29 May 2018). The test implementated by researcher and guide 3rd teacher class, which compares the influence the Mind Mapping Book. The test is done by obtaining from interview data, observation, and questionnaire collected and analyzed. These trials are conducted on the format of the product being developed whether it suits the specific purpose.

D. Product Trial

Product validation is one of a series of development studies. The validation of the product will be performed by the validator and the subject of field trials. Validation will be done by design experts, material experts / content, and classroom teachers as a learning expert. Field validation was conducted in one SDN in Malang district using the 2013 curriculum.

With the validation is expected end product learning media in the form of Mind Mapping Book that developed finally really accountable. In order for validation to be achieved properly, accuracy is required in the selection of validation design, validation subject, data type of data collection instrument and data analysis technique of development of teaching materials. It will be described in detail as follows:

E. The Design of the trials

The experimental design used in this research is pree experimental designs (non design) that is one group preetest posttest design, with the first:

a. Finding and getting problems in SDN Gadang 2 Malang.
b. Analyze the learning needs
c. Analyze learning materials and strategies

d. Asking learning media applied in class

e. Developing learning media as a supporter of the process of teaching and learning activities.

f. Using the pre-experimental one-group pre-test-posttest research design.

This design involved one group given pre-test (O), given treatment (X), and was given posttest. The success of treatment is determined by comparing the pre-test and post-test values.

The subject of validation in this Mind Mapping Book teaching materials development research consists of 2 lecturers of Teacher Education of Madrasah Ibtidaiyah (PGMI) and a Thematic subject teacher at SDN Gadang 2 Malang. The validator expert content material is my lecture in PGMI Mr. Akhmad Abtokhi, M.Pd. He is the lecture on Scince learning on Islamic University Maulana Malik Ibrahim Malang. The design validator expert is Mr. Akhmad Makki Hassan. He also lecture in PGMI he teach a Media Learning. He have link, website about the media learning for student especially arabic language. The last validator is teacher clas at 3rd grade in SDN Gadang 2 Malang. She is Mrs. Lilin Widi Rahayu Setjo,SS.

F. Subject of trial

The test subject in this research is class 3 SDN Gadang 2 which is taking thematic lesson semester 2. The theme 7 “Energy and the Change” Sub theme 1 Source of Energy. The subject research in 3rd class there are 20 student.

G. Data type

Data obtained from the development of Mind Mapping book is in the form of qualitative and quantitative data:

a. Qualitative Data:

Qualitative data obtained from observations and interviews conducted by researchers to grade 3 teacher SDN Gadang 2 Malang. Researchers also consult with the media as a validator expert ekspert field. The material expert is consulted with a lecturer who is an expert in science learning in elementary school.

b. Quantitative Data:

Quantitative data obtained in the form of questionnaires design of learning media design, learning material experts and thematic teachers grade 3 SDN Gadang 2 Malang. The last data is student questionnaire about how media Mind Mapping able to train students' creative thinking ability. The data used by researchers in the form of Likert scale 5. All qualitative and quantitative data obtained to revise the book development Mind Mapping as a good product and worth using.

H. Data Collection Instruments

This study uses data collection instrument in the form of questionnaire about how media development of book Mind Mapping can support student creative thinking ability. Material developed Source of Energy theme 7 Subtema 1 class 3 MI / SD. The questionnaire is made for material experts,

design experts, learning experts and students. The questionnaires are made differently based on their respective functions and interests.

This research and development uses several methods in collecting data, namely questionnaire, observation, and interview. Here's an explanation of each method:

1) Angket

Questionnaires are used to know the assessment of material experts and design experts on the material of the book Mind Mapping, Energy Resources material. Questionnaire used in this research and development is a structured questionnaire using Likert scale. Alternative answers according to Likert 5 scale ie; very good (SB), good (B), enough (C), less (K), and very less (SK) (Sukardi, 2009: 146).

2) Observation

Observation was conducted to find out teacher and student response when using Mind Mapping book with theme 7 subtema 1 Source of Energy. Observations were conducted by researchers who also served as observers when teaching materials were used.

3) Interview

Interviews were conducted to find out responses, comments, and suggestions of teachers and students after using Mind Mapping book with theme 7 subtema 1 Source of Energy. Interview method is chosen because the researcher can be closer to the source so that the information obtained

more deeply. Interview conducted on the thematic teacher or teacher of Class 3 SDN Gadang 2 Malang.

I. Data Analysis Technique

After the data is collected, the data needs to be processed or analyzed, so that the data can be used as empirical basis in answering the problem formulation or testing the research hypothesis. Data analysis activities in quantitative research include processing and presenting data, performing various calculations to describe data, to test the hypothesis. Calculation and analysis of quantitative data is performed using statistical techniques.

a. Data processing

Data in quantitative research is the result of measurement of the existence of a variable. The measured variable is a symptom that becomes the target of research observation. Data processing includes data editing activities, data transformation (coding), and presentation of data so that obtained complete data from each object for each variable under study.

b. Data Editing

Editing is the examination or correction of data that has been collected.Examples of activities in data editing is the examination of questionnaires that have been filled by the respondent. Aspects that need to be checked include the completeness of the respondents in filling in each question posed in the questionnaire.

c. Coding and Data Transformation

Coding (coding) data is the provision of specific codes on each data including providing categories for the same type of data.

d. Data tabulation

Tabulation is the process of placing data in tabular form by creating a table that contains data in accordance with the needs of the analysis. Here the researchers made a measurement of four variables, namely: (1) Books, (2) media, (3) Mind Mapping, (4) Creative Thinking

e. Data Presentation

Technique of presentation and analysis of quantitative data. Performed using statistical techniques. There are various statistical techniques that can be applied to present and describe quantitative data, ranging from simple to complex depending on the type of data and research objectives or problems. But before the qualitative data that have been collected is analyzed first through three stages, namely:

a. Data Reduction

That is data reduction, means summarizes the data obtained, choose the things that matter, focus the important thing, sought the theme and pattern. Thus the data that has been reduced will give a clearer picture.

b. Display Data

Presentation of data, conducted in the form of brief descriptions, charts and relationships between categories.

c. Conclusion Drawing / verification.

This is the third step of drawing conclusions and verifying the data that has been collected and reduced. While data analysis for quantitative data obtained through questionnaire using Likert scale in the form of multiple choice, then processed by way of percentage made with the following analysis formula: [46]

$$P = \frac{\sum Xi}{\sum X} \text{ x } 100\ \%$$

Explanation :

P = Percentage of validity levels

$\sum x$ = Number of assessment answers

$\sum x_i$ = Number of highest answers

100 Constant Numbers

Here the researcher uses the presentation of data in tabular form because the presentation model is arranged in rows and columns. The data table is a collection of numbers based on certain categories. While the basis and guidance to determine the level of validity as well as the basis for decision-making to revise the materials, use the following qualification criteria: [13]

[46] Arikunto, *Dasar-Dasar Evaluasi Pendidikan (Jakarta: Bumi Aksara,* 2003), page. 313

Tabel 3.3Qualification Criteria Assessment Expert Validation and Student Trial

Percentage (%)	Level of Validity	Remarks
84-100	Very valid	Not revised
68-84	Valid	Not revised
52-68	enough valid	Partially revised
36-52	Less valid	Revision
20-36	Very less valid	Revision total

Based on the above assessment, teaching materials are said to be valid if eligible achievement of 68 - 100 of all elements contained from the assessment questionnaire. In this development the teaching materials must meet the valid criteria.

J. Development and Analysis

The truth of the research hypothesis must be proven based on the data that has been collected. The hypothesis of the study is the temporary answer to the formulation of the problem posed in quantitative research. In this case the researcher uses the Comparative Hypothesis, the hypothesis proposed as an answer to the formulation of research problems that ask about the presence or absence of differences in the existence of variables from one groups of data or more.

In the process of educational research is often done data analysis with the aim toapllied one gropu discussion. In this case researchers compare the pre-test results with post-test compare the creative thinking skills student before using Mind Mapping Book with the ability to develop the material nature after using media Mind Mapping Book books In the field of education, products such as textbooks can be tested immediately after being validated and revised. Data analysis is used to measure the level of comparative ability of students' creative thinking, in field trials testing data using experimental design done by comparing the situation before with after using the product development of teaching materials (before-after).

The use of prior experimental design is intended for product development as a result of increasing student learning outcomes. In a pre-experimental one-group pre-test post-test study, the first step was to give pre-test to dissolve students' creative thinking ability before being given treatment using Mind Mapping book.

The next stage, the sample is given treatment using the book Mind Mapping. The final stage of the sample is given a post-test to measure the condition of students' creative thinking ability after being given treatment. The purpose of using Mind Mapping book is to know how media are able to train students' creative thinking ability. The previous experimental design as follows:

Table 3.4 One Group Pre-test post-test design

O_1	X	O_2

Source: Donald T.Campell and Julian C. Stanley, 1963: 7)

Keterangan:

X = Treatment

O_1 = Pretest

O_2 = post test

In field trials, the data were collected using questionnaires and achievement tests (achievement test results). Field trial data were collected by using preliminary and final test to find out the learning result of the experimental group study of the 3rd class before and after using the textbook development product. Data analysis technique using one group pretest posttest experiment is the sample given the initial test and the test end in addition to the treatment. The criterion of the test is t test for re-observation, it is used to know whether there is influence of a treatment imposed on a group of research objects. The formula used with a significance level of 0.05 is:[47]

$$t = \frac{D}{\sqrt{\frac{d^2}{N(N-1)}}}$$

Explanation:

t = Uji t

D = Different (X_2-X_1)

d^2 = Variasi

N = Total Sampel

[47]Turmudi.*Metode Statistika* (Malang: UIN Press, 2008), page. 214

CHAPTER IV

RESEARCH AND DEVELOPMENT RESULT

This chapter will be explaination about, (a) result of mind mapping book development, (b) presentation of data expert validation and analysis creative thinking skills, and (c) attractiveness Materials.

A. Results of Mind Mapping Book Development

Mind Mapping Book learning media is used to assist students in training students' creative thinking skills. This media is used for grade 3 students, but does not rule out if this media is used for students or elementary school teachers as well as outsiders in training the ability to think creatively. Media Mind Mapping Book can be used by teachers and students because in this media there is a user manual of media use so as to facilitate students to operate it independently.

The Mind Mapping Book learning media is in the form of a book made from A4 art paper paper and is designed to be as attractive as possible. Media Mind Mapping Book is A4-size book. This media consists of introduction and explaination. Introduction, includes: table of contents, introduction, user guide, learning objectives, KI, KD, Indicators. Explanation consists of: the definition of energy source, the form of energy source, the source of energy, energy saving, exercise questions, and activities to make Mind Mapping and the last is evaluation.

The result of the development product in the form of teaching materials Mind Mapping Book to increasing the creative thinking ability of the material students Theme 7 Energy and the changes, subtheme 1 Source Energy grade 3 Semester 2 SDN Gadang 2 Malang. Description of development of teaching materials is as follows:

a. Product identity

   Physical form: Visual Print Materials

   Title: Creative Thinking with Mind Mappping

   Material: Theme 7 Energy and its Changes Subtema 1 Energy sources

   Target: 3rd grade students of SDN Gadang 2 Malang

   Developer Name: Ratna Sasi Suci

   Page: 22 Pages

   Prints: First

   Paper Size: A4 (210 mm x 297 mm)

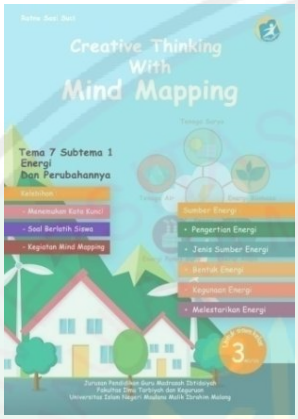
b. Product Description

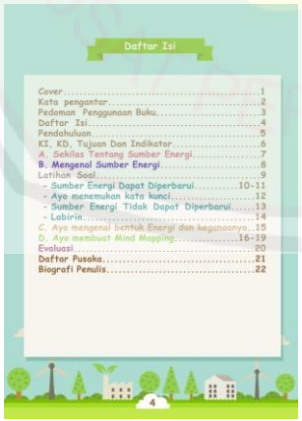
   Books section and description

   Introduction

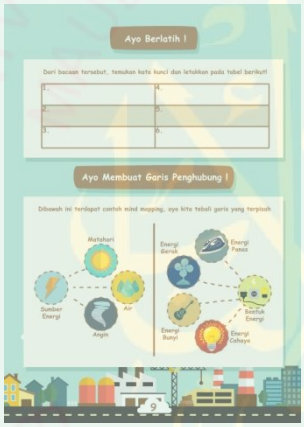
Tabel 4.1

The part of book and descripton

No.	Part of Book	Explanation
1.	Cover 	The cover consists of the developer name, the title of the book, the activities in the book, the material developed, the description for grade 3, the developer agency.
2.	Back Cover 	The back cover contains the logo of the State Islamic University Maulana Malik Ibrahim Malang. And writing Department of Teacher Education Madrasah Ibtidaiyah, Faculty of Science Tarbiyah and Teacher Training, and State Islamic University Maulana Malik Ibrahim Malang. With background tyang associated with energy sources.

3.	Preface  	The preface is a series of words in the form of speech for the users of books, the benefits of using the book, and messages in learning the skills to speak Indonesian.
4.	User guide  	The use of the book, contains instructions on the contents of the book to be discussed.
5.	Table of Contents  	The table of contents lists the pages of a whole section in the book that can enable students to discover the contents of the book to be read and studied.

6.	Introduction 	Introduction contains the understanding of Bahasa Indonesia in Elementary School. Learning objectives globally in primary schools.
7.	KI, KD, Tujuan dan Indikator 	KI, KD, goals and indicators collated so users know the direction the development of textbooks.
8.	Materials of content 	A glimpse of an energy source consists of a brief material on renewable and non-renewable sources of energy.

9.	Literature  	Know the energy source contains about renewable and non-renewable energy sources. And the usefulness of energy sources for life
10.	Task exercise  	The exercise questions about the matter - soal familiar with energy sources. Problems are tables for finding keywords, creating connecting lines, composing words, making mind mapping to evaluation sheets.
11.	The review of material  	Contains about the energy form material discussed briefly in accordance with the application in the student's daily environment.

12.	Mind Mapping activities 	Contains the worksheet for mind mapping. Students create a mind mapping about energy sources and forms of energy. mind mapping is made simple.
13.	Evaluation 	The evaluation sheet is about multiple choice questions and content on energy sources and forms of energy.
14.	Bibliography 	The bibliography contains the sources obtained by the miners in developing the material materials.

15.	Biography  	The author biography contains developer profiles. Developer name, place of birth date, address, and glimpse of developer background.

B. Presentation of data Expert validation and analysis of creative thinking skills

This presentation of data includes qualitative and quantitative. Qualitative data get by observation by researcher and interview with teacher class of third grade. While Quanitative data get by scooring validator who gived when consultation Mind Mapping. As a benchmark on the development feasibility being undertaken by the developer. This data comes from questionnaires of validators, teachers and students. Fetching validation data starting from expert validation and field test. Validation data retrieved from 3 validators namely, material experts, design and learning. Here are the criteria used in the validation.

Tabel 4.2 Script criteria validation

Score				
1	**2**	**3**	**4**	**5**
Not appropriate	**Less appropriate**	**Quite appropriate**	**Appropriate**	**Very appropriate**

Tabel 4.3 Qualification Criteria Assessment Expert Validation and Student Trial

Percentage (%)	Level of Validity	Remarks
84-100	Very valid	Not revised
68-84	Valid	Not revised
52-68	enough valid	Partially revised
36-52	Less valid	Revision
20-36	Very less valid	Revision total

Here is the presentation of questionnaire assessment data by content / materials experts, design experts and learning experts along with their critics and suggestions:

a. Instrument Material Expert Validation "Mind Mapping Learning Media Theme 7 Sub Theme 1 (Energy And Changes) In Grade 3 SDN Gadang 2 Malang".

Product development submitted to the subject matter material Science Mind Mind Mapping material Resources Energy. Presentation description of experimental material expert's validation results is shown through

questionnaire method with questionnaire instrument. The validation process by the material / content experts was held on the 8th day of 2018 and the revision took place on Friday, 11 May 2018. Material Expert Validation 1 (Friday 18 May 2018).

1) Quantitative data

Product development is tested to a material expert Mr.Akhmad Abtokhi, M.Pd is an IPA textbook on the material of Class 3 energy source. Exposure of expert opinion assessment submitted through questionnaire instrument in the form of a questionnaire on teaching materials. Quantitative data can be seen as follows:

Table. 4. 4Results of Expert Assessment contents Material Mind Mapping Learning Theme 7 Subtema 1

No.	Pernyataan	$\sum x$	$\sum x_i$	P (%)	Kriteria kevalidan	Ket.
1.	Is the learning media component of Mind Mapping sufficient as a medium of learning?	5	5	100%	Valid	Not revision
2.	What is the suitability of core competencies, basic competencies, with indicators on the development of Mind Mapping learning	5	5	100%	Valid	Not revision

	media?					
3.	How is the conformity of the material presented in the development of Mind Mapping 5 learning media?	**5**	**5**	**100%**	**Valid**	**Not Revision**
4.	Does Mind Mapping learning media guide students to practice creative thinking skills?	**5**	**5**	**100%**	**Valid**	**Not Revision**
5.	Is Mind Mapping learning media able to train students' ability to think creatively in flexibility and originality?	**5**	**5**	**100%**	**Valid**	**Not Revision**
6.	Is Mind Mapping learning media able to increase students' knowledge?	**5**	**5**	**100%**	**Valid**	**Not Revision**
	Analysis	**30**	**30**	**100%**	**Valid**	**Not Revision**

Explanation:

$$P = \frac{\sum x}{\sum x_i} x\ 100\ \%$$

P = Percentage of validity rate

$\sum x$ = Number of assessment answers

$\sum x_i$ = Number of highest answers

100 = Constant number

Based on the above calculation then the observations made by the expert content overall reached 100%. Based on the above calculations then the observations made by the expert of the overall content reach.

2) Qualitative Data

Tabel 4.5Results of Expert Assessment contents Material Mind Mapping Learning Theme 7 Subtema 1

Name	Criticism and Suggestion
Akhmad Abtokhi, M.Pd	The material submitted should use simple language and in accordance with the students' grade. The explanation of reading one paragraph only and clear.

b. Result of Design Expert Assessment "Media Learning Mind Mapping Theme 7 Sub Theme 1 (Energy And Change) In Class 3 SDN Gadang 2 Malang".

Descriptive exposure of the results of the validation of the design expert of learning that is Ahmad Makki Hasan, M.pd. The product of the book development is the textbook of science on the material of energy source of class 3. Exposure of the expert opinion of the content submitted through questionnaire instrument in the form of questionnaire on teaching materials. The validation process in design expert of the Mind Mapping on 24 May 2018 until 31 May 2018. Quantitative data can be seen as follows:

1) Data Quantitative

Tabel. 4.6 Result of Design Expert Assessment "Media Learning Mind Mapping Theme 7 Sub Theme 1 (Energy And Change) In Grade 3 SDN Gadang 2 Malang"

No.	Pernyataan	$\sum x$	$\sum x_i$	P (%)	the level of validity	Explanation
1.	How interest in the presentation of Mind Mapping learning media design this?	5	5	100	Very Valid	Not Revision
2.	How is the image fit in this Mind Mapping	5	5	100	Very Valid	Not Revisi

	learning medium?					**on**
3.	How does the image fit with the material presented in this Mind Mapping learning media?	4	5	80	**Very Valid**	**Not Revision**
4.	How is the suitability of the typeface used in this Mind Mapping learning medium?	5	5	100	**Very Valid**	**Not Revision**
5.	How is the appropriateness of using color variations in this Mind Mapping learning medium?	5	5	100	**Very Valid**	**Not Revision**
6.	How to interest layout design on learning Mind Mapping this?	5	5	100	**Very Valid**	**Not Revision**
Analysis		**29**	**30**	**96,6 %**	**Valid**	**Not Revision**

Explanation:

$$P = \frac{\sum x}{\sum x_i} x\ 100\ \%$$

P = Percentage of validity rate

$\sum x$ = Number of assessment answers

$\sum x_i$ = Number of highest answers

100 Constant number

Based on the above calculation, the observations made by the media design expert in the form of a whole picture book reaches 96.6% .If it is matched with the table of validity criteria, then this score is included in very valid criteria.

2) Data Qualitative

Tabel 4.7 Result of Design Expert Assessment "Media Learning Mind Mapping Theme 7 Sub Theme 1 (Energy And Change) In Grade 3 SDN Gadang 2 Malang"

Name	Criticism and Suggestion
Ahmad Makki Hasan M.pd	Additional drawings are required in the Mind Mapping creation circle, additional nice features and easy presentation for student activities.

c. The Third Class Thematic Teacher Assessment Result of "Mind Mapping Learning Media Theme 7 Sub Theme 1 (Energy And Its Changes) In Grade 3rd SDN Gadang 2 Malang"

The descriptive exposure of the validation result of the 3rd Class Thematic Subject Teachers is on the book development product is the textbook of science on the material of class 3 energy source. Exposure of the expert opinion of the content submitted through questionnaire instrument in the form of questionnaires on teaching materials. The class thematic teacher assessment result of Mind Mapping Book on 6 June 2018. Quantitative data can be seen as follows:

1) Data Quantitative

Tabel 4.8

The Third Class Thematic Teacher Assessment Result of "Mind Mapping Learning Media Theme 7 Sub Theme 1 (Energy And Its Changes) In Grade 3 SDN Gadang 2 Malang"

No.	Pernyataan	$\sum x$	$\sum x_i$	P (%)	the level of validity	Explanation
1.	The relevance level of the learning media to the applicable curriculum	5	5	100	**Very Valid**	**Not revision**
2.	Facilitate teachers in thematic teaching	5	5	100	**Very Valid**	**Not revisio**

	especially on science materials to train students' creative thinking skills					**n**
3.	Assist teachers in conveying thematic materials especially on science materials to train students' creative thinking skills	5	5	100	**Very Valid**	**Not revisio n**
4.	Make students active in thematic learning especially on science materials to train students' creative thinking skills	5	5	100	**Very Valid**	**Not revisio n**
5.	Clarity of usage instructions	5	5	100	**Very Valid**	**Not revisio n**
6.	Accuracy of formulation of Thematic learning objectives	5	5	100	**Very Valid**	**Not revisio n**
7.	Conformity between the content of the material with KD and Indicator	5	5	100	**Very Valid**	**Not revisio n**
8.	Compatibility between the contents of the exercise	4	5	80	**Very Valid**	**Not revisio**

	with the aim of learning Indonesian					**n**
9.	Conformity of conversational text content with thematic material characteristics especially on science materials to train students' creative thinking ability	5	5	100	**Very Valid**	**Not revisio n**
10.	The suitability of the use of images or illustrations with the material in the instructional medium	5	5	100	**Very Valid**	**Not revisio n**
11.	Evaluation in learning media can train students' creative thinking ability	5	5	80	**Very Valid**	**Not revisio n**
12.	Students are motivated in following Thematic lessons	4	5	80	**Very Valid**	**Not revisio n**
13.	The role of learning media in learning Indonesian especially on creative thinking skills	5	5	80	**Very Valid**	**Not revisio n**
14	Meet the criteria of instructional media	4	5	80	**Very Valid**	**Not revisio**

						n
15	Ease of use of learning media	5	5	100	**Very Valid**	**Not revisio n**
Analysis		**72**	**75**	**96%**	**Very Valid**	**Not revisio n**

Explanation:

$$P = \frac{\sum x}{\sum x_i} x\ 100\ \%$$

P = Percentage of validity levels

$\sum x$ = Number of assessment answers

$\sum x_i$ = Number of highest answers

101 Constant Numbers

Based on the above calculations, the observations made by thematic Thematic subjects in the form of Mind Mapping book overall reach 96%. If matched against the table of validity criteria, then this score is included in criteria very invalid.

2) Data Qualitative

Tabel 4.9The Third Class Thematic Teacher Assessment Result of "Mind Mapping Learning Media Theme 7 Sub Theme 1 (Energy And Its Changes) In Grade 3 SDN Gadang 2 Malang"

Name	Criticism and Suggestion
Lilin Widi Rahayu Setjo,SS	The content of learning media Mind Mapping is good and train the students to think creatively. Need to motivate more students to be more eager in learning.

Master Interview Guidelines

Teacher name : Lilin Widi Rahayu Setjo,SS

Day, T / B / T: 16 April 2018

Interview Time: 10.00

Place of Interview: class 3rd SDN Gadang 2 Malang

Tabel 4.10 result of interview the teacher thematic of 3rd grade

No	Question	Description
1. 2. 3. 4.	Have you a problem when you teach 3rd grade in process of learning ?what material ? Why the student have a problem to summary the material, and how many student have it? How is the learning method used in learning? What is the effort that mother has taken to overcome the problem?	1. Students have difficulties in learning on Natural Science Knowledge material material Source of Energy because of the language that is less simple, unstructured and less extensive reading of material available in the student book. 2. There are some children who have learning difficulties. They experience delays in hatching tasks assigned by the teacher. Especially in writing, doing tasks, like chatting and must be reminded to continue if you want to do the task. 3. The method used in the form of lectures, question and answer and assignment.

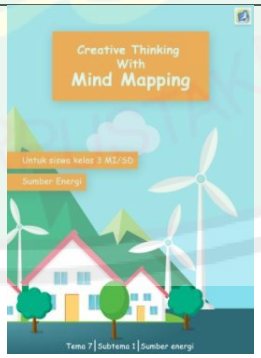
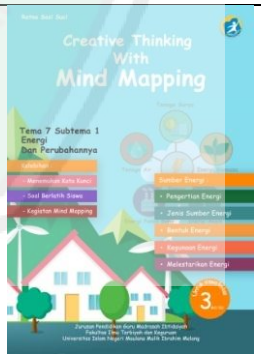
		4. Provide additional media in the form of an interesting textbook such as Bobo magazine book but with limited acces.

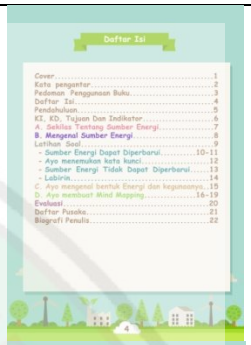
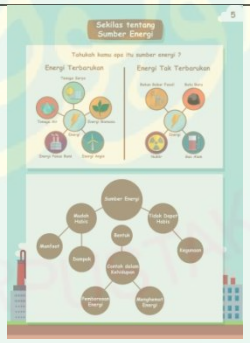
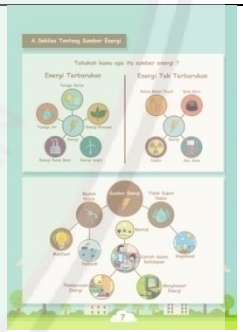
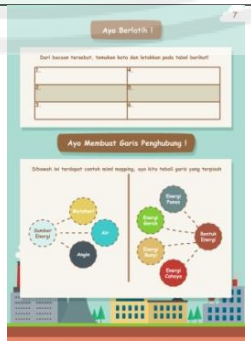
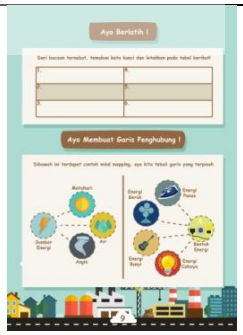
Conclusion

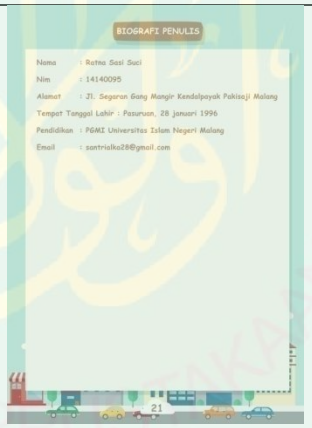
The use of Mind Mapping in classroom learning has not been implemented. There are some students who have difficulty learning in doing the task given by the teacher. Especially in practicing creative thinking skills. Teacher's strategy in training creative thinking ability by giving simple example in material then developing student.

d. Product Revision

Table 4.11 Part of book revision

NO	Part of book revision	Before	After
1.	Cover Before revised, there is a bacground box on the mind mapping and lack of feature and description of activities in the book. Subject		

	writing for class3 is made in the lower right circle.		
2.	Table of contents, introduction and pages.		 
3.	Additional images on Mapping circles for more interesting designs.		
4.	Additional images and Background changes on each different material.		

5.	Summary of reading in the material is only one paragraph.		
6.	Changes to the background with the logo logo of Islamic State University of Malang.		
7.	Biography of the author is made with descriptive stories and interesting profiles.		

e. Pre-test & Post-test Results and analysis creative thinking

Pre-test and post-test as result of analysis creative thinking skills of student. Based on the results of the field assessment of grade 3 at SDN Gadang 2 Malang get pre-test 1155 and post-test 1820. The data is the overall data of 20 students of grade 3rd in SDN Gadang 2 Malang. Data of

pretest on (2 June 2018) and post test (3 June 2018) field results, then look for the average of pre-test and post-test. Researchers conducted observations in grade 3rd SDN Gadang 2 Malang. Based on the observation result, the learning activity of creative thinking skill is done by conventional learning where the teacher gives the material with the lecture and assignment method, that is the student is assigned to write the reading summary and the important point in the reading with predetermined theme. In this study, researchers act as teachers in the class.

The material of treatment with the same subject on the theme of Energy and its Change with a time of 1 meeting, with 2 hours of lesson 2 x 35 minutes. In the first learning hour (JP), the researcher gives pretest to the 3rd grade on (2 June 2018). The pretest is done to know the students' initial ability. As for the pretest results as described in Table 4.12. In the next meeting, learning activities are done by using learning media in the form of book Mind Mapping. After that every student is given instructional media in the form of book Mind Mapping. Students are required to use the Mind Mapping book in honing their creative thinking skills.

After all learning activities are completed then the researcher gives posttest on (3 June 2018) for class 3rd . Posttest is done with the aim to know the extent to which students are adept at making a mind map of a reading with Mind Mapping technique using learning media Book Mind Mapping to improve students' creative thinking ability. The implementation of the pre –

test and post – test researcher have time 1 hours in one day. The posttest results as described:

Table 4.12 the result of pre-test and post-test student 3rd grade

No	Nama Siswa	Nilai		(X_2-X_1)	d^2
		Pre-Test	Post-Test		
1.	AD	50	95	45	2025
2.	DI	55	85	30	900
3.	KY	50	95	45	2025
4.	BI	65	100	35	1225
5.	FE	45	45	0	0
6.	YA	50	90	40	1600
7.	RI	70	80	10	100
8.	BA	45	80	35	1225
9.	SA	55	95	40	1600
10.	SH	50	100	50	2500
11.	RA	45	85	40	1600
12.	FA	55	95	40	1600
13.	AR	60	100	40	1600
14.	DE	45	100	55	3025
15.	HA	75	100	25	625
16.	IZ	95	95	0	0

17.	AU	55	95	40	1600
18.	LA	60	95	35	1225
19.	BA	60	90	30	900
20.	WI	70	100	30	900
Analysis		1155	1820	665	26275
Average		57,75	91	33,25	1313,75

Table 4.13 One Group Pre-test post-test design

O_1	X	O_2

Source: Donald T.Campell and Julian C. Stanley, 1963: 7)

Explanation:

X = Treatment

O_1 = pretest

O_2 = post test

Based on the average calculations using the above formula shows that the average value of pre-test and post-test is 57,75 and the post-test average is 91. The average student's score can be seen based on the average number or mean post-test that is 91 bigger than the pre-test value which tend to be smaller that is 57,75. Student experience improvement of thinking ability creatively after using learning media product book Mind Mapping , so as to effectively improve the creative thinking skills.

Based on existing data, it will be calculated related to the teaching materials developed whether to improve students' creative thinking ability or not. Here are the calculation steps using the t-test formula:

Step 1; making Ha and Ho in sentence form

H_a: There is a significant difference in the creative thinking ability of grade 3 students of SDN Gadang 2 Malang before and after using learning media in the form of Mind Mapping Book.

H_o: There is no significant difference in the ability to increase creative thinking at 3rd grade students SDN Gadang 2 Malang before and after use learning media in the form of Mind Mapping Books.

Step 2; looking for T_{hitung} by formula :

$$t = \frac{D}{\sqrt{\frac{d^2}{N(N-1)}}} \qquad d = \frac{\sum D}{N}$$

$$= \frac{33}{\sqrt{\frac{26275}{20(20-1)}}} \qquad = \frac{665}{20} = 33{,}25$$

$$= \frac{33}{\sqrt{\frac{26275}{380}}} = \frac{33}{\sqrt{69}} \qquad = \frac{33}{8{,}3} = 3{,}975$$

Step 3; determine criteria uji-t.

a. if the value of t count is smaller than ttable then significant means H_o accepted and H_a rejected.

b. if the value of t count is greater than ttabel then significant means H_o rejected and H_a accepted

Step 4; compare t_{hitung} dan t_{tabel}

T_{hitung} = 3,975

T_{tabel} = 2,093

Step 5; conclusion

The result of this account show that t_{hitung} = 3,975 t_{tabel} = 2,093

The calculation results show that t arithmetic = 3,975 t table = 2.093

In conclusion, H_o is rejected and H_a accepted, so there is a significant improvement between the creative thinking ability of students before and after the use of Mind Mapping book. In table 4.12 from the average of pre-test results can be seen that X1 = **57,75 %** and post-test can be seen that X2 = **91 %** then shows that post-test results increased by **33,25%.**

C. ATTRACTIVENESS MATERIALS

Validation data obtained from experimental results on teaching materials in 20 students grade 3 SDN Gadang 2 Malang. The data attractiveness materials on 4 June 2018. Quantitative data exposure from field test results is shown in table 4.14

1) Quantitative Data

Table 4.14 the result of attractiveness on media Mind Mapping Book

No.	Statement	Scores Obtained by Respondents 1,2,3,4,5,6,7,8,9,10,11, 12,13, 14,15, 16,17,18,19,20	$\sum x$	$\sum x_i$	P (%)	Level of validity	explanation
1.	Mind Mapping Book is feasible for studentsin learning process.	4,5,4,4,4,5,5,4,4,5,5 ,5,4,4,5, 5,5,5,5,5	92	100	92	**valid**	Not revi
2.	The uses of Mind Mapping Book can give a good motivation in learning process	5,5,5,4,5,5,5,4,5,4,4 ,4,5,5,5, 4,4,4,4,4	90	100	90	**valid**	Not revisi on
3.	Mind Mapping Book	4,5,5,4,4,5,5,4,4,4,4 ,5,4,5,5, 4,4,5,5,4	89	100	89	**valid**	Not revisi on

	feasible for student to increase creative tinking skills.						
4.	The exercise in Mind Mapping Book activities helping student to increase creative thinking as well.	5,5,5,5,5,4,5,4,5,5,5 ,5,4,5,4, 4,5,4,5,5	94	100	94	**valid**	Not revision
5.	Font and size in design Mind Mapping Book helping student to u nderstandin	5,4,4,4,5,5,5,5,5,5,5 ,5,4,5,4, 5,5,4,4,5	93	100	93	**valid**	Not revision

	g the material as well.						
6.	The words and picture in material develop interest and easy to understand.	5,4,5,5,5,4,5,5,5,5,5 ,5,5,4,4, 5,4,5,5,5	95	100	95	**valid**	Not revision
7.	The usage guide in Mind Mapping Book feasible as well.	4,5,5,4,5,5,5,5,4,5,5 ,5,4,5,5, 4,5,5,5,5	95	100	95	**valid**	Not revision
8.	The uses of language in Mind Mapping Book to increase creative thinking	4,5,5,5,4,5,5,4,5,5,5 ,5,4,5,4, 5,5,5,4,4	93	100	93	**valid**	Not revision

	skills of student is easy to know it.						
9.	The task in evaluation make the student understanding about the materials.	4,4,4,5,5,4,5,5,5,5,5 ,5,5,5,5, 4,4,5,5,5	94	100	94	**valid**	Not revision
10.	Mind Mapping Book helping student as independent personalities .	3,4,3,4,5,5,5,5,4,4,4 ,5,5,4,4, 4,5,5,5,4	87	100	87	**valid**	Tidak Revisi
Analysis			**922**	**1000**	**922**	**valid**	Not revision

Explanation:

$$P = \frac{\sum x}{\sum x_i} x\ 100\ \%$$

P = Percentage of validity level

$x_{1\text{-}15}$ = correspondent 1-20 is grade 3SDN student Gadang 2 Malang

$\sum x$ = Number of assessment answers

$\sum x_i$ = Number of highest answer

$P = \frac{922}{1000} \times 100\ \%$

P = **92,2** %

Validation data is taken from experiment result on instructional media on 4 June 2018. The product tested in the field is in the form of Mind Mapping book, which is the test of this product, applying field test done by all 3rd grade students of SDN Gadang 2 Malang.

2) Qualitative Data

The result show that the Mind Mapping Book have a atractiveness. Atractiveness is 92,2% this data is valid and effective to aplied at 3rd grade student SDN Gadang 2 Malang.

The above attraction data is the result of using Mind Mapping Book developed by the researcher. In this case, the researchers compared the print media used by the 3rd grade students before using the Mind Mapping Book. Teacher grade 3rd explains that students use print media in the form of textual books for elementary school. IPA book for elementary school as a supporting medium to explain the material Source of energy. The following is the result of the use of a book normally used by 3rd grade students.

1) Quantitative Data

Table 4.15The result of the envelope of the media apprenticeship "IPA for elementary school" used by the students of grade 3rd SDN Gadang 2 Malang

No.	Statement	Scores Obtained by Respondents 1,2,3,4,5,6,7,8,9,10,11,12,13, 14,15, 16,17,18,19,20	$\sum x$	$\sum x_i$	P (%)	Criteria of validity	Eksplanation
1.	The book "IPA for elementary school" used can make it easier for students to learn	4,5,4,4,4,5,5,4,4,5,5, 5, 4,4,5, 4,4,4,3,3	85	100	85	**Very Valid**	Not Revision
2.	The use of the book "IPA for elementary school" can provide	4,4,4,4,5,5,5,4,5,4,4, 4,5,5,5, 4,4,3,3,3	85	100	85	**Very Valid**	Not Revision

	encouragement in student learning						
3.	The book "Science for elementary school" makes it easier for students to think creatively	4,3,5,4,4,5,5,3,3,3,4, 5,4,3,5, 4,4,5,5,4	82	100	82	**Very Valid**	Not Revision
4.	Exercises on "science for elementary school" books help with creative thinking skills easily	3,3,3,3,5,4,5,4,3,3,3, 3,3,5,4, 4,5,4,5,5	77	100	77	**Valid**	Not Revision
5.	The letter type and font size	5,3,3,3,5,4,5,4,3,4,4, 5,3,5,4, 5,3,4,4,3	75	100	75	**Valid**	Not Revision

	contained in the book "Science for elementary school" makes it easier for students to read						
6.	The words and images used in the reading of the book are interesting and easy to understand	5,4,5,3,5,4,3,3,4,3,3, 3,3,4,3, 5,4,3,3,3	73	100	73	**Valid**	Not Revision
7.	The instructions contained in the textbook are easy to understand	3,5,3,2,5,2,2,3,3,5,3, 2,4,5,5, 3,3,4,3,3	68	100	68	**Valid**	Not Revision

8.	The language used in the book "Science for elementary school" creative thinking skills is easy to understand	4,5,3,5,4,3,5,4,2,2,2, 3,4,3,4, 3,5,3,3,4	71	100	71	**Valid**	Not Revision
9.	The task of practicing practice can be understood	3,2,3,4,4,3,2,3,3,2,34 ,52,5,3, 2,4,3,3,3	66	100	66	**Valid**	Not Revision
10.	This "science for elementary school" book helps students to work independent	3,4,3,4,2,2,3,3,2,3,4, 5,2,4,3, 4,3,3,4,4	65	100	65	**Valid**	Not Revision

	ly						
Jumlah			**747**	**1000**	**747**	**Valid**	Not Revision

Explanation :

$$P = \frac{\sum x}{\sum x_i} x\ 100\ \%$$

P = Percentage of validity level

$x_{1\text{-}15}$ = correspondent 1-20 is grade 3SDN student Gadang 2 Malang

$\sum x$ = Number of assessment answers

$\sum x_i$ = Number of highest answer

$$P = \frac{747}{1000} \times 100\ \%$$

P = 74,7 %

2) Qualitative Data

From the results obtained that is 74.7% attractiveness obtained from the 3rd class book media. This data indicates that the presence of the media. The media is good in the material discuss, but the student not interest and bored with the media. The student have a problem when they summary the materials as their creative thinking. So, that students are not able to learn with fun and effective to improve the ability of creative thinking.

Here's the name of the respondents of the 3rd grade students.

Responden 1 : Student 3rd grade SDN Gadang 2 Malang the name is AD

2 : Student 3rd grade SDN Gadang 2 Malang the name is DI

3 : Student 3rd grade SDN Gadang 2 Malang the name is KY

4 : Student 3rd grade SDN Gadang 2 Malang the name is BI

5 : Student 3rd grade SDN Gadang 2 Malang the name is FE

6 : Student 3rd grade SDN Gadang 2 Malang the name is YA

7 : Student 3rd grade SDN Gadang 2 Malang the name is RI

8 : Student 3rd grade SDN Gadang 2 Malang the name is BA

9 : Student 3rd grade SDN Gadang 2 Malang the name is SA

10 : Student 3rd grade SDN Gadang 2 Malang the name is SH

11 : Student 3rd grade SDN Gadang 2 Malang the name is RA

12 : Student 3rd grade SDN Gadang 2 Malang the name is FA

13 : Student 3rd grade SDN Gadang 2 Malang the name is AR

14 : Student 3rd grade SDN Gadang 2 Malang the name is DE

15 : Student 3rd grade SDN Gadang 2 Malang the name is HA

16 : Student 3rd grade SDN Gadang 2 Malang the name is IZ

17 : Student 3rd grade SDN Gadang 2 Malang the name is AU

18 : Student 3rd grade SDN Gadang 2 Malang the name is LA

19 : Student 3rd grade SDN Gadang 2 Malang the name is BA

20 : Student 3rd grade SDN Gadang 2 Malang the name is WI

CHAPTER V

DISCUSSION

This chapter describes the review of product development. The exposure of product development study data is divided into 2 subjects, covering 1) Product Development Analysis; 2) Analysis the attractiveness and influence of Mind Mapping based in Material development to increasing creative thinking skills of student at 3rd grade in SDN Gadang 2 Malang.

A. Analysis of product Development Mind Mapping Book to increasing creative thinking skills of 3rd Grade SD / MI

The potential have found in SDN Gadang 2 Malang is the adequate facilities and proper infrastructure. In addition, there are some problems related to the learning process. Problems found in this research is the unavailability of instructional science materials used by students to support learning processes that make increase of creative thinking skills student and also improve students in learning achievement. So that, the researcher will develop an instructional science material based on Mind Mapping Book to support in learning process.

Product development is based on the fact that the unavailability of supporting instructional science materials. Thus, the results of product development aims to meet the availability of instructional science materials based on the curriculum in 2013 which more specific in subjects of Natural Sciences which is expected to increase the attractiveness of student in learning at the elementary school level.

Procedure development of instructional materials according Borg and Gall is ten step, but researcher explains seven development steps including:[48]

1. The first step is research and information collecting by conducting a needs assessment and curriculum analysis.
2. The second step is planning of development by conducting the preparation of instructional materials.
3. The third step is develop preliminary from of product by validator expert and teachers class 3rd.
4. The fourth Step is preliminiary field testing products to enhance instructional materials. The results of the analysis become input material for revising the initial product.
5. The fifthstep is main product revision this step improve the media about the materials, design experts, teachers and students of class 3rd . Product revisions are based on preliminary results. The purpose of this product revision is to correct the deficiencies found in the Mind Mapping Book learning media. After the initial product revision was declared feasible, the product was re-tested in field trials.
6. The sixth step is Mind field testing the implementation for 3rd grade SDN Gadang 2 Malang there are 20 students.Quantitative and qualitative data of questionnaires were collected and analyzed to obtain data for revision of learning media Mind Mapping Book.

[48]Borg, walter R, *Educational Research an Introduction,* (Longman: The Book Press, 1979), page. 624

Product development of teaching materials has been carried out by an assessment of expert materials, design experts, teachers and students of class 3rd SDN Gadang 2 Malang as users of the development product. Aspects assessed in doing revision includes the elements of the flexibility of the components, the accuracy of the content, and attractiveness of learning. The results of the responses of the experts would be a material improvement of product development prior to field trial.

Function ofinstructional material according to National Department Education mentioned in the book of Iif Khoiru Akhmadi that instructional material have many function, such us[49]:

1. Guidance for teachers who will direct her activities in the learning process, is the substance through the competence that should be taught to students.
2. Guidance for students who will be directing all of its activity in the learning process, is the substance through the competence that should be learned/master.
3. The evaluation tool of achievement/mastery learning outcomes.

Results development of instructional materials in the form of Mind Mapping Book students with subject of *Source Energy* class 3rd. Development of this instructional materials based on Mind Mapping Book specific in science lesson on curriculum 2013 are intended to help students understanding deeply and to increasing creative thinking skills.

[49]Iif Khoiru Ahmadi, Sofan Amri, *Pengembangan & Model Pembelajaran Tematik Integratif*, (Jakarta: Prestasi Pustaka, 2014),page. 159

Development of instructional science materials based on Mind Mapping Book has good descriptions according to the characteristics of elementary school students. Cover of the instructional science materials based on Mind Mapping Book contains the identity of the product. Front page contains preface, competencies and indicator, concept maps, user guide, table contents. The main page contains the learning materials interest big pictures of outer shape, Mind Mapping activity, and evaluation exercises which helps learning process and learning achievement.

B. Analysis the Results of attractiveness and influence of Mind Mapping based in Material development to increasing creative thinking skills of student at 3rd grade in SDN Gadang 2 Malang

Development of this product has passed the process of analysis from three experts that material/content expert, instructional media experts/ design expert and science learning experts. Validation was conducted to assess the products that have been developed, and then it was analyzed by quantitative data in the form of total score on the questionnaire and qualitative data in the form of suggestions, criticisms, comments and responses from the some experts.

The results of the validation of materials experts has achieved very valid criteria with a total percentage of **100%.** Validity of instructional media design experts reached very valid criteria with a total percentage of **96.6%.** The

results of the validation learning experts with teachers class 3rd at SDN Gadang 2 malang achieved very valid criteria on the percentage of **96%.**

This means, the products being developed is feasible to be tested because of instructional science materials based on Mind Mapping Book is in accordance with the validation some experts and the design is also in accordance with the character of student in elementary school level.

The revised product design can be directly trial, after being validated and revised. The trial in early stages can be applied 20 students of 3rd grade. Testing was conducted to obtain information on whether a new product to function effectively and efficiently when compared with older products.[50]

Based on the observations, the students are very enthusiastic and spirit in understanding the material. They are also spirit working on the Mind Mapping activity that exist in that instructional material. This is indicated by the response of students in the completed questionnaires to assess the attractiveness levels achieve valid criteria with the total percentage of **92,2%**. It's mean the product don't require of revision.

After the successful trial of the product, and there may be a revision that is not too important, then the next new product is applied in real conditions for a wide scope.[51] In the operation of the new product, it remains to be assessed deficiencies or obstacles that arise in order for further improvements.

[50]Sugiyono, *Metode PenelitianPendidikan*, (Bandung: Alfabeta, 2013), page. 302
[51]Sugiyono, *Metode PenelitianPendidikan*, (Bandung: Alfabeta, 2013), page. 310

a. Attractiveness

Questionnaire is the technique or the way of collecting data indirectly. The questionnaire contains a number of questions to be answered or responded by the respondent.[52] Questionnaire is used to collect data about the validity and the level of attractiveness of the instructional science materials based on Mind Mapping Book.Based on the questionnaire assessment of product trials conducted in class 3rdat SDN Gadang 2 Malang, the overall results reached **92,2%**.

Implementation of instructional science materials based on Mind Mapping Book for the 3rd grade students in SDN Gadang 2 Malang is very easy and attractive. This product is a new media that students can read the book by their self to support/ complete material deeply about Source Energy in home environment. Even though it's need guidance from the teacher to use this instructional material.

From the results obtained that is 74.7% attractiveness obtained from the 3rd class book media. That indicates that the presence of the media. This data mean, that media is good in the material discuss, but the student not interest and bored with the media. The student have a problem when they summary the materials as their creative thinking. So, that students are not able to learn with fun and effective to improve the ability of creative thinking.

[52] Nana Syaodih Sukmadinata, *Metode Penelitian Pendidikan* (Bandung: Remaja Rosdakarya, 2007), page. 219

The development of learning media in the form of Mind Mapping book is based on the fact that the unavailability of printed media books supported by instructional media, especially those with specifications of learning skills summarize the material by using important points or mind maps and appropriate language usage.

Thus this result is intended to be able to fulfill the availability of mind mapping book that can improve attractiveness of learning Natural Science on creative creative ability in SD/MI in achieving educational outcomes that have been set in the curriculum. This is consistent with the achievement of the learning process that should be followed in every educational unit as contained in government regulation no. 19 of 2005 on the national standard of education, article 19 paragraph 1 that is :

> Adapun proses pembelajaran pada satuan pendidikan hendaknya diselenggarakan secara interaktif, inspiratif, menyenangkan, menantang, memotivasi peserta didik untuk berpartisipasi aktif serta memberikan ruang yang cukup bagi prakarsa, kreativitas dan kemandirian sesuai dengan bakat, minat dan perkembangan fisik serta psikologis peserta didik.[53]

And in the mind mapping book is already loading the creativity of students in doing make a liaison line some of the main points in learning in accordance with student creativity. So that the learning process will be fun, challenging and motivating students to compete in finding the important points in the reading with good mind mapping techniques with the creativity of each student.

[53] Permendiknas No. 19 tahun 2005 tentang standart nasional Pendidikan, Pasal 19 No 1

The result of development product in the form of mind mapping book is to improve the creative thinking skill that is equipped with the line and the color according to the theme as the student's guide in learning learning process learning process on creative thinking skill. This development product, especially book of class 3rd mind mapping development is intended as supporting in learning process of Indonesian which contains science material on creative thinking skill. This is because, the media in the learning process at the elementary / MI level is still very limited.

On the other hand on thematic learning, teachers often have difficulty in switching cargoes because all fields are a theme. The method still uses the teacher center and assignments that make the learning monotonous. Therefore, this product development aims to students and teachers to understand the true meaning of activities in the learning process of Indonesian in which there is science material on creative thinking skills. Where to note is an easy way to find important points in a reading with mind mapping.

The science learning process of creative thinking ability essentially seeks to equip students in sharpening their ability to express their ideas in writing in the form of an interesting mind map on a single subject area. With that exposure that became one of the background of developers in developing mind mapping book products.

In relation to the problems faced by the unavailability of teaching materials developed, the results of the development can be utilized as an

alternative learning media, in addition to teaching materials that have been used and used in the learning that has been going on. This is reinforced by the results of developer interviews with teacher class 3rd as validation of field trial subjects.

> "*Saya mengalami kesulitan pada pembelajaran Bahasa Indonesia yang didalamnya terdapat materi IPA khusunya pada kemampuan berpikir kreatif. Dan media cetak yang tersedia dikelas cenderung pada tekstual, kurang menarik bagi siswa dan membosankan. Pada kemampuan berpikir kreatif, seringkali siswa merasa kesulitan bagaimana membuat ide baru, produk baru yang sesuai dengan tujuan pembelajaran. siswa kelas 3 ini,kharakteristik anak lebih ke visual dan kinestetik. Sehingga sangat diperlukan adanya media yang mampu mengimbangi kharakteristik siswa.*"[54]

This is the result of interviewing some subjects of validation of the learning expert when the developer asks about his or her opinion about learning in the classroom. Product development of this Mind mapping Book has advantages and disadvantages. The advantages of acrostic poem illustrated books developed include:

1) The uses of mind mapping book is good method so it makes it easier for students to understand the purpose and purpose of the book.
2) In the mind mapping book there is an exercise to create a mind map that must be done in accordance with the theme of the students and images that have been specified.
3) The material in the mind mappping book comes from several sources.

[54]Wawancara dengan Bu firaselaku wali kelas 4.Malang, 3 Mei 2017.Pukul 09.00 WIB di kelas 4 SDN Sukoharjo 2 Malang.

The lack of mind mapping book developed for grade 3 SD / MI students is as follows:

1) The theme in the readning book is limited to only one material on the theme 7 Energy and its changes.
2) Only up to the field trial stage (one class) and not until the dissemination and implementation phase.

Procedure of textbook development product is pursued through several stages which include:

1. Identification of Needs

   Identifying the intended needs in the learning process is the gap between what the student has and what to expect.

2. Formulation of Objectives

   The objective delimitation is the main thing to do before designing a media program. Because with the goal setting can be known the direction of a teaching program.

3. Material Development

   The development of the material, the action undertaken, then analyzes the objectives that have been set up into sub-skill prepared by the standard, so that obtained a detailed teaching material that can support that goal.

4. Formulation of the Measurement Instrument

   To be able to know whether or not a successful teaching is done, in other words whether the student has been successful in learning or

not, a suitable measuring tool is required for that purpose. The measuring instrument is carefully and planned before the activity is done. This can be done with the preetest and posttest questionnaires for students.

Presentation of teaching materials through the design medium is the elaboration of the items that have been arranged secra well as described above. Teaching materials are poured in a writing / drawing called a media program script. The materials taken for science learning are also based on IPA materials experts.

This test is intended to determine the effectiveness of a product that is designed, then the revision of the product undertaken on the basis of validation and test results are done in the field. The test is intended for students, so that researchers know things that are improved in the media book Mind Mapping them.

b. Analysis the influence Mind Mapping Book to Increasin creative thinking skills student

Tabel 4.12, 4.7, and 4.9 shows the validation results of several experts, including content specialists, Design validation, and teachers of Thematic subjects on creative thinking skills are judged valid, as evidenced by the average percentage of the acquisition of validation results by 100% content experts, the results validated by Mind Mapping design 96.6%, and the results of validation by subject teachers showed 96% stated very valid.

This suggests that the learning media in the form of Mind Mapping books is good and worth using based on the value of some experts.

1. Analysis Level of attractiveness and influence of Mind Mapping on students' creative thinking ability. The attractiveness and influence of Mind Mapping on students' creative thinking ability can be expressed in several criteria of instructional materials. Various criteria that must be considered in choosing teaching materials as learning aids are as follows:
    1. Preparation of teaching materials starts from the easy to understand the difficult, from the concrete to understand the abstract.
    2. Repetition of words or words strengthens understanding.
    3. Positive feedback from teaching materials created will provide reinforcement to students' understanding.
    4. Students become having high learning motivation, it is one of the determinants of the success of learning.

    In this study, the mind mapping book developed already meets the criteria of interesting and effective. This can be seen from the process of learning activities conducted in the class before-after. In the aspect of the accuracy of the book making mind mapping with learning objectives are considered appropriate. The mind mapping book developed already includes the concept and generalization of creative thinking skills.

    Book mind mapping on the ability of creative thinking is very easy in using it, because the product of mind mapping book development is accompanied by the guidance of the book and the existence of supporting

media that is the colored connecting lines according to the wishes of the students. In addition, this mind mapping book does not take much time in understanding it because in the mind mapping book there is an example of finding keywords from a reading. So the teacher does not need to take a long time to wait for students in practice to make mind mapping in accordance with the rules. So that in science learning activities able to achieve the purpose of learning, especially on the ability of creative thinking.

Based on the observations in the class before-after, the students appear active and able to express themselves in summarizing well, in accordance with the vocabulary, the arrangement of language and themes with the help of mind mapping book development products and students are able to demonstrate well what is assigned by the book mind mapping well.

After doing the learning activity in the class before-after, the researcher conducted pretest and posttest activity to know the improvement of writing ability achieved by the student within 3 times of meeting. Indonesian learning activities in which there are IPA materials using teaching materials in the form of mind mapping book on creative thinking ability of students of grade 3 SD / MI give positive influence to students' creative thinking skill. The achievement of the effectiveness of the Mind Mapping picture book is indicated by the postest results of the class before-after.In addition, teaching materials in the form of Mind Mapping Book can effectively improve the ability to creative thinking skills student at3rd grade

in SDN Gadang 2 Malang. This can be seen from the mean (mean) of pre-test results can be seen that X1 =57,75 % and post-test can be known that X2 = 91% pre-test is smaller than the postest is57,75<91 , then it can be said that teaching materials in the form of mind mapping books on creative thinking skills are significantly effective in improving the ability to find key ideas or key points in the reading grade 3 SD / MI.The calculation results show that t count = 3,975 t table = 2.093. In conclusion, H_o is rejected and H_a accepted, so there is a significant improvement between the creative thinking ability of students before and after the use of Mind Mapping book. In table 4.12 from the average of pre-test results can be seen that X1 = **57,75 %** and post-test can be seen that X2 = **91 %** then shows that post-test results increased by **33,25%.**

CHAPTER VI

CLOSING

In this chapter will cover a few things including, A) Conclusions of development outcomes and B) Suggestions. The full description is as follows:

A. Conclusion of Development Results

Based on the development process and the result of teaching material of Mind Mapping book on Energy Sources material to improve creative thinking ability of 3rd graders of SD / MI can be summarized as follows:

1. The development of this teaching material has resulted in the product of Mind Mapping book entitled "creative thinking with Mind Mapping for grade 3rd SD/ MI". This product has fulfilled the component as a teaching material with valid criteria. shows the validation results of several experts, including content specialists, linguists, picture illustrators, and teachers in the field of Indonesian subjects on creative thinking skills assessed valid, as evidenced by the average percentage of material scince of validation results by 100% content experts, the results of validation by design Mind Mapping picture book shows 96.6%, and validation results by subject teachers showed 96% stated very valid. This suggests that the learning media in the form of Mind Mapping books is good and worth using based on the value of some experts. The result of the assessment of the development of teaching materials in the form of Mind Mapping book has a high level of validity based on the questionnaire of several experts covering material experts,

design experts, and Thematic teachers especially learning science 3rd grade elementary school.

2. Development of teaching materials in the form of Mind Mapping book on Energy Sources material for creative thinking ability of grade 3rd SD / MI students can be declared effective in learning activities. In line with the results of observations in the class before-after students look active and able to express themselves in making a map of the mind well in accordance with the science material taught, the theme with the help of product development Mind Mapping book and students are able to demonstrate well what is assigned by the book Mind Mapping it well. Thus it can be stated that the media developed the book Mind Mapping on the material Source of Energy to improve students' creative thinking ability is said to be effective in accordance with predetermined criteria, so that teaching materials can support science learning activities on creative thinking ability and appeal to students and duru in its use .
3. The influence of Mind Mapping on the students' creative thinking ability is derived from the validation of several experts, including content specialists, linguists, pictorial picture designers, and teachers of Indonesian subjects on writing skills are judged valid, as evidenced by the average percentage of earning validation by 100% content experts, validation results by Mind Mapping design 96.6%, and validation results by subject teachers showed 96% stated very valid. This suggests that the learning media in the form of

Mind Mapping books is good and worth using based on the value of some experts.

The result of pre – test is 1155 in average 57,75 this mean that the student still needed deep understanding about the materials. Creative thinking of students is still low with the existence of media books available in class. The media is in the form of a textual book that contains a lot of science material with a few less interesting images. Media that is less attractive to students greatly influences student learning outcomes. the comparison between pre-test and post-test is**33,25%.**

The result of post – test is 1820 in average 91 this mean that the student have a increasing student learning outcomes. the use of Mind Mapping media has an influence on students' creative thinking abilities. Media that is easy to use and in accordance with creative students makes students better understand the material. The increase in creative thinking in question is flexibility, students can give more than one answer correctly. And originality, students can make Mind Mapping about energy source material that is different from others. This shows that the indicator of students' creative thinking has succeeded.

Interest from the Mind Mapping Book media used by students has a percentage of 92.2%. This means that there is interest in students about the media. The use of media that is easy, creative, and innovative makes students become fun learning. The Mind Mapping Book media has good and interesting images for students and presentation of material that emphasizes students' personal experiences. This makes students more informed about the material.

The results of the attractiveness of the media used usually in the 3rd class have a percentage of 74.7%. This means that there is interest in the media. This media is also interesting because it has extensive and textual coverage material. Students get information from textbooks and replicate answers according to books. This becomes a problem for students' creative thinking skills. students cannot develop their creative thinking skills because they must be in accordance with the book. And, books that are full of reading make students easy and uninteresting. So that students will know the material if they open the book, and forget again because a lot of material is delivered.

B. Suggestions

Based on the above conclusions some suggestions can be put forward are:

1. Product development can be made with a larger size, so it can reach the total number of students.
2. Product development can be accompanied by student-centric dancing activities.
3. Product development can be packaged in the form of a collection of books or magazines that specifically discuss the procedures to make a summary of the lessons are good and true.

The suggestion from some validator experts is the development of Mind Mapping Book media for other classes and other themes. Mind Mapping media is developed more broadly and better in further studies. The research conducted

was not only low grade but also high class. In addition, some suggestions from validator experts use Mind Maping not only in the educational environment.

Mind mapping is very influential for the ability to think creatively, so it needs to be developed in other forms of media. The media used is not only in the form of printed books, but in the form of audio media and motion. In addition to creative thinking, mind mapping will make someone more critical in explaining something about important discussion caps. The idea produced will be better if honed with Mind Mapping.

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APPENDIX

KEMENTERIAN AGAMA REPUBLIK INDONESIA
UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG
FAKULTAS ILMU TARBIYAH DAN KEGURUAN
Jalan Gajayana 50, Telepon (0341) 552398 Faximile (0341) 552398 Malang
http:// fitk.uin-malang.ac.id. email : fitk@uin_malang.ac.id

Nomor : 1951/Un.03.1/TL.00.1/07/2018 12 Juli 2018
Sifat : Penting
Lampiran : -
Hal : **Izin Penelitian**

Kepada
Yth. Kepala SDN Gadang 2 Malang
di
Malang

Assalamu'alaikum Wr. Wb.

Dengan hormat, dalam rangka menyelesaikan tugas akhir berupa penyusunan skripsi mahasiswa Fakultas Ilmu Tarbiyah dan Keguruan (FITK) Universitas Islam Negeri Maulana Malik Ibrahim Malang, kami mohon dengan hormat agar mahasiswa berikut:

Nama	:	Ratna Sasi Suci
NIM	:	14140095
Jurusan	:	Pendidikan Guru Madrasah Ibtidaiyah (PGMI)
Semester - Tahun Akademik	:	Genap - 2017/2018
Judul Skripsi	:	**Mind Mapping Based In Material Development Increasing Creative Thinking Skill Student's in SDN Gadang 2 Malang**
Lama Penelitian	:	**Juli 2018** sampai dengan **September 2018** (3 bulan)

diberi izin untuk melakukan penelitian di lembaga/instansi yang menjadi wewenang Bapak/Ibu.

Demikian, atas perkenan dan kerjasama Bapak/Ibu yang baik disampaikan terima kasih.

Wassalamu'alaikum Wr. Wb.

Dekan,

Dr. H. Agus Maimun, M.Pd
NIP. 19650817 199803 1 003

Tembusan :
1. Yth. Ketua Jurusan PGMI
2. Arsip

PEMERINTAH KOTA MALANG
DINAS PENDIDIKAN
SD NEGERI GADANG 2
KECAMATAN SUKUN – KOTA MALANG
JL. Gadang Gang IX No. 18 Telp. (0341) 837041 – Malang 65149
Email : sdn_gadang_dua@yahoo.com
NPSN: 20534084 NSS: 101056105089

SURAT KETERANGAN

Nomor : 421.2/078/35.73.301.01.120/VII/2018

Yang bertanda tangan di bawah ini:

Nama	: SUNARIANTO,SP.d.,MM
NIP	: 19661225 199611 1 001
Jabatan	: Kepala Sekolah

Menerangkan bahwa:

Nama	: Ratna Sasi Suci
NIM	: 14140095
Jenjang	: S1
Prodi	: PGMI
Kampus	: Universitas Islam Negeri Maulana Malik Ibrahim Malang (UIN)

Telah selesai melaksanakan Penelitian Pengembangan Skripsi di SDN Gadang 2 Kota Malang, pada tanggal 6 Juni 2018 dengan judul "**Mind Mapping Based In Material Development to Increasing Creative Thinking Skills of 3rd Grade SDN Gadang 2 Malang**"

Demikian Surat Keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Malang, 26 Juli 2018
Kepala Sekolah

SDN GADANG 2 KEC. SUKUN

SUNARIANTO,SP.d, MM
NIP. 19661225 199611 1 001

2. **Lembar Penilaian**

No	Butir Pertanyaan	Nilai				
		1	2	3	4	5
1	Apakah komponen media pembelajaran *Mind Mapping* sudah memadai sebagai media pembelajaran?					✓
2	Bagaimana kesesuaian Kompetensi inti, Kompetensi dasar, dengan indikator pada pengembangan media pembelajaran *Mind Mapping* ini?					✓
3	Bagaimana kesesuaian materi yang disajikan pada pengembangan media pembelajaran *Mind Mapping* ini?					✓
4	Apakah media pembelajaran *Mind Mapping* memuntun siswa untuk melatih kemampuan berpikir kreatif?					✓
5	Apakah media pembelajaran *Mind Mapping* mampu melatih kemampuan siswa berpikir kreatif secara flexibilitas dan orisinalitas ?					✓
6	Apakah media pembelajaran *Mind Mapping* mampu menambah pengetahuan siswa?					✓

3. **Mohon ahli materi memberikan komentar dan saran tentang isi media pembelajaran *Mind Mapping* yang telah dikembangkan.**

No	Komentar Terhadap Isi media pembelajaran *Mind Mapping*	Saran kepada peneliti
	Sudah bagus dalam materi. Menjelaskan sumber energi & contoh energi sehari-hari. Bahasa sederhana.	Materi yang disajikan dalam bentuk satu rangkaian menjelaskan sumber & jenis energi sehari-hari. Gunakan lebih sederhana

Malang, 18 Mei 2018

( )

ANGKET PENILAIAN / TANGGAPAN GURU TEMATIK WALI KELAS 3

PENGEMBANGAN BUKU MIND MAPPING TEMA 7 SUBTEMA 1 SISWA KELAS 3

DI SDN GADANG 2 MALANG

A. Pengantar

Bahan ajar ini di desain untuk siswa SD/MI kelas 3 bidang studi Bahasa Indonesia pokok bahasan IPA (Energi dan Perubahannya) keterampilan berpikir kreatif dengan indikator:

1) Murid mampu membuat Mind Mapping tema Energi dan Perubahannya dengan membuat kata kunci yang tepat dan digabungkan dalam bentuk garis bercabang yang menarik untuk menyampaikan maksud/ide disertai gambar/warna.

Berkaitan dengan pengembangan bahan ajar tersebut, penulis bermaksud mengadakan validasi terhadap produk yang dihasilkan. Oleh karena itu, penulis memohon kepada Bapak/Ibu untuk kesediaannya memberikan penilaian terhadap kualitas produk yang telah dikembangkan melalui angket. Hasil dari pengisian angket ini akan digunakan untuk menyempurnakan produk pengembangan yang telah diberikan, agar dapat bermanfaat bagi semua pihak dimasa yang akan datang. Sebelumnya penulis menyampaikan terimakasih banyak atas kesediaan Bapak/ Ibu untuk berpartisipasi dalam pengisian angket ini.

B. Identitas Validator

Nama	: LILIN WIDI RAHAYU SETJO, SS
NIP	: 19810227 201407 2 002
Jabatan	: Guru Kelas
Instansi	: SDN Gadang 2 Malang
Alamat Instansi	: Jl. GADANG IX/18 Malang
Pendidikan	: S1 Bahasa Inggris STIBA Malang

C. Petunjuk Pengisian Angket

Adapun petunjuk untuk pengisian angket sebagai berikut :

1. Sebelum mengisi angket yang telah tersedia, dimohon Bapak/Ibu terlebih dahulu memahami isi media pembelajaran.

2. Berilah tanda cek (√) pada kolom skor penilaian.
   - Skor 5 : sangat tepat, sangat sesuai, sangat jelas, sangat menarik, sangat mudah
   - Skor 4 : tepat, sesuai, jelas, menarik, mudah
   - Skor 3 : cukup tepat, cukup sesuai, cukup jelas, cukup menarik, cukup mudah
   - Skor 2 : kurang tepat, kurang sesuai, kurang jelas, kurang menarik, kurang mudah
   - Skor 1 : sangat tidak tepat, sangat tidak sesuai, sangat tidak jelas, sangat tidak menarik, sangat tidak mudah
3. Komentar dan saran mohon ditulis pada lembar yang telah disediakan.
4. Pengisian angket ini bertujuan untuk mengukur kevalidan produk yang telah dikembangkan sehingga kecermatan dalam penelitian produk sangat diharapkan.

D. Lembar Validasi

No	Kriteria	Skor Penilaian				
		5	4	3	2	1
1	Tingkat relevansi media pembelajaran dengan kurikulum yang berlaku	✓				
2	Memudahkan guru dalam mengajar tematik khususnya pada materi IPA untuk melatih kemampuan berpikir kreatif siswa	✓				
3	Membantu guru dalam menyampaikan materi tematik khususnya pada materi IPA untuk melatih kemampuan berpikir kreatif siswa	✓				
4	Membuat siswa aktif dalam pembelajaran tematik khususnya pada materi IPA untuk melatih kemampuan berpikir kreatif siswa	✓				
5	Kejelasan petunjuk penggunaan	✓				
6	Ketepatan rumusan tujuan pembelajaran Tematik	✓				
7	Kesesuaian antara isi materi dengan KD dan Indikator	✓				
8	Kesesuaian antara isi latihan dengan tujuan pembelajaran Bahasa					

	Indonesia			
9	Kesesuaian isi teks percakapan dengan karakteristik materi tematik khususnya pada materi IPA untuk melatih kemampuan berpikir kreatif siswa	✓		
10	Kesesuaian penggunaan gambar atau ilustrasi dengan materi dalam media pembelajaran	✓		
11	Evaluasi dalam media pembelajaran dapat melatih kemampuan berpikir kreatif siswa	✓		
12	Siswa termotivasi dalam mengikuti pembelajaran Tematik		✓	
13	Peran media pembelajaran dalam pembelajaran Bahasa Indonesia khususnya pada keterampilan berpikir kreatif	✓		
14	Memenuhi kriteria media pembelajaran		✓	
15.	Kemudahan penggunaan media pembelajaran	✓		

E. Mohon ahli materi memberikan komentar dan saran tentang isi media pembelajaran *Mind Mapping* yang telah dikembangkan.

No.	Komentar Terhadap Isi media pembelajaran *Mind Mapping*	Saran kepada peneliti
	Isi media pembelajaran Mind Mapping bagus dan melatih siswa-siswi berpikir kreatif.	Kalo memotivasi siswa-siswi lebih banyak lagi sehingga lebih bersemangat dalam belajar.

Malang, 6-6-2018

Lilis Widi Rahayu Sofyan

Nip. 19810227 201407 2 002

Lampiran II

Instrumen validasi Ahli Desain Produk

INSTRUMEN VALIDASI AHLI DESAIN MEDIA

"MEDIA PEMBELAJARAN *MIND MAPPING* TEMA 7 SUB TEMA 1

(ENERGI DAN PERUBAHANNYA) PADA KELAS 3

A. Pengantar

Berkaitan dengan pelaksanaan pengembangan Media pembelajaran *Mind Mapping* Tema 7 sub tema 1(ENERGI DAN PERUBAHANNYA) pada siswa kelas 3, maka pengembang bermaksud untuk mengadakan validasi media pembelajaran yang telah di produksi sebagai salah satu bahan pembelajaran. Oleh sebab itu , peneliti mohon kesediaan Bapak/Ibu untuk mengisi angket dibawah ini sebagai ahli desain. Hasil dari pengukuran melalui angket akan digunakan untuk menyempurnakan media pembelajaran *Mind Mapping* agar dapat bermanfaat dalam pembelajaran sebelumnya saya sampaikan terimakasih atas kesediaan Bapak/Ibu.

Nama : Ahmad Makki Hasan

NIP : -

Instansi : UIN Malang

Pendidikan : S3

Alamat : Singosari - Kab. Malang

B. Petunjuk Penelitian

1. Jawablah pertanyaan di bawah ini dengan member centang pada alternative jawaban yang dianggap paling sesuai.
2. Jika diperlukan kritik dan saran Bapak/Ibu dapat dituliskan pada lembar yang telah disediakan.

1. Keterangan

Skala Penilaian/Tanggapan				
1	2	3	4	5
Sangat tidak baik	Kurang baik	Cukup baik	Baik	Sangat baik

2. Lembar Penilaian

No	Butir Pertanyaan	Nilai				
		1	2	3	4	5
1	Bagaimana ketertarikan penyajian desain media pembelajaran *Mind Mapping* ini?					✓
2	Bagaimana kesesuaian gambar pada media pembelajaran *Mind Mapping* ini?					✓
3	Bagaimana kesesuaian gambar dengan materi yang disajikan pada media pembelajaran *Mind Mapping* ini?				✓	
4	Bagaimana kesesuaian pemakaian jenis huruf yang digunakan pada media pembelajaran *Mind Mapping* ini?					✓
5	Bagaimana kesesuaian penggunaan variasi warna pada media pembelajaran *Mind Mapping* ini?					✓
6	Bagaimana ketertarikan desain layout pada pembelajaran *Mind Mapping* ini?					✓

3. Mohon ahli isi memberikan komentar dan saran tentang Desain media pembelajaran *Mind Mapping* yang telah dikembangkan.

No	Komentar Terhadap Desain media pembelajaran *Mind Mapping*	Saran kepada peneliti
	penyajian materi kurang disesuaikan, garis penghubung, kurang adanya gambar yang menarik. Diberi pemanisan sedikitnya.	Sudah bagus. Menarik namun perlu ditambahkan beberapa dalam bagian di awal awal, lebih banyak gambar yang menarik

Malang, 31/5/2018

(Abdul Malik H.)

KEMENTERIAN AGAMA RI PUBLIK INDONESIA
UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG
FAKULTAS ILMU TARBIYAH DAN KEGURUAN
Jalan Gajayana 50, Telepon (0341) 552398 Faksimile (0341) 552398 Malang
http://fitk.uin-malang.ac.id/ email: fitk@uin-malang.ac.id

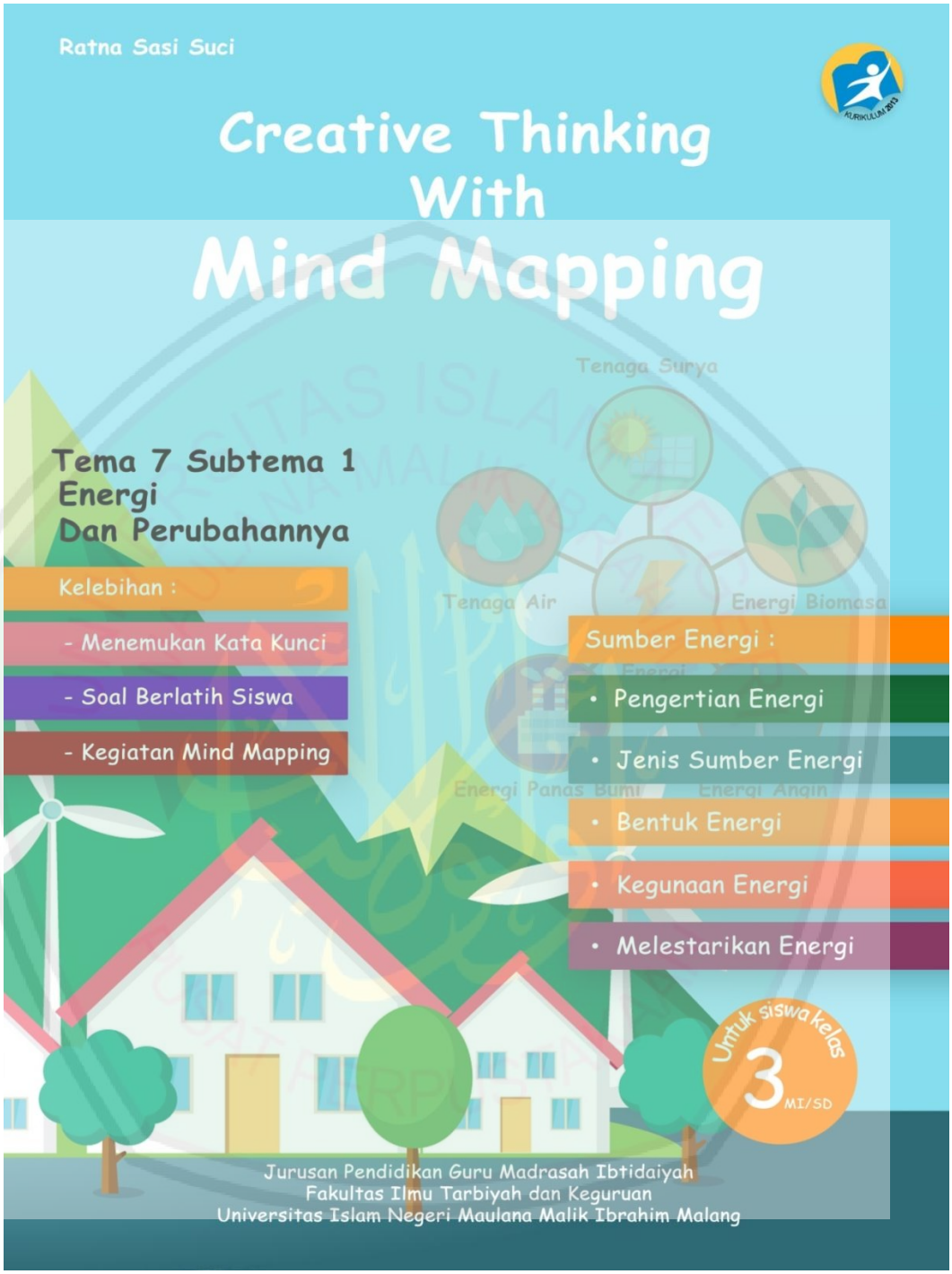
BUKTI KONSULTASI SKRIPSI
JURUSAN PENDIDIKAN GURU MADRASAH IBTIDAIYAH

Nama : Ratna Sasi Suci
NIM : 14140095
Judul : Mind Mapping Based in Material Development to Increasing Creative Thinking Skills Student at 3rd Grade SDN Gadang 2 Malang
Dosen Pembimbing : Dr. Hj. Lee Raskova Oktaberlina, M.Ed

No.	Tgl/ Bln/ Thn	Materi Konsultasi	Tanda Tangan Pembimbing Skripsi
1.	30 Maret 2018	tittle revision	
2.	31 Mei 2018	change of research question	
3.	4 Juni 2018	background	
4.	6 Juni 2018	background	
5.	14 Juni 2018	Chage of data resources	
6.	28 Juni 2018	data presentation	
7.	6 Juli 2018	Data analysis	
8.	9 Juli 2018	Data analysis	
9.	10 Juli 2018	Conclusion	
10.	1 Juli 2018	overall revision	
11.			
12.			

Malang, ... 20..18
Mengetahui
Ketua Jurusan PGMI,

H. Ahmad Sholeh, M.Ag
NIP. 197608032006041001



Kata Pengantar

Puji syukur selalu kami panjatkan kepada allah swt yang telah memberikan rahmat taufiq hidayah-Nya, kami bisa menyelesaikan buku pengembangan Mind Mapping untuk siswa kelas 3 Mi/SD. Buku ini dibuat dengan mempertimbangkan perkembangan anak, terutama anak kelas 3.

Buku ini saya konsep untuk melatih kemampuan berpikir kreatif siswa dan guru sebagai pembimbing. Kemampuan berpikir kreatif, terdapat pada setiap individu dan dapat berkembang apabila sering diasah dan diberi stimulus yang benar. Harapan saya, buku ini dapat membantu siswa dalam memahami tentang sumber energi.

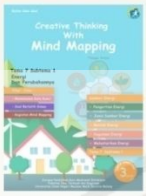
Akhir kata saya mengucapkan terimakasih kepada semua pihak yang telah membantu dalam tersusunnya buku ini. Kritik dan saran sangat saya harapkan untuk perbaikan buku ini.

Penulis

25 Mei, 2018

2

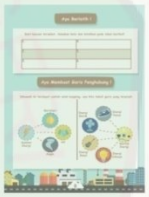
Pedoman penggunaan buku



Cover yang dibuat dengan desain yang menarik

KI,KD Indikator dan tujuan pembelajaran untuk mengetahui setiap kompetensi yang akan dicapai.

Materi diberikan dalam kalimat yang jelas dan mudah dipahami agar dapat melatih kemampuan berpikir kreatif siswa



AYO BERLATIH yang berisi kegiatan menemukan kata kunci untuk melatih membuat mind mapping

TAHUKAH KAMU berisi pengetahuan tambahan yang dapat menambah pengetahuan siswa terkait materi

AYO MEMBUAT MIND MAPPING berisi kegiatan siswa membuat mind mapping

EVALUASI disajikan dalam bentuk pilihan ganda dan isian untuk mengetahui pengetahuan siswa.

Daftar Isi

KI, KD, TUJUAN DAN INDIKATOR

Kompetensi Inti

Memahami pengetahuan faktual dengan cara mengamati [mendengar, melihat, membaca] dan menanya berdasarkan rasa ingin tahu tentang dirinya, makhluk ciptaan Tuhan dan kegiatannya, dan benda-benda yang dijumpainya di rumah dan di sekolah.

Kompetensi Dasar

3.1 Menggali informasi dari teks laporan informatif hasil observasi tentang perubahan wujud benda, sumber energi, perubahan energi, energi alternatif, perubahan iklim dan cuaca, rupa bumi dan perubahannya, serta alam semesta dengan bantuan guru dan teman dalam bahasa Indonesia lisan dan tulis yang dapat diisi dengan kosakata bahasa daerah untuk membantu pemahaman.

4.1 Mengamati dan mengolah isi teks laporan informatif hasil observasi tentang perubahan wujud benda, sumber energi, perubahan energi, energi alternatif, perubahan iklim dan cuaca, rupa bumi dan perubahannya, serta alam semesta secara mandiri dalam bahasa Indonesia lisan dan tulis yang dapat diisi dengan kosakata bahasa daerah untuk membantu penyajian.

Tujuan Pembelajaran

1. Dengan menyimak teks laporan yang disampaikan oleh guru, siswa dapat mengidentifikasi teks laporan informatif tentang sumber energi dengan tepat dan percaya diri.

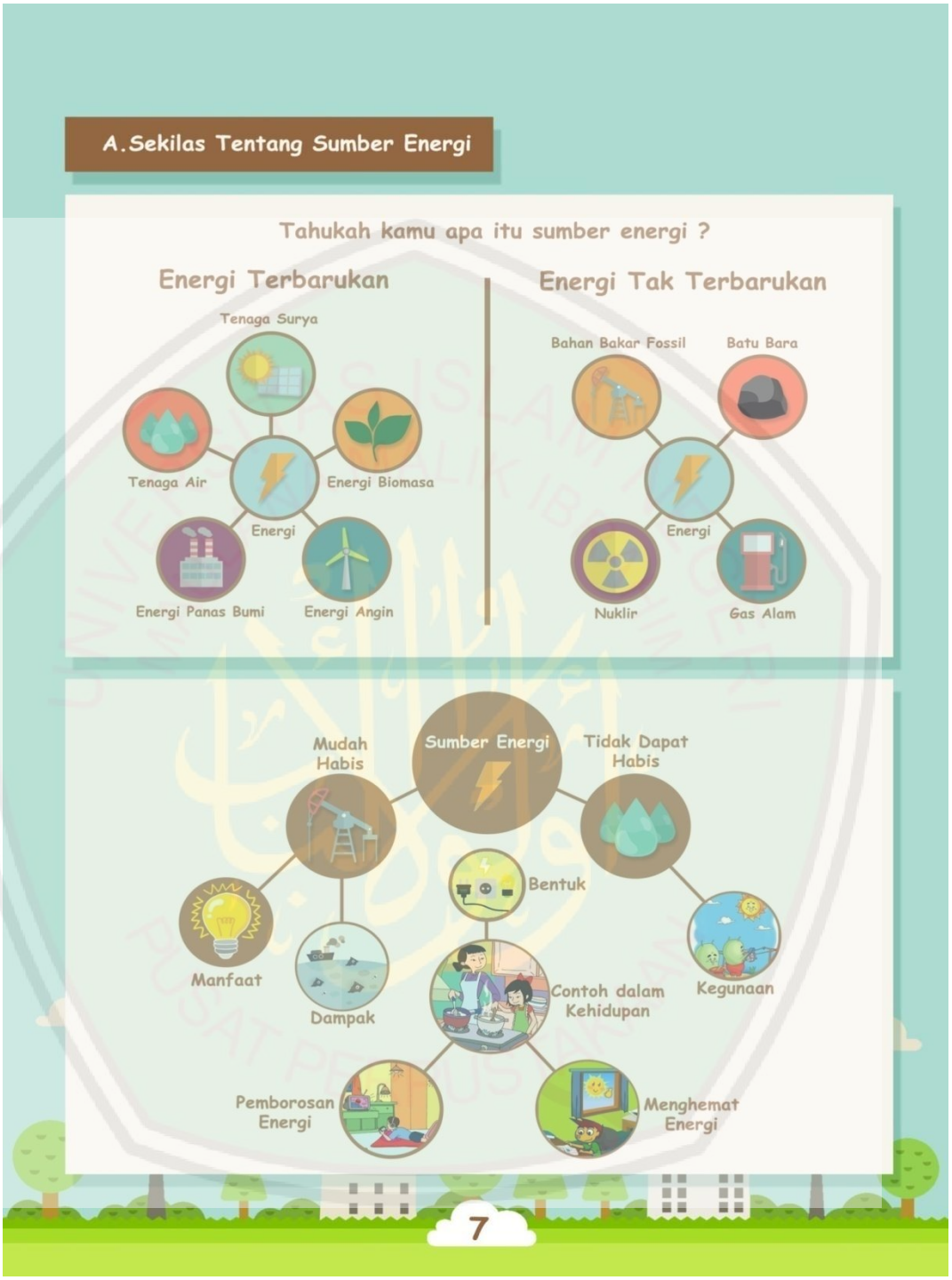
2. Dengan mempelajari teks laporan tentang sumber energi siswa dapat menjelaskan kembali isi teks laporan tentang sumber energi dengan tepat dan percaya diri.

3. Dengan menjawab pertanyaan - pertanyaan siswa dapat menguraikan isi teks laporan informatif tentang sumber energi dengan tepat.

4. Dengan mengamati contoh, siswa dapat menyusun teks laporan informatif tentang sumber energi secara lisan atau tulis dengan tepat dan penuh tanggung jawab.

Indikator Pembelajaran

- Mengidentifikasii teks laporan informatif tentang sumber energi secara lisan atau tulis dengan tepat
- Menguraikan gagasan pokok teks laporan informatif tentang sumber energi secara lisan atau tulis dengan tepat
- Menceritakan kembali isi teks laporan informatif tentang sumber energi secara lisan atau tulis dengan tepat
- Menyusun gagasan berupa teks laporan informatif tentang sumber energi secara tertulis dengan tepat



B. Mengenal Sumber Energi

Energi adalah kemampuan untuk melakukan kerja/kegiatan. Energi dibutuhkan untuk melakukan kegiatan sehari-hari. Menggerakkan mesin dan menyalakan listrik membutuhkan energi. Begitu pula berolahraga, berkebun, dan memasak. Tanpa energi kegiatan-kegiatan tersebut tidak bisa dilakukan.

Sumber energi diantaranya matahari, biomasa, panas bumi, air dan angin. Sumber energi tersebut, tidak mudah habis dan dapat diperoleh dengan mudah.

Sumber energi ada yang mudah habis dan sulit untuk diperoleh. Bahan bakar minyak, gas alam dan minyak bumi sangat sulit untuk di dapatkan, karena memerlukan proses yang sangat lama. Untuk itu, kita harus menghemat sumber energi yang mudah habis.

Salah satu cara adalah menggunakan energi alternatif. Energi alternatif merupakan energi pengganti. Manusia menggunakan energi alternatif dengan memanfaatkan matahari, air dan angin. Dari beberapa sumber energi tersebut dihasilkan bentuk-bentuk energi. Energi panas, energi cahaya, dan energi gerak. Energi listrik dan masih banyak energi yang lainnya.

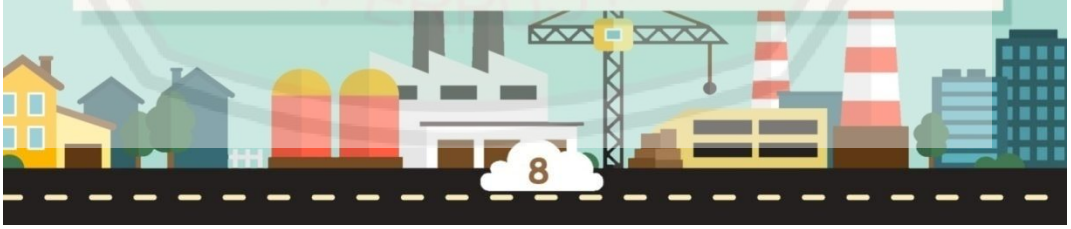
Air

Angin

Matahari

Biomasa

Panas Bumi



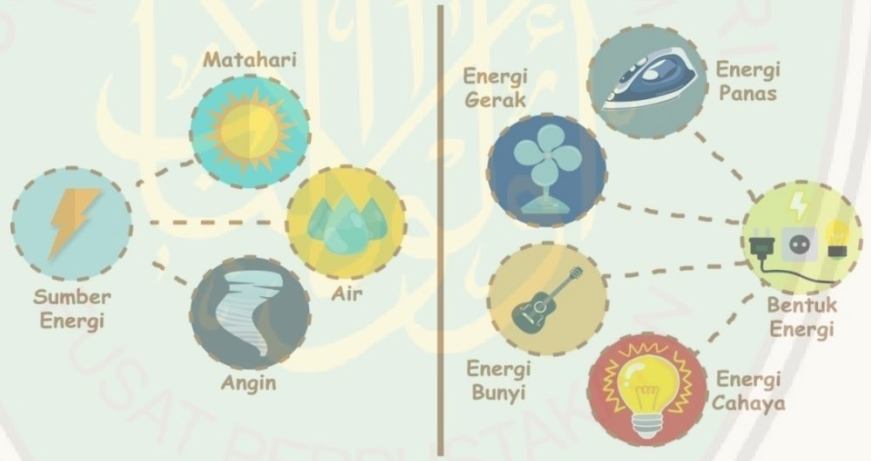
Ayo Berlatih !

Dari bacaan tersebut, temukan kata kunci dan letakkan pada tabel berikut!

1.	4.
2.	5.
3.	6.

Ayo Membuat Garis Penghubung !

Dibawah ini terdapat contoh mind mapping, ayo kita tebali garis yang terpisah



Tahukah kamu? Sumber Energi itu apa saja ya?

Sumber energi dapat diperbarui

Matahari adalah Benda langit berupa bola berisi gas, yang memancarkan cahaya dan panas ke bumi, sehingga pada siang hari, bumi menjadi terang dan panas. Manfaat sinar matahari bagi mahkluk hidup diantaranya, menghangatkan tubuh, membantu pembentukan vitamin D, mengeringkan pakaian, mengeringkan kerupuk, membuat garam, fotosintesis atau proses pembuatan maknanan pada tumbuhan.

Air merupakan salah satu sumber energi yang bisa diperbaharui. Sumber energi air dapat dibagi menjadi dua. Sumber air alami dan buatan. Sumber air alami diantaranya danau, sungai, rawa, laut, dan mata air. Sumber air buatan, diantaranya sumur tradisional, bendungan, air PDAM, waduk dan sumur pompa. Air mengalir dari daerah tinggi ke rendah.

Angin merupakan udara yang bergerak akibat dari adanya perbedaan tekanan udara dan rotasi bumi. Angin bergerak dari suhu rendah ke suhu tinggi. Angin juga memiliki beberapa jenis angin. Angin darat dan angin laut. Angin laut adalah angin yang bertiup dari arah laut menuju ke daratan. Terjadinya angin laut karena perbedaan tekanan yang berlawanan. Tekanan udara diatas daratan lebih rendah, sedangkan di laut tekanan udara lebih tinggi. Angin darat adalah angin yang bertiup dari arah darat menuju lautan. Angin darat terjadi ketika tekanan udara diatas daratan lebih tinggi dibandingkan dengan tekanan udara dilautan.

PANAS BUMI

Panas Bumi merupakan sumber energi yang berasal dari dalam bumi. Indonesia merupakan salah satu negara di dunia yang akan kaya energi panas bumi, hal ini karena indonesia mempunyai banyak gunung berapi aktif .

Contoh pemanfaatan dengan mengubahnya menjadi pembangkit listrik.

BIOMASSA

Biomassa merupakan salah satu sumber energi yang dapat habis secara alamiah. sumber energi yang dihasilkan dari benda-benda disekitar kita seperti kayu, limbah pertanian, kotoran hewan, dan tanaman hidup. Pemanfaatan sumber energi Biomassa digunakan sebagai bahan bakar untuk menghasilkan llistrik dan bentuk-bentuk energi lainnya.

Panas Bumi dan Biomassa

Mata air panas yang luas di lapangan panas bumi Suoh, Lampung Barat Provinsi Lampung, pH 7, suhu 100° C, (Foto: Suharno, 2010).

Makanan

Makanan merupakan sumber energi bagi manusia, hewan dan tumbuhan. energi yang dihasilkan oleh makanan berbentuk energi kimia. Energi yang tidak dapat berubah menjadi bentuk asal semula. Tubuh manusia memerlukan energi untuk melakukan aktifitas kesehariannya, dengan makanan.

Dari bacaan diatas ayo kita menemukan kunci!

A	G	D	A	N	A	U	B
M	A	T	A	H	A	R	I
A	S	I	N	E	I	B	O
E	D	L	G	W	R	U	M
R	G	L	I	A	E	M	A
R	G	O	N	N	S	I	S
B	A	K	A	R	I	S	S
G	U	N	U	N	G	C	A

Susunlah kata-kata dibawah ini menjadi kata yang tepat!

F S I T O N I S O T E S = _ _ _ _ _ _ _ _ _ _ _ _

N G A I N T U A L = _ _ _ _ _ _ _ _ _

U R M B S E I A R = _ _ _ _ _ _ _ _ _

S N P A A I M B U = _ _ _ _ _ _ _ _ _

M B A L I H = _ _ _ _ _ _

N H A B A R A K A B = _ _ _ _ _ _ _ _ _ _

Sumber energi tidak dapat diperbarui

Bahan bakar fosil

Bahan yang digunakan sebagai sumber energi yang dapat menghasilkan energi panas melalui proses pembakaran. Ada beberapa jenis bahan bakar, diantaranya bensin, solar, batu bara dan minyak tanah. Bahan bakar fosil terbuat dari benda – benda mati yang memerlukan jutaan tahun untuk di proses menjadi bahan bakar. Bahan bakar dari fosil, sangat menguntungkan bagi manusia.

Gas alam

Gas alam berbentuk gas terdapat di bawah kerak bumi dan mendapatkannya harus dibor dan dipompa keluar. Gas alam disebut juga gas bumi atau gas rawa yang terbentuk dari fosil. Gas alam, biasanya digunakan sebagai sumber energi untuk bahan industri dan untuk rumah tangga. Contoh dari gas alam yaitu LNG (Liquified Natural Gas), Salah satunya berada di daerah Madura yang keberadaannya disertai dengan munculnya api yang tidak bisa padam.

Nuklir

Nuklir merupakan salah satu sumber energi pembangkit listrik, industri dan bahan bakar. Bahan bakar nuklir diperoleh melalui penambangan dan pemurnian bijih uranium. Uranium merupakan unsur alami yang ada didalam inti bumi. Contohnya, sinar x- ray yang digunkan dalam bidang kedokteran, PLTN (Pembangkit Listrik Tenaga Nuklir).

Ayo mengingat kembali

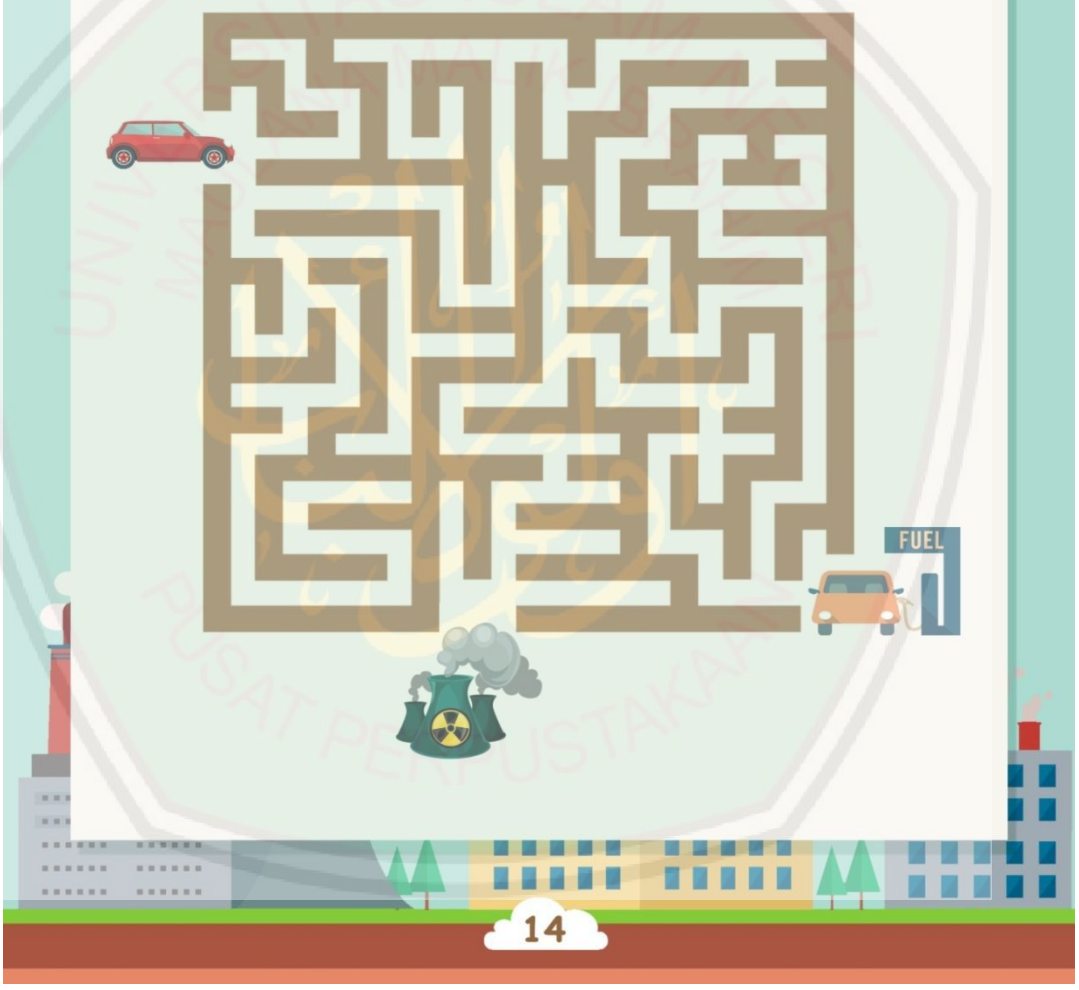
Energi alternatif, adalah semua energi yang dapat digunakan untuk bahan bakar konvensional tanpa terjadi akibat yang tidak diharapkan.

Energi terbarukan, sama halnya dengan energi yang bisa diperbaharui ataupun tidak mudah habis. Energi terbarukan, dihasilkan dari sumber alami. Contohnya, matahari, angin, hujan, pasang surut angin laut, dan panas bumi atau yang terbarui, secara alami dapat muncul kembali setelah digunakan.

Baca dan ayo mencari tahu

Baca dan ayo mencari tahu sumber energi yang tepat untuk digunakan oleh Beni.

Setiap pagi, Beni berangkat ke sekolah diantar oleh ayanhnya mengendarai mobil. Mobil ayah Beni membutuhkan energi supaya dapat digunakan mengantar Beni sekolah. Ayo, bantu Beni menemukan energi untuk mobil ayah Beni.

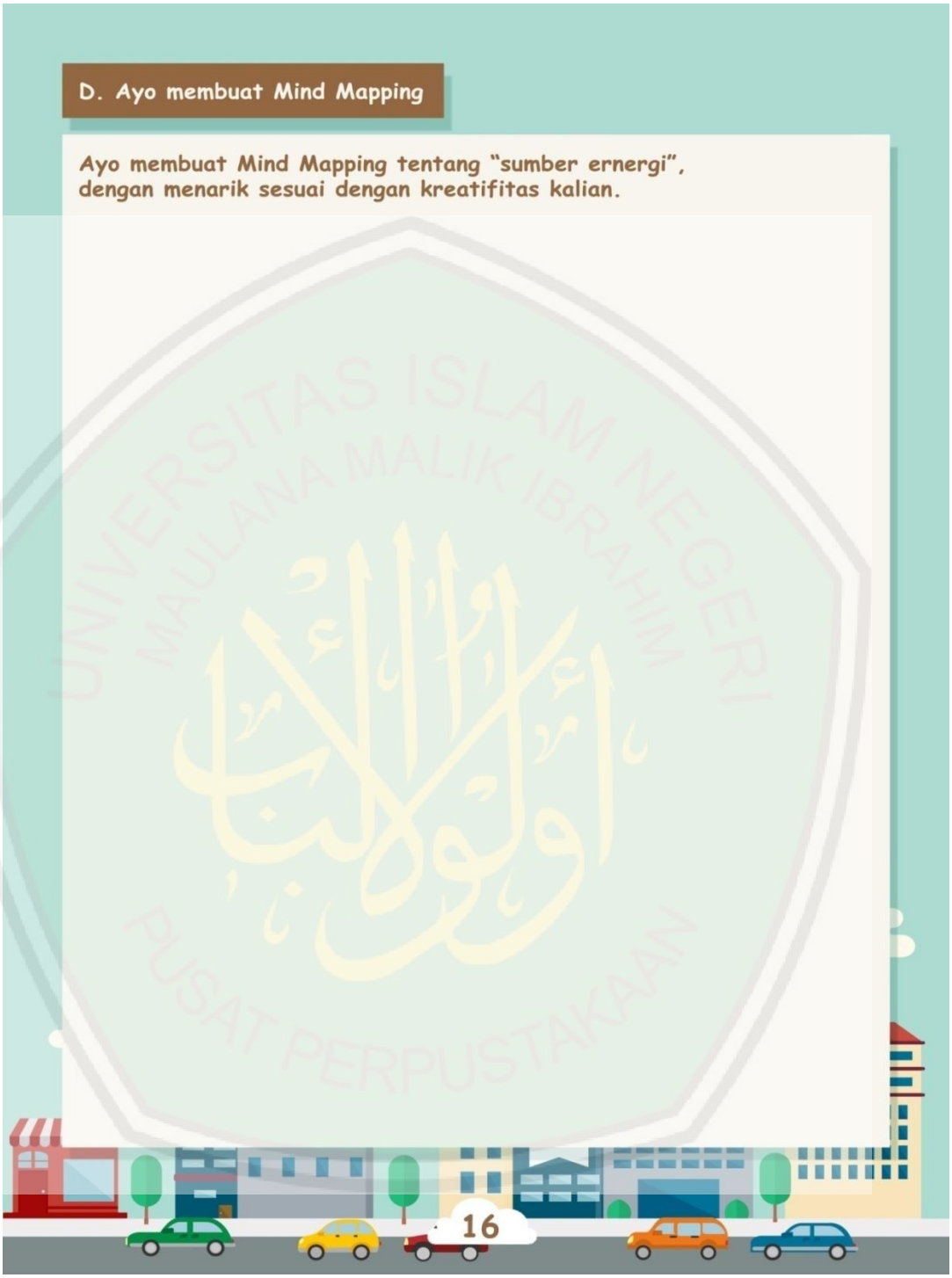


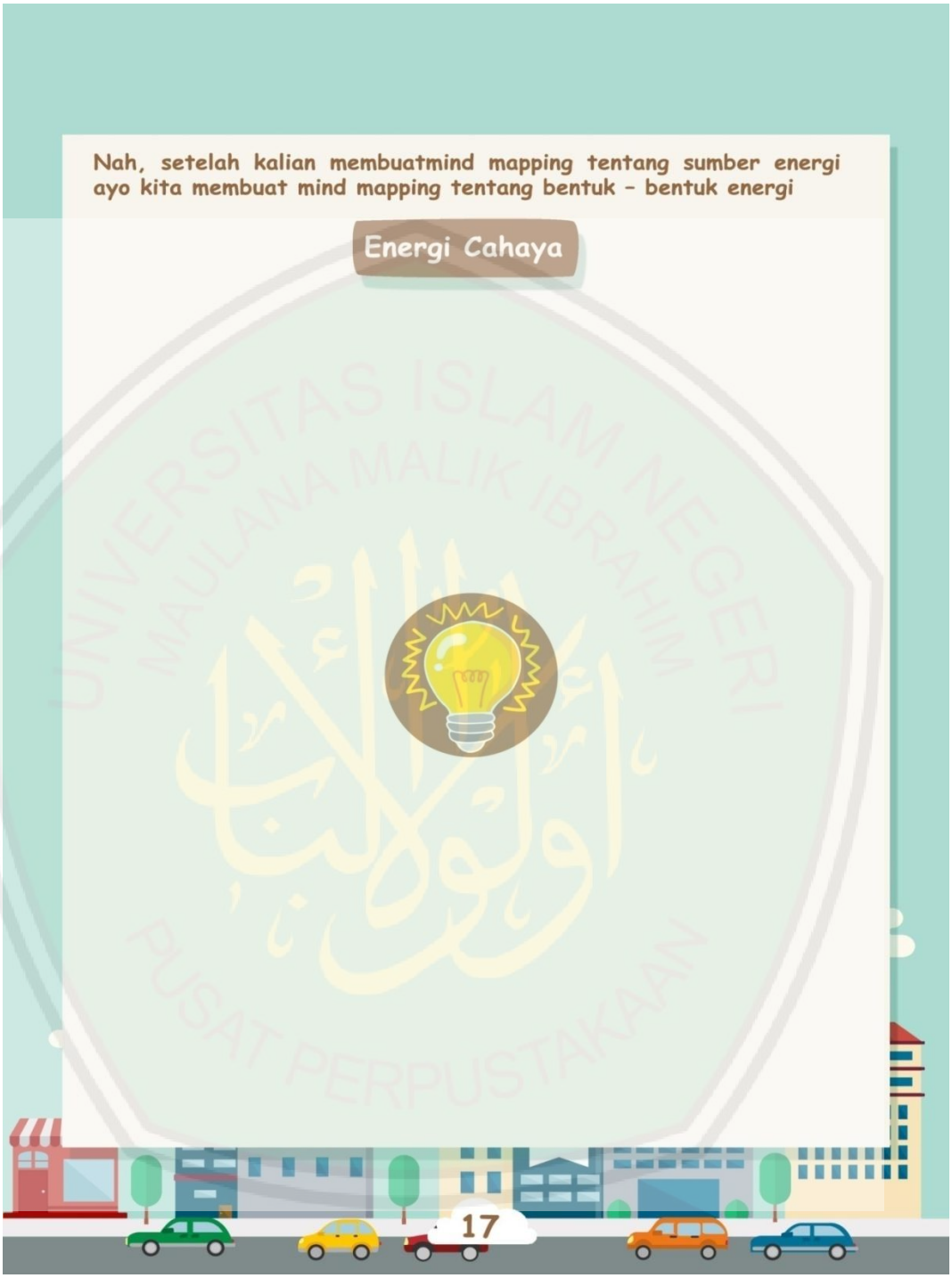
C. Ayo mengenal bentuk Energi

Dari beberapa sumber energi tersebut, menghasilkan bentuk energi. Energi dapat mengalami perubahan bentuk. Diantaranya, energi listrik, energi panas, energi cahaya, energi gerak dan masih banyak lagi. Sumber energi terbarukan dan tak terbarukan, dapat dimanfaatkan untuk menghasilkan energi listrik. Energi listrik, dapat diubah menjadi energi gerak, energi bunyi, energi panas, energi cahaya dan sebagainya. Bentuk energi dapat diubah sesuai dengan kebutuhan yang diinginkan. Bentuk energi yang sering digunakan untuk saat ini adalah energi listrik.

Setiap sumber energi memiliki manfaat bagi kehidupan. Sumber energi yang dapat diperbaharui dapat digunakan sebagai sumber energi alternatif. Sumber energi yang tak dapat diperbaharui, kita harus menggunakannya dengan hemat.

Manusia, hewan, dan tumbuhan menggunakan sumber energi sesuai dengan kebutuhan masing-masing. Bentuk energi yang dapat diubah sesuai kebutuhan, harus digunakan dengan tepat. Karena, pemakaian energi yang berlebihan akan merusak lingkungan alam dan sekitar.





Evaluasi

A. Teman – teman, ayo kita menjawab soal – soal dibawah ini dengan jawaban yang benar!

1. Benda yang menghasilkan energi bunyi adalah ….

a.  b.  c. 

2. Energi cahaya lampu berasal dari ….

a listrik
b matahari
c api

3. Energi listrik dapat digunakan untuk ….

a lampu belajar
b setrika arang
c kompor minyak

4. Peralatan yang tidak memakai energi listrik ….

a kipas angin
b ac
c setrika arang

5. Ketika akan berangkat sekolah Ahmad mematikan lampu di kamarnya. Tindakan Ahmad tersebut ….

a karena terpaksa
b merugikan
c menghemat energi

B. Isilah titik titik berikut ini dengan jawaban yang tepat!

1.  Jam tangan memerlukan sumber energi dari . . . .

2. Sumber energi panas alami adalah . . . .

3. Apabila energi terus menerus digunakan maka akan cepat . . . .

4. Agar energi tidak cepat habis maka energi harus di . . . .

5. Jika sudah menonton tv maka tv harus di . . . .
Berarti kita sudah menghemat . . . . . sehingga . . .
Yang dikeluarkan ibu menjadi murah.

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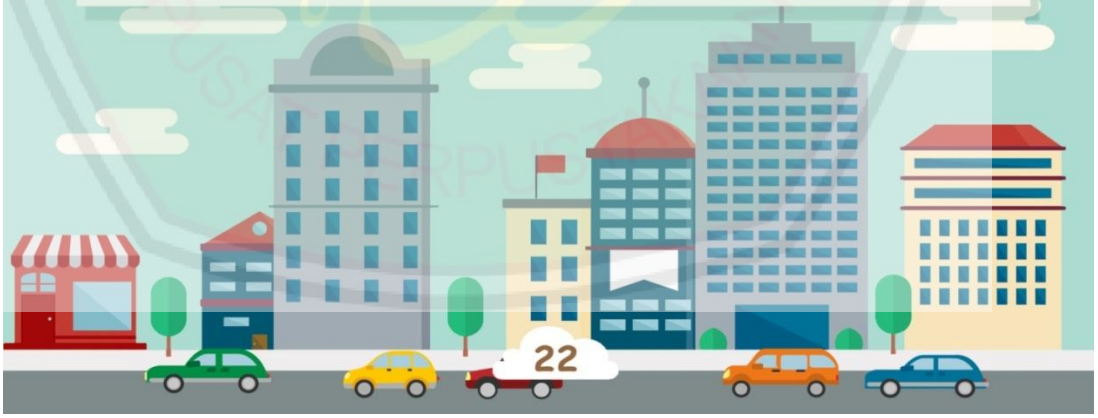
BIOGRAFI PENULIS

Hallo adik – adik kelas 3, perkenalkan nama saya Ratna Sasi Suci. Saya lahir di kota Pasuruan, tepatnya tanggal 28 Januari 1996. Saya mulai menetap di kota Malang, ketika saya memasuki sekolah taman kanak-kanak.

Kini, saya tinggal di JL.Segaran Gang Mangir Kendalpayak Pakisaji Malang. Pada tahun 2014 saya kuliah di Universitas Islam Negeri maulana Malik Iberahim Malang, Fakultas Ilmu Tarbiyah dan Keguruan, jurusan PGMI (Pendidikan Guru madrasah Ibtidaiyah).

Menggambar, bercerita dan belajar bahasa asing adalah hobi saya. Cita – cita saya ingin jadi guru besar, translator dan keliling dunia. Berani bermimpi besar adalah salah satu usaha yang akan mewujudkan keinginanmu.



Kegiatan wawancara dengan guru tematik kelas 3 SDN gadang 2 Malang

Pembagian Pre – test Siswa kelas 3 SDN Gadang 2 Malang

Pembagian Post – test Siswa kelas 3 SDN Gadang 2 Malang

Penggunaan Media Mind mapping Book

Peneliti bersama Guru dan siswa kelas 3 SDN Gadang 2 malang

Pre – test

Nama :	**Nilai Siswa**
Kelas :	
Nomor Absen :	

1. Dibawah ini energi yang tidak mudah habis adalah.....
   a. Matahari
   b. Batubara
   c. Minyak bumi
2. Peralatan dibawah ini yang memakai energi listrik kecuali ….
   a. kipas angin
   b. Lampu
   c. setrika arang
3. Ketika akan berangkat sekolah Ahmad mematikan lampu di kamarnya. Tindakan Ahmad tersebut ….
   a karena terpaksa
   b merugikan
   c menghemat energi
4. Kemampuan untuk melakukan gerak atau usaha disebut dengan ….
   a. Energi
   b. Sinergi
   c. Gravitasi

5. Sumber energi dibawah ini menghasilkan energi listrik kecuali …..

   a. Angin

   b. Matahari

   c. Makanan

6. Matahari menghasilkan energi panas dan energi …

   a. Cahaya

   b. Gerak

   c. Listrik

7. Sumber air buatan dibawah ini adalah.…

   a. waduk

   b. sungai

   c. laut

8. Bahan bakar fosil diantaranya adalah …

   a. Tanah

   b. Air

   c. Minyak tanah

9. Berikut yang bukan merupakan sumber energi alternatif adalah…

   a. Angin

   b. Minyak bumi

   c. Air

10. Energi dari matahari yang diperlukan tumbuhan untuk berfotosintesis adalah …

    a. Energi panas
    b. Energi cahaya
    c. Energi listrik

Post – test

Nama :	**Nilai Siswa**
Kelas :	
Nomor Absen :	

Pilhlah salah satu jawaban yang paling benar dengan melingkari nya!

1. Dibawah ini energi yang tidak mudah habis adalah.....
   a. Panas bumi
   b. Batu bara
   c. Minyak bumi
2. Peralatan dibawah ini yang memakai energi listrik kecuali ….
   a. kipas angin
   b. AC
   c. setrika arang
3. Ketika akan berangkat sekolah Ahmad mematikan lampu di kamarnya. Tindakan Ahmad tersebut ….
   a karena terpaksa
   b merugikan
   c menghemat energi
4. Benda dibawah ini yang menghasilkan bentuk energi panas adalah ….
   a. Setrika
   b. Gitar
   c. Rebana

5. Sumber energi dibawah ini menghasilkan energi listrik kecuali …..
   a. Angin
   b. Matahari
   c. Makanan
6. Matahari menghasilkan energi panas dan energi …
   a. Cahaya
   b. Gerak
   c. Listrik
7. Sumber air buatan dibawah ini adalah.…
   a. Waduk
   b. Sungai
   c. Laut
8. Bahan bakar fosil diantaranya adalah …
   a. Tanah
   b. Air
   c. Minyak tanah
9. Berikut yang bukan merupakan sumber energi alternatif adalah…
   a. Angin
   b. Minyak bumi
   c. Air

10.Energi dari matahari yang diperlukan tumbuhan untuk berfotosintesis adalah …

a. Energi panas
b. Energi cahaya
c. Energi listrik

RPP
(RENCANA PELAKSANAAN PEMBELAJARAN)

Tema:7. Energi dan Perubahannya
Sub Tema : 1. Sumber Energi

Pembelajaran ke : 1

Nama penyusun : RATNA SASI SUCI

Asal Sekolah: SDN Gadang 2 Malang

KECAMATAN SUKUN KOTA MALANG
2018

RENCANA PELAKSANAAN PEMBELAJARAN

(RPP)

Satuan Pendidikan	**:**	**SDN GADANG 2 MALANG**
Tema	:	Energi dan Perubahannya
Sub Tema	:	1 Sumber Energi
Kelas/Semester	:	3 (Tiga)/II (Dua)
Pembelajaran ke	:	6
Alokasi Waktu	:	2 x 30menit

A.	**KOMPETENSI INTI**	
	1.	Menerima, menjalankan dan menghargai ajaran agama yang dianutnya.
	2.	Memiliki perilaku jujur, disiplin, tanggung jawab, santun, peduli, dan percaya diri dalam berinteraksi dengan keluarga, teman, guru, dan tetangganya.
	3.	Memahami pengetahuan faktual dengan cara mengamati dan menanya berdasarkan rasa ingin tahu tentang dirinya, makhluk ciptaan Tuhan dan kegiatannya, dan benda-benda yang dijumpainya di rumah, di sekolah dan tempat bermain

	4.	Menyajikan pengetahuan faktual dalam bahasa yang jelas, sistematis dan logis, dalam karya yang estetis, dalam gerakan yang mencerminkan anak sehat, dan dalam tindakan yang mencerminkan perilaku anak beriman dan berakhlak mulia.

B.	**KOMPETENSI DASAR DAN INDIKATOR**

Muatan	Kompetensi Dasar	Indikator
Bahasa Indonesia	3.1 Menggali informasi dari teks laporan informatif hasil observasi tentang perubahan wujud benda, sumber energi, perubahan energi, energi alternatif, perubahan iklim dan cuaca, rupa bumi dan perubahannya, serta alam semesta dengan bantuan guru dan teman dalam bahasa Indonesia lisan dan tulis yang dapat diisi dengan kosakata bahasa daerah untuk membantu pemahaman	3.1.1Membuat Mind Mapping berbentuk informatif tentang sumber energi dengan benar. 3.1.2 Menyebutkan beberapa bentuk energi dalam tulisan dengan benar. 3.1.4 Menceritakan Mind Mapping secara informatif tentang sumber energi secara lisan dengan baik.

C.	TUJUAN PEMBELAJARAN		
	No	TUJUAN	NILAI PPK
	1.	Setelah membaca teks bacaan buku Mind Mapping yang disajikan, siswa mampu menemukan informasi tentang pengertian energi dengan benar.	Mandiri
	2.	Setelah membaca teks bacaan, siswa mampu menyebutkan informasi baru mengenai sumber energi dengan tepat.	Mandiri
	3.	Setelah berdiskusi, siswa mampu menemukan kata penting dalam bacaan dan mampu menjelaskan artinya dengan tepat.	Gotong royong
	4.	Setelah membaca buku Mind Maping siswa mampu membuat peta pikiran mengenai bentuk energi dengan baik.	Mandiri

D.	**MATERI PEMBELAJARAN**	
	1.	Sumber Energi
	2.	Pengertian Energi
	3.	Jenis Energi
	4.	Bentuk Energi

E.	**PENDEKATAN DAN METODE PEMBELAJARAN**		
	PENDEKATAN:	:	Saintifik
	METODE	1.	Tanya jawab
		2.	Diskusi
		3.	Cooperative Learning
		4.	Mind Mapping
		5	Student Center

F.	**MEDIA PEMBELAJARAN**	
	1.	Alat tulis (lembaran ketas kosong, pensil, penghapus)
	2.	Mind Mapping Book

G.	SUMBER BELAJAR	
	1.	Buku Pedoman Guru Tema 7 : *Energi dan Perubahannya* Kelas 3 (Buku Tematik Terpadu Kurikulum 2013, Jakarta: Kementerian Pendidikan dan Kebudayaan, Edisi Revisi 2017).
	2.	Buku Siswa Tema : *Energi dan Perubahannya*Kelas 3 (Buku Tematik Terpadu Kurikulum 2013, Jakarta: Kementerian Pendidikan dan Kebudayaan, Edisi Revisi 2017).
	3.	Buku Mind Mapping

H.	LANGKAH-LANGKAH PEMBELAJARAN

KEGIATAN	DESKRIPSI KEGIATAN		5M	PPK	WAKTU
KEGIATAN PENDAHULUAN	1.	Guru memberi salam dan mengajak berdoa		Religius	15 menit
	2.	Bertanya jawab tentang kabar peserta didik dalam menerima		Nasionalis	

		pelajaran			
	3.	Guru menyampaikan tujuan pembelajaran dan penilaian yang akan dilaksanakan		Integritas	
	4.	Guru mereview pembelajaran sebelumnya dengan bertanya kepada siswa.		Mandiri	
	5.	Guru memberi motivasi belajar dengan menjelaskan pentingnya Sumber Energi.		Integritas	
	6.	Sebelum menyampaikan materi, guru memberikan ice		Mandiri	

		breker .			
	7.	Guru menyampaikan materi pembelajaran yang akan dilaksanakan		Mandiri	
	8.	Guru mengkaitkan materi pembelajaran dengan kehidupan sehari –hari siswa.	Menalar	Mandiri	
10KEGIATAN INTI	1	Siswa mendengarkan penjelasan guru tentang pengertian energi.	Mengamati	Mandiri	35 menit
	2	Siswa berdiskusi dengan teman sebangkunya,	Mengkomunikasikan	Mandiri, dan gotong royong	

		tentang Energi yang ada di kehidupan sehari - hari			
	3	Siswa memberikan contoh manfaat sumber energi yang ada di lingkungan sekitar siswa	Menalar	Integritas	
	4	Siswa membaca buku Mind Mapping tentang Sumber Energi.	Mengamati	Mandiri	
	5	Siswa membuat Mind Mapping tentang bentuk energi dan pemanfaatannya dalam kehidupan sehari – hari.	Menalar	Mandiri	
	6	Siswa menjelaskan arti dari mind	Mengkomunikasikan	Mandiri, gotong royong	

		mapping yang dibuatnya secara bergantian dengan teman sebangkunya.			
	7	Siswa menyebutkan secara lisan tentang sumber energi dengan benar.	Mengkomunikasikan	Mandiri	
	8.	Siswa secara mandiri mengerjakan soal latihan dalam buku Mind Mapping	Menalar	Mandiri	
KEGIATAN PENUTUP	1.	Guru bersama siswa mengulang kembali pengertian dari energi.	Menalar		15 menit

	2.	Guru menjelaskan secara singkat tentang sumber energi	Mengkomunikasikan		
	4.	Guru memberikan kesimpulan mengenai sumber energi	Mengkomunikasikan		
	6.	Penutup dan salam		Religius	

I.	**PENILAIAN HASIL PEMBELAJARAN**			
	1.	Teknik Penilaian	:	Penilaian Sikap : Mandiri, Kreatif, dan gotong royong Penilaian Pengetahuan: tes tertulis dan lisan Penilaian Keterampilan: Membuat Mind Mapping

	2.	Alat/Bentuk Penilaian	:	Penilaian Sikap : observasi pada saat pembelajaran Penilaian Pengetahuan: soal Uraian Penilaian Keterampilan: Membuat Mind Mapping berdasarkan pengetahuan siswa dan pengalaman yang dimiliki.

Malang, 03 Juni 2018

Guru kelas **Peneliti**

Lilin Widi Rahayu Setjo,SS **RATNA SASI SUCI**

NIP. 19810227 201407 2 002 NIM. 14140095

Kepala Sekolah

SUNARIANTO, S.Pd, MM

NIP. 19661225 199611 1 001

LAMPIRAN 2. RUBRIK PENILAIAN

Teknik dan Instrumen penilaian Keterampilan

Kriteria	Sangat Baik	Baik	Cukup	Kurang
Membuat kata kunci	Kata yang dibuat tepat, bahasanya tepat, alur pikiran runut, percaya diri	Hanya memenuhi 3 kriteria	Hanya memenuhi 2 kriteria	Hanya memenuhi 1 kriteria
Membuat kata kunci dengan garis penghubung	Sesuai dengan tema, menggunakan minimal 3 kombinasi garis, menggunakan minimal 3 kombinasi bentuk, menggunakan minimal 5 kombinasi kata	Hanya memenuhi 3 kriteria	Hanya memenuhi 2 kriteria	Hanya memenuhi 1 kriteria

Membuat kata kunci dengan garis penghubung dan sesuai dengan tema yang ditentukan	Mind Mapping sesuai dengan data, Mind Mapping menunjuk pada materi yang tepat, Mind Mapping rapi, Mind mapping kreatif.	Hanya memenuhi 3 kriteria	Hanya memenuhi 2 kriteria	Hanya memenuhi 1 kriteria

Penilaian membuat Mind Mapping

No	Nama Siswa	Kriteria				Predikat
		Mind Mapping sesuai dengan tema	Mind Mapping menunjukkan tema yang tepat	Mind Mapping runut sesuai tema	Mind Mapping kreatif	
1.	AD	√	√	√	√	**Baik Sekali**
2.	DI	√	√	√	√	**Baik Sekali**

3.	KY	√	√	√		**Baik**
4.	BI	√	√	√	√	**Baik Sekali**
5.	FE	√	√	√	√	**Baik Sekali**
6.	YA	√		√	√	**Baik**
7.	RI	√	√	√	√	**Baik Sekali**
8.	BA	√	√	√		**Baik**
9.	SA	√	√	√	√	**Baik Sekali**
10.	SH	√	√	√	√	**Baik Sekali**
11.	RA	√	√	√	√	**Baik Sekali**
12.	FA	√	√		√	**Baik**
13.	AR	√	√	√	√	**Baik Sekali**
14.	DE	√	√	√	√	**Baik Sekali**
15.	HA	√	√		√	**Baik**
16.	IZ	√	√	√	√	**Baik Sekali**

17.	AU	√	√	√	√	**Baik Sekali**
18.	LA	√	√			**cukup**
19.	BA	√	√	√	√	**Baik Sekali**
20.	WI	√		√		**cukup**

PROFILSDN GADANG 2

IDENTITAS SEKOLAH

- **NamaSekolah** : **SDN GADANG 2**
- **NSS** : **101056105089**
- **NPSN** : **20534084**
- **Propinsi** : **JawaTimur**

- **Otonomi Daerah** : **Pemerintah Kota Malang**
- **Kecamatan** : **Sukun**
- **Kelurahan** : **Gadang**
- **Alamat** : **Jl. GADANG IX/18 Malang**
- **Kodepos** : **65149**
- **No. Telephone** : **(0341) 837041**
- **Status Sekolah** : **Negeri**
- **Akreditasi** : **B**
- **TahunBerdiri** : **1969**
- **BangunanSekolah** : **MilikSendiri**
- **JarakKePusatKecamatan** : **2 Km**
- **JarakKePusat Kota** : **3 Km**
- **JumlahKelas (Rombel)** : **6 kelas (6 RombonganKelas)**
- **OrganisasiPenyelenggara** : **Pemerintah**

KepalaSekolah

SUNARIANTO, S.Pd., M. M

NIP.19661225 199611 1 001

VISI, MISI, DAN TUJUAN

VISI

Membentukpesertadidikinsan yang bertaqwa , berbudaya, cerdas, terampil, cintatanah air danbangsasertapedulilingkungan

MISI

1. Meningkatkan keimanan dan ketaqwaan terhadap Tuhan Yang Maha Esa
2. Menanamkan akhlak mulia yang kokoh sejak dini
3. Menanamkan kepekaan sosial sejak dini
4. Melaksanakan pembelajaran yang aktif, kreatif, efektif, dan menyenangkan
5. Mengembakan ketrampilan
6. Menanamkan rasa cinta pada tanah air dan bangsa
7. Menjadikan lingkungan yang beriman (bersih, indah dan nyaman)

TUJUAN

1. Terwujudnya keimanan dan ketaqwaan terhadap Tuhan Yang Maha Esa
2. Terwujudnya akhlak mulia yang kokoh sejak dini
3. Tumbuhnya kepekaan sosial yang tinggi
4. Terwujudnya pembelajaran yang aktif, kreatif, efektif, dan menyenangkan
5. Terwujudnya prestasi akademis dan non akademis
6. Tumbuhnya berbagai macam ketrampilan hidup
7. Terwujudnya rasa cinta pada tanah air dan bangsa
8. Terwujudnya lingkungan yang beriman (bersih, indah dan nyaman)

DaftarPendidikdanTenagaKependidikan

SD NEGERI GADANG 02

No	Nama Pangkat / Gol NIP NUPTK	T T L	Agama	Pendidikan	Tugas	Tanggal, MasukKerja di SDN Gadang 2	Alamat / No. Telpon
1	SUNARIANTO, S.Pd, MM Guru Muda,III/c NIP. 19661225 199611 1 001 1558744653200 001	Malang, 25 Desember 1966	ISLAM	S2 ManajemenPendidikan	KepalaSekolah, Guru Bahasa Jaw Kelas IV, V, VI	01 September 2015	Jl Ki AgengGribig II/18A Madyopuro 081333292620
2	DWI MA'RIFATIKA, S.Pd Guru Pertama, III/a NIP. 19850223 201001 2 020 8555763664300 032	Malang, 23 Februari 1985	ISLAM	S1 PGSD	Guru Kelas VI	29 September 2012	JlKhWachidHasyim No. 73 Sananrejo, Turen 085855225024
3	LILIN WIDI RAHAYU SETJO, SS - NIP. 19810227 201407 2 002 0559759660300 122	Malang, 27 Februari 1981	KRISTEN	S1 SastraInggris	Guru Kelas III	5 Januari 2015	Jl.R.A. KartiniPagelaran-Malang 082302292718

4	RENNY KRISNIAWATI, A.Ma PengaturMudaT k.I, II/c NIP. 19820816 201001 2 019 1148760662300 0836	Kepanjen, 16 Agustus 1982	KRISTEN	D2	Guru Kelas IV	2 Juni 2010	Perum New PuriKartikaAsri J1-25 08155577 999 5
5	MIFTAKHUL ULUMI, A.Ma.Pd PengaturMudaT k.I, II/c NIP. 19831227 201101 2 005 1559761662210 063	Malang, 27 Desember 1983	ISLAM	D2	Guru Kelas I	Juni 2015	Peru PuriCempakaPutih Q-19 Arjowinangun
6	ZAINAL ARIFIN, S.Pd - - 2034764666200 023	Sumenep, 2 Juli 1986	ISLAM	S1 PGSD	Guru Kelas V	1 Juli 2007	DusunNusantoro, DesaAmpledento, Kec. Pakis 0817313437
7	NOVIA DWI TRISNAWATI, S.Pd - - 8451766668210 013	Malang, 19 Nopember 1988	ISLAM	S1 PGSD	Guru Kelas II	1 Juli 2007	JlDanauJempang 083834944809
8	HERI NUR CAHYANI, S.Pd.K	Malang, 26	KRISTEN	S1 PAK	Guru Agama Kristen	4 maret 2015	Jln. Raya Suwaru No. 1 7 RT :06

	Guru Muda, III/d NIP 19590826 198201 2 008 2158737640300 003	Agustus 1959					RW:02 Pagelaran 081231838194
9	Drs. BUANG HARIYONO - - -	Malang, 13 Nopemb er 1964	ISLAM	S1 PAI	Guru PAI	1 Juli 2004	JlGadang 5C No. 53 Malang 085646428889
10	FEBRI WAHYU TANOTO, S.Pd - - -	Pamekas an, 03 Februari 19934	ISLAM	S1 PJOK	Guru PJOK	01Februari2 018	Jl. LaksamanaMartad inata V 85204695459
11	RICKIE FERNANDO - - -	Bandung 28 Mei 1986	KRIST EN	D1 Manajemen	Staff Tata Usaha	1 Oktober 2015	JlGadang 21C PerumSwagriya No. 14 88149783 90
12	SUPRAPTO - NIP 19680807 200701 1 040 -	Malang, 7 Agustus 1968	HIND U	Persamaan SLTP	PenjagaSek olah	05 Januari 2009	Jln. Raya Suwaru No. 1 7 RT :06 RW:02 Pagelaran 081231838194

RombonganBelajar

SD NEGERI GADANG 02

No	Tingkat	L	P	TOTAL	WaliKelas	Kurikulum	Ruangan
1	1	14	14	28	MIFTAKHUL ULUMI	Kurikulum SD 2013	kelas 1
2	2	12	12	24	NoviaDwiTrisnawati	Kurikulum SD 2013	kelas 2
3	3	15	15	30	LILIN WIDI RAHAYU SETJO	Kurikulum SD 2013	kelas 3
4	4	15	7	22	RENNY KRISNIAWATI	Kurikulum SD 2013	kelas 4
5	5	9	11	20	ZAINAL ARIFIN	Kurikulum SD 2013	kelas 5
6	6	11	12	23	DwiMa`rifatika	Kurikulum SD 2013	kelas 6
		76	71	147			

PesertaDidik

SD NEGERI GADANG 02

Uraian	Guru	Tendik	PTK	PD
Laki-laki	2	2	4	76
Perempuan	6	0	6	71
Total	**8**	**2**	**10**	147

Data Rombel

SD NEGERI GADANG 02 memilikijumlahrombelsebanyak 6, denganuraiansebagaiberikut:

JK	KELAS 1	KELAS 2	KELAS 3	KELAS 4	KELAS 5	KELAS 6	TOTAL
L	14	12	15	15	9	11	**76**
P	14	12	15	7	11	12	**71**
TOTAL	28	23	29	23	18	23	**147**

Prasarana

SD NEGERI GADANG 02

No	NamaPrasarana	Panjang	Lebar	Status Kepemilikan
1	DAPUR	3	3	Milik
2	kelas 1	7	7	Milik
3	kelas 2	7	7	Milik
4	kelas 3	7	7	Milik
5	kelas 4	7	7	Milik
6	kelas 5	7	7	Milik
7	kelas 6	7	7	Milik
8	KMR KCIL G	2	2	Milik
9	KMR KCIL S	2	2	Milik
10	MUSHOLA	7	3,5	Milik
11	R. KEPSEK	6	6	Milik
12	Ruang Guru	7	7	Milik
13	RUANG PERPUSTAKAAN	7	3,5	Milik

Sarana

SD NEGERI GADANG 02

No	JenisSarana	Letak	Kepemilikan	Jumlah	Status
1	Meja TU	R. KEPSEK	Milik	0	-
2	Kursi TU	R. KEPSEK	Milik	0	-
3	Komputer	R. KEPSEK	Milik	1	Laik
4	Printer	R. KEPSEK	Milik	1	Laik
5	KursidanMejaTamu	R. KEPSEK	Milik	0	-
6	Lemari	RUANG PERPUSTAKAAN	Milik	2	Laik
7	MejaSiswa	kelas 4	Milik	22	Laik
8	KursiSiswa	kelas 4	Milik	22	Laik
9	Meja Guru	kelas 4	Milik	1	Laik
10	Kursi Guru	kelas 4	Milik	1	Laik
11	PapanTulis	kelas 4	Milik	1	Laik
12	Lemari	kelas 4	Milik	1	Laik
13	KursiSiswa	DAPUR	Milik	0	-
14	Meja Guru	DAPUR	Milik	0	-
15	Kursi Guru	DAPUR	Milik	0	-
16	Lemari	DAPUR	Milik	0	-
17	PapanPanjang	DAPUR	Milik	0	-
18	TempatSampah	DAPUR	Milik	1	Laik

19	Tempatcucitangan	DAPUR	Milik	1	Laik
20	Jam Dinding	DAPUR	Milik	0	-
21	Lemari/Rak	DAPUR	Milik	0	-
22	MejaSiswa	kelas 3	Milik	22	Laik
23	KursiSiswa	kelas 3	Milik	22	Laik
24	Meja Guru	kelas 3	Milik	1	Laik
25	Kursi Guru	kelas 3	Milik	1	Laik
26	PapanTulis	kelas 3	Milik	1	Laik
27	Lemari	kelas 3	Milik	1	Laik
28	MejaSiswa	kelas 6	Milik	1	Laik
29	KursiSiswa	kelas 6	Milik	1	Laik
30	Meja Guru	kelas 6	Milik	23	Laik
31	Kursi Guru	kelas 6	Milik	23	Laik
32	PapanTulis	kelas 6	Milik	1	Laik
33	Lemari	kelas 6	Milik	1	Laik
34	Meja Guru	Ruang Guru	Milik	1	Laik
35	Kursi Guru	Ruang Guru	Milik	1	Laik
36	Lemari	Ruang Guru	Milik	12	Laik
37	Komputer TU	Ruang Guru	Milik	12	Laik
38	Printer TU	Ruang Guru	Milik	4	Laik
39	Jam Dinding	Ruang Guru	Milik	1	Laik
40	SimbolKenegaraan	Ruang Guru	Milik	1	Laik
41	MejaSiswa	kelas 1	Milik	1	Laik

42	KursiSiswa	kelas 1	Milik	1	Laik
43	Meja Guru	kelas 1	Milik	20	Laik
44	Kursi Guru	kelas 1	Milik	1	Laik
45	PapanTulis	kelas 1	Milik	1	Laik
46	Lemari	kelas 1	Milik	1	Laik
47	Gayung	KMR KCIL G	Milik	1	Laik
48	d. Selangkecil	KMR KCIL G	Milik	1	Laik
49	Perlengkapankebersihan	MUSHOLA	Milik	1	Laik
50	MejaSiswa	kelas 2	Milik	2	Laik
51	KursiSiswa	kelas 2	Milik	26	Laik
52	Meja Guru	kelas 2	Milik	26	Laik
53	Kursi Guru	kelas 2	Milik	26	Laik
54	PapanTulis	kelas 2	Milik	1	Laik
55	Lemari	kelas 2	Milik	1	Laik
56	MejaSiswa	kelas 5	Milik	1	Laik
57	KursiSiswa	kelas 5	Milik	1	Laik
58	Meja Guru	kelas 5	Milik	24	Laik
59	Kursi Guru	kelas 5	Milik	24	Laik
60	PapanTulis	kelas 5	Milik	1	Laik
61	Lemari	kelas 5	Milik	1	Laik

PRESTASI atau KEJUARAN

SD NEGERI GADANG 02

TINGKAT KOTA

No	JenisLomba	Nama	Tingkat	Juara
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4		-	-	-

FOTO KEADAAN

SD NEGERI GADANG 02

CURRICULUM VITAE

Name	:	Ratna Sasi Suci
NIM	:	14140095
Date of Birth	:	Pasuruan , 28 Januari 1996
Alamat	:	Jl. Segaran Gang Mangir Kendalpayak Pakisaji Malang.
Telp	:	089682169160

FORMAL EDUCATION

1. TK Al - Ikhlas Tahun 2000-2002.
2. SDI Lukman Hakim 2002-2008.
3. SMP Al – Yasini 2008-2011.
4. SMA Islam Kepanjen Tahun 2011-2014.
5. S1 Pendidikan Guru Madarasah Ibtidaiyah Fakultas Ilmu Tarbiyah dan Keguruan Universitas Islam Negeri Maulana Malik Ibrahim Malang Tahun 2018-sekarang.

NON FORMAL EDUCATION

1. PPT Miftahul Ulum Al – Yasini Pasuruan
2. PPPAI Al – Karomah Kepanjen Malang
3. Ma'had Sunan Ampel Al-Aly (MSAA) Universitas Islam Negeri Maulana Malik Ibrahim Malang.