

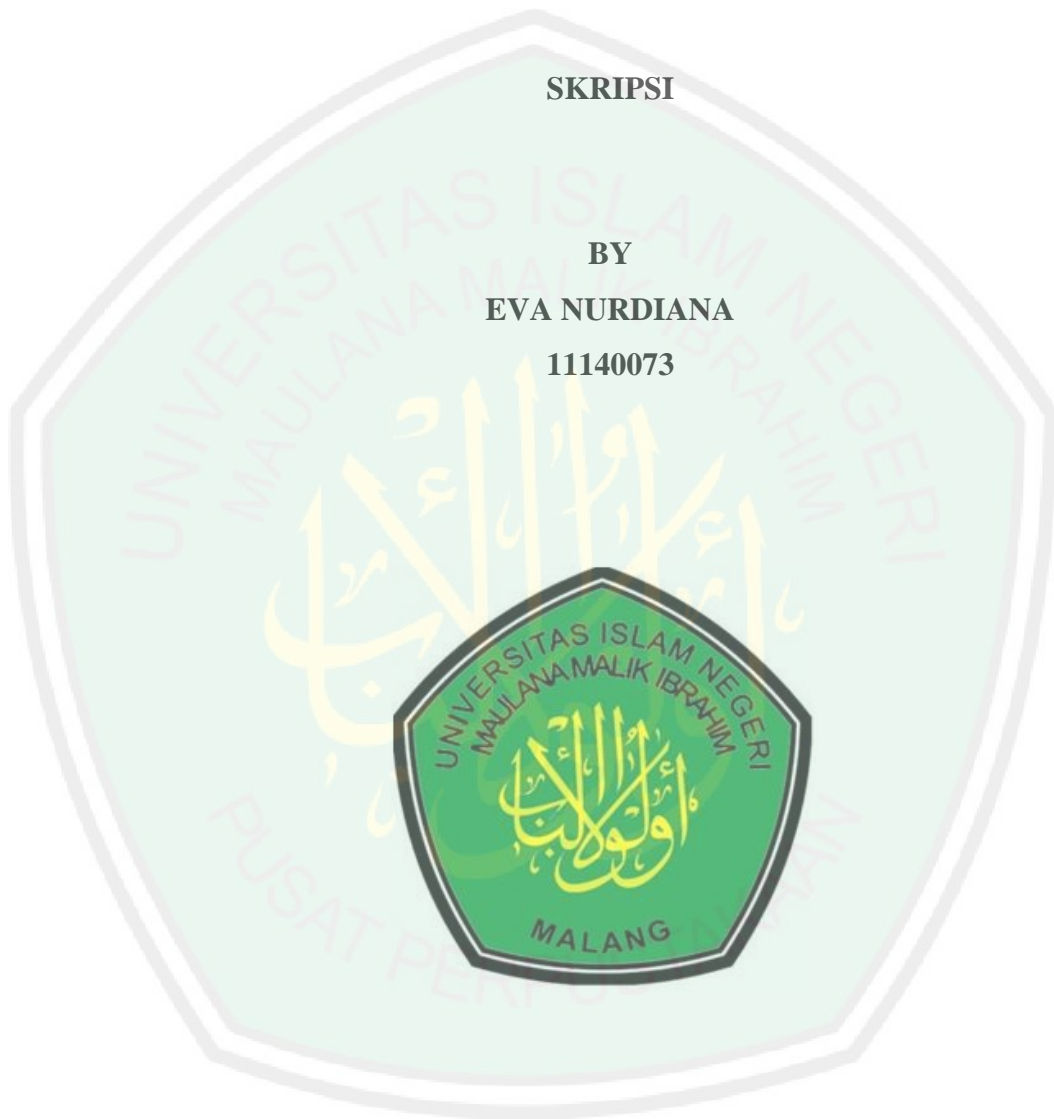
**DEVELOPMENT OF NATURAL SCIENCE THEMATIC MATERIALS BASED  
ON RELIGIOUS AND SAINS INTEGRATED IN FOURTH GRADE MI NURUL  
HIKMAH KEDUNGKANDANG MALANG**

**SKRIPSI**

**BY**

**EVA NURDIANA**

**11140073**



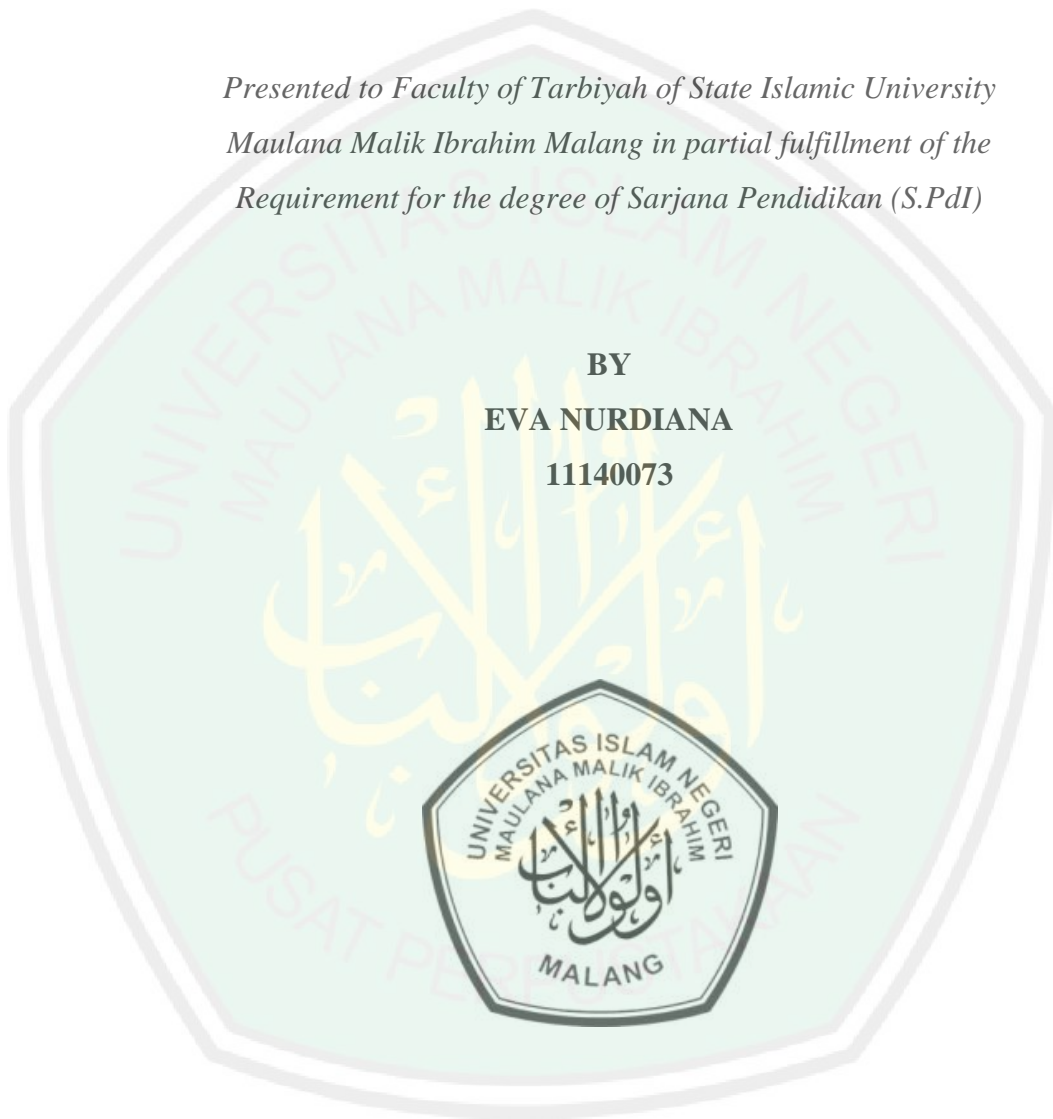
**DEPARTEMEN OF ISLAMIC ELEMENTARY TEACHER EDUCATION  
FACULTY OF TARBIYAH AND TEACHING TRAINING  
MAULANA MALIK IBRAHIM STATE ISLAMIC UNIVERSITY  
OF MALANG**

**2015**

**DEVELOPMENT OF NATURAL SCIENCE THEMATIC MATERIALS BASED  
ON RELIGIOUS AND SAINS INTEGRATED IN FOURTH GRADE MI NURUL  
HIKMAH KEDUNGKANDANG MALANG**

*Presented to Faculty of Tarbiyah of State Islamic University  
Maulana Malik Ibrahim Malang in partial fulfillment of the  
Requirement for the degree of Sarjana Pendidikan (S.PdI)*

**BY  
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FACULTY OF TARBIYAH AND TEACHING TRAINING  
MAULANA MALIK IBRAHIM STATE ISLAMIC UNIVERSITY  
OF MALANG**

**2015**

**APPROVAL SHEET**

**DEVELOPMENT OF NATURAL SCIENCE THEMATIC MATERIALS  
BASED ON RELIGIOUS AND SAINS INTEGRATED IN FOURTH  
GRADE MI NURUL HIKMAH KEDUNGKANDANG MALANG**

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## LAGIMINATION SHEET

**DEVELOPMENT OF NATURAL SCIENCE THEMATIC MATERIALS BASED  
ON RELIGIOUS AND SAINS INTEGRATED IN ELEMENTARY SCHOOL  
FOURTH GRADE STUDENT MI NURUL HIKMAH KEDUNGKANDANG  
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Sarjana Pendidikan (S.Pd)

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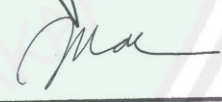
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## DEDICATION

*"And if all the trees on earth that is used as a pen, and a sea of ink used, plus the seven seas after it, it will not drop it God's sentences to be written, verily Allah is Mighty, Wise".  
(QS. Lukman: 27)*

*Alhamdulillah .... with thy good pleasure, O Allah .....*

*This mandate has been completed, a step over. Love has me reaching out, but it not the end of my journey, but it is the beginning of a journey.*

### ***Mother And Father .....***

*Nothing other than the most sacred love affection father and mother  
Wholeheartedly mother, wise guidance father  
Thy good pleasure present for me, Your advice guidance my life  
Your embrace bless my life, and the struggle between your evening prayer droplets  
And a verse prayer has embraced me, toward a bright future  
Now myself in my studies have been completed  
With genuine humility, together with thy good pleasure, O Allah,  
I dedicate this paper to the noblest, father and mother .....*

### ***My Brothers .....***

*Thanks for the love, hopefully this work can treat your load  
even if only for a moment, all your services is can not be forgotten.  
May Allah bless us all*

***Amien. ....***



## MOTTO

إِنَّ فِي خَلْقِ السَّمُوتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ لَآيَاتٍ لِّأُولِي  
الْأَلْبَابِ ﴿١٩٥﴾ الَّذِينَ يَذْكُرُونَ اللَّهَ قِيَمًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ  
وَيَتَفَكَّرُونَ فِي خَلْقِ السَّمُوتِ وَالْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَذَا بَطْلًا  
سُبْحَنَكَ فَقِنَا عَذَابَ النَّارِ ﴿١٩٦﴾

**Translation:** “Indeed, in the creation of the heavens and the earth and the alternation of the night and the day are signs for those of understanding. Who remember Allah while standing or sitting or [lying] on their sides and give thought to the creation of the heavens and the earth, [saying], "Our Lord, You did not create this aimlessly; exalted are You [above such a thing]; then protect us from the punishment of the Fire”. (Surat 'Āli 'Imrān ayat 190-191)

Dr. H. Nur Ali, M.Pd  
The Lecturer of Tarbiyah and Teaching Training Faculty  
The State Islamic University of Maulana Malik Ibrahim Malang

ADVISOR OFFICIAL NOTE

Malang, 16 June 2015

Matter : Skripsi of Eva Nurdiana  
Appendixes : 4 (four) Exemplar

Dear,  
Dean of Tarbiyah and Teaching Training Faculty  
at  
Malang

Assalamu'alaikum Wr. Wb


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

Name : Eva Nurdiana  
NIM : 11140073  
Program : PGMI  
Title of Skripsi : Development of Natural Science Thematic Materials Based on Religious and Sains Integrated in Fourth Grade MI Nurul Hikmah Kedungkandang Malang

As the advisor, we argue that this skripsi has been proposed and tested decent.  
So, please tolerate presence.

Wassalamu'alaikum Wr. Wb

Advisor,

  
Dr. H. Nur Ali, M.Pd  
NIP. 19650403199803 1 0002

## STATEMENT LETTER

I certify that the skripsi I wrote to fulfill the requirement for Sarjana Pendidikan (S.PdI) entitled *Development of Natural Science Thematic Materials Based on Religious and Sains Integrated in Fourth Grade MI Nurul Hikmah Kedungkandang Malang* is truly my original work. It does not incorporate any materials previously written or published by another person, except those indicated in quotations and bibliography. Due to fact, I am only person who responsible for the skripsi if there is any objection or claim from others.

Malang, 16 June 2015

Eva Nurdiana



## PREFACE

Praise to Allah SWT, the creator of heaven, earth and everything in it that has mercy, guidance, and his affection to the author so that I can finish this thesis. There is also peace and blessings writer prayed to the Prophet Muhammad who was sent to earth as lantern for the human heart, the Prophet who has brought man from the times of ignorance towards the days filled with incredible knowledge as it is today.

Thesis entitled "*Development of Natural Science Thematic Materials Based on Religious and Sains Integrated in Elementary School Fourth Grade Student MI Nurul Hikmah Kedungkandang Malang*" arranged as one of the requirements to obtain a Bachelor's degree in department of Islamic Elementaru Teacher Education, the State Islamic University Maulana Malik Ibrahim of Malang.

During the process of writing this skripsi, the author encountered some obstacles and difficulties which sometimes makes the author is in her weakest point. But the prayers, blessing, and encouragement from closed peoples makes the author excited to continue writing this skripsi. For it with all devotion author provides high appreciation and gratitude profusely to:

1. My love parents Mr. Rowi and Mrs. Alfiah who have given me motivation, prayer and guidance to learn and always be in the way to Allah.
2. Mr. Prof. Dr. H. Mudjia Raharjo, M.Si, M.Si, as the rector of State Islamic University Maulana Malik Ibrahim of Malang.
3. Mr. Dr. H. Nur Ali, M.Pd, as the dean of Tarbiyah and Teaching Training Faculty at State Islamic University Maulana Malik Ibrahim of Malang.

4. Mr. Dr. Muhammad Walid, MA, as the Head of Teacher Education for Islamic Primary School Department at State Islamic University Maulana Malik Ibrahim of Malang.
5. Mr. Dr. H. Nur Ali, M.Pd, as the skripsi supervisor who always guiding me in processing of skripsi be a good result.
6. For all my brothers who always pray for the sake of her sister's success. Thank you for your love and motivation that makes me could meet the future.
7. Mr. Nurul Yaqien, M.Pd and Mrs. Fitrotul Uyun is willing to be validator in the assessment of the development teaching materials and giving suggestion criticism to improve the development teaching materials.
8. Mr. and Mrs lecturer at State Islamic University Maulana Malik Ibrahim of Malang who have guided me during learning in this University.
9. Mr. Sholikhin, S.Pd, as the head master of MI Nurul Hikmah Kedungkandang Malang who has allowed the author to conduct the research at the school.
10. Mr. Dra. Siti Rohmah, as the fourth grade thematic integrative teacher at MI Nurul Hikmah Kedungkandang Malang who helped the author in conducting the research.
11. All teacher and all students fourth grade class at MI Nurul Hikmah Kedungkandang Malang, who helped the research process.
12. Just for my brother Aris who has given an unusual sense that the author is able to complete the thesis on time in order to reach a dream.
13. Thank you for togetherness for 4 years for a writer friend of force in primary ICP 2012. You are the best family in State Islamic University Maulana Malik Ibrahim of Malang.

14. All citizens PASA who always give support and give meaning to the author's affection especially to Mrs. Hj. Sutik who has given character and moral education to the author.
15. Just for my partner in room sister Ika thank you for your company, led me to this skripsi resolved timely.
16. For EL-ZAWA institutions that have given unforgettable life lesson that the author is able to survive studying on State Islamic University Maulana Malik Ibrahim of Malang.

Finally, the author realized that there is no ivory that is not cracked, also with this thesis is not spared from deprivation. So it takes suggestions and constructive criticism to create a better work in the future. May Allah judge worship I'm working and always guide us to the path of His blessed. amen

Malang, June 2015

Author

## TRANSLATION GUIDELINES OF ARABIC-LATIN

Writing Arabic-Latin transliteration in this thesis using transliteration guidelines based on the decision of the Minister of Religion Affairs and Minister of Education and Culture, No. 158/1987 and No 0543 b/U/1987 which can be broadly described as follows:

### A. Alfabeth

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	=	<u>H</u>	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. Long Vocal

Vocal (a) long = â

Vocal (i) long = î

Vocal (u) long = û

### C. Diphthong Vocal

أُ = Aw

أَيَّ = Ay

أُو = Ū

إِي = Î

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## ABSTRAK

Nurdiana, Eva. 2015. *Pengembangan Bahan Ajar IPA Tematik Berbasis Agama dan Sains Kelas IV MI Nurul Hikmah Kedungkandang Malang*. Skripsi, Jurusan Pendidikan Guru Madrasah Ibtidaiyah, Fakultas Ilmu Tarbiyah dan Keguruan, Universitas Islam Negeri Maulana Malik Ibrahim Malang. Supervisor Dr. H. Nur Ali, M.Pd

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Peserta didik pada jenjang pendidikan sekolah dasar berada pada aspek perkembangan kecerdasan IQ, EQ, dan SQ yang luar biasa. Pada saat usia tersebut, peserta didik memiliki ciri- ciri atau karakteristik yang berbeda. Pemerintah melalui Kementrian Pendidikan Nasional berupaya untuk mawadahi sekaligus berusaha mengimplementasikan hal tersebut melalui perubahan kurikulum pada tahun 2013. Untuk kurikulum SD/MI, mata pelajaran yang menjadi organisasi kompetensi dasar dilakukan melalui pendekatan terintegrasi. Pada jenjang pendidikan tingkat SD/MI, perangkat pembelajaran dirancang dengan harapan memiliki kesuaian dengan subyek siswa SD secara umum. Hal ini berakibat pada kurang optimalnya muatan materi yang tertuang pada setiap tema dan sub tema, yang secara praktis dapat diintegrasikan dengan kajian keIslaman baik yang bersumber dari al-Qur'an maupun al-Hadist, dan pendalaman sains, yang diharapkan menjadi kelebihan atau keunggulan, terutama pada siswa yang menempuh pendidikan di Sekolah Dasar Islam maupun Madrasah Ibtidaiyah.

Penelitian ini menggunakan metode *research and development* (R&D) dengan model penelitian Borg and Gall. Prosedur penelitian ini meliputi (1) Penelitian dan pengumpulan informasi awal (2) Perencanaan (3) Pengembangan format produk awal (4) Uji coba awal (5) Revisi produk (6) Uji coba lapangan (7) revisi produk (8) uji lapangan (9) revisi produk akhir (10) Desiminasi dan implementasi. Pengumpulan data menggunakan metode wawancara, lembar angket dan soal tes. Pedoman wawancara digunakan untuk menemukan permasalahan dan keterbutuhan terhadap produk pada saat studi pendahuluan. Lembar angket validasi untuk mengukur kevalidan bahan ajar yang dikembangkan. Lembar angket untuk siswa digunakan untuk mengukur kemenarikan bahan ajar. Soal pretest dan posttest digunakan untuk mengukur keefektifan bahan ajar yang telah dikembangkan.

Hesil penelitian ini berupa perangkat pembelajaran IPA Tematik Berbasis Agama dan Sains Kelas IV MI Nurul Hikmah Kedungkandang Malang. Hasil validasi dan uji coba lapangan menunjukkan bahwa (1) Pengembangan bahar ajar IPA Tematik Berbasis Agama dan Sains Kelas IV MI Nurul Hikmah Kedungkandang Malang layak digunakan dalam pembelajaran (2) Menarik dan efektif digunakan dalam pembelajaran.

**Kata kunci:** *Pengembangan bahan ajar, Tematik, Agama, Sains*



## ABSTRACT

Nurdiana, Eva. 2015. *Development of Natural Science Thematic Materials Based on Religious and Sains Integrated In Fourth Grade MI Nurul Hikmah Kedungkandang Malang*. Skripsi, Departement of islamic elementary teacher education Faculty of tarbiyah and teaching science, The State Islamic University Maulana Malik Ibrahim of Malang. Supervisor Dr. H. Nur Ali, M.Pd

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Students in elementary school are on the developmental aspects intelligence of IQ, EQ, and SQ and these are very incredible. At that age, students have different characteristics with students who are in high class of education. The Governments through the Ministry of National Education strive to accommodate and also try to implement it through the curriculum 2013. For elementary school curriculum, the subjects are organization of basic competence through an integrated approach. At the elementary school, set of equipment study is designed by hoping of having appropriate to elementary students in general subjects. This resulted in less optimal load material contained in each theme and sub-theme, which practically can be integrated with Islamic studies, both from the Qur'an and al-Hadith, and adding sains lesson which are expected to be excess or superiority, especially on students who are educated in Islamic Elementary School.

The method of this study is research and development (R&D) from Borg and Gall model. The research procedure consisted of (1) Research and information collecting (2) Planning (3) Develop primary form of product (4) Preliminary field testing (5) Main product revision (6) Main field testing (7) Operasional product revision (8) Operational field testing (9) Final product revision (10) Dessimination and implementation. The data collection techniques are interviews, questioneres and tests. The interviews guide is used to collect the information in the preliminary study. The validation questioneres sheet used to measure the validity of the development teaching material. The questioneres for the students used to measure the attractiveness of the development teaching material. Pretest dan posttest questions used to measure the effectiveness of development teaching material.

The result of this study is the Development of Natural Science Thematic Materials Based on Religious and Sains Integrated In Fourth Grade MI Nurul Hikmah Kedungkandang Malang. The result of the validation and product testing indicated that (1) Development of Natural Science Thematic Materials Based on Religious and Sains Integrated In Fourth Grade MI Nurul Hikmah Kedungkandang Malang can be used (2) attractive and effective to be used in learning.

**Keywords:** *Development of teaching material, Thematic, Relegion, Sains.*

## ABSTRAK

نور ديانا, غيفا. ٢٠١٥ تطوير مواد التعليم للعلم الطبيعة الموضوعية بأساس الدين والعلوم للصف الرابع في مدرسة الابتدائية نور الحكمة, كيدونجكادان مالانج. الرسالة, كلية تربية المعلم للمدرسة الابتدائية, قسم علوم التربية والمعلم, جامعة مولانا مالك إبراهيم الإسلامية الحكومية بمالانج. الإشراف الدكتور الحاج نور علي الماجستير

كان الطلبة لمستوي الابتدائية لها دور لنموي الذكاءات وهي الذكاء الفكري والذكاء العصبي والذكاء الروحي. ولهذا السنّ كان الطلبة لها الخصائص المختلفة. أما وزارة التربية الوطنية تسعى لتنفيذها لتغير المنهج التعليم في السنة ٢٠١٣. ومواد التعليم فيها الكفاءة الأساسية بمدخل التكامل خاصة لمنهج التعليم في السنة ٢٠١٣ بمدرسة الابتدائية, أما وسائل التعليم بهذا المستوى تصميم جيدا ليطبقها بكفاءة الطلبة على وجه العموم. وهذه المشكلة يؤثر على محتوى لكل الفصل والباب في مواد التعليم, أما في الواقعي كانت المواد موحدة بدراسة الإسلامية مع أن المواد مأخوذة من مصادر القرآنية أو الحديث, والعلوم, وبهذه الخلفية أن تكون مزية جيدة لطلبة بمدرسة الابتدائية العمومة والإسلامية.

فإن هذا البحث يقوم علي منهج التطويري والتجريبي كما اقترح برج وغال. أما إجراءات البحث يشتمل على: تحليل الاحتياجات, جمع البيانات والمعلومات, التخطيط, تطوير مادة, التصديق, التجربة, تعديل تجربة الإنتاج, تحليل, ثم تقويم من الاستبانة, والاتباع لتصوير جودة المواد التعليمية المطورة, الإنتاج النهائي. أما جمع البيانات بطريقة المقابلة, الاستبانة, والإختبار. ومبادئ المقابلة لبحث المشكلة والحاجة بمواد لخلفية البحث هذا البحث. وورقة الاستبانة المحتوى لمعرفة قياس التصديق بمواد التعليمية. وورقة الاستبانة الطلبة لمعرفة قياس الرغبة على هذه المواد التعليمية. أما الإختبار القبل والبعد لمعرفة قياس فعالية المواد التعليمية.

أما النتيجة لهذا البحث وهي وسائل التعليم للعلم الطبيعة بأساس الدين والعلوم للصف الرابع في مدرسة الابتدائية نور الحكمة. النتيجة التصديق والتجربة الميدانية هي كان ٢٠١٥ تطوير مواد التعليم للعلم الطبيعة الموضوعية بأساس الدين والعلوم للصف الرابع في مدرسة الابتدائية نور الحكمة مناسبة بعملية التعليم, و هذه المواد التعليمية هي المواد الجذابة والفعالية في عملية التعليم.

الكلمة الأساسية أو الرئيسية: تطوير الوماد التعليم, الموضوعي, الدين, العلوم



## CHAPTER I

### INTRODUCTION

#### A. Background of Problem

Students in elementary school are on the developmental aspects intelligence of IQ, EQ, and SQ and these are very incredible. At that age, students have different characteristics with students who are in high class of education. From the cognitive development aspect, student at the elementary school have the ability to think logically about objects and events, and it is limited to concrete things. The students able to control the amount of conservation, such as: the child is able to arrange the object is based on the dimensions. They can classify objects according to the some signs, and able to compile them in a series based on a single dimension, such as size. The student always wants to research and experiment. Their work has not been done systematically.<sup>1</sup>

It is evident from the observation of researchers in one of the schools that are in Malang city, students in elementary school education tend to think logically and in accordance the fact. As in the theory above shows that the foundation of thinking someone starts from the elementary school. Thus the development in IQ, EQ and SQ

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<sup>1</sup> Rital L. Atkinson, Richard C. Atkinson, *Introduction to Psychologi*, (Jakarta : Erlangga, 1997) Cet. Ke- 8 jilid 1Terjmh, Nurdjannah Taufiq, hlm. 101-102

must be really fostered. So the intelligence capable of making students have high character.

Moral Development of the children begin to appreciate regulation is as social habit. Children are oriented to the punishment, they will comply the regulations because of fear of the punishment, and the children are oriented to the prize always expect prizes and awards.<sup>2</sup>

Moral development can be fostered in a balance of IQ and SQ intelligence. IQ is the intelligence of the child against the daily lesson that they get from the school and the experiences at home. While the SQ is the intelligence in religion or norms and religious behavior. Therefore, when both of the intelligence go together, so the child's moral will play a role in his life. A child with weak IQ will not be able to be tempted with a variety of reward or punishment that provided by the teacher. While children with high IQ and SQ, they will be more sensitive to stimulation of reward or punishment that provided by the teacher and the learning process will go according to plan.

In the aspect of thought, memory and fantasy, students at elementary school develop gradually and quietly, in addition it is influenced by other people's thinking and they enter the objective world. Children's interest devoted to the dynamic, moving matters. Interest focused on the kinds of activity. Children's memory is very strong, so the children memorized is powerful. They remember about large amounts.

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<sup>2</sup> Kartono Kartini, *Psikologi Anak ( Psikologi Perkembangan)*, (Bandung: Mandar Maju, 1995), hlm.138



Children's fantasy likes the stories and fairy tales.<sup>3</sup> Children begin to observe, to see relation, to solve simple problems. They able to master operation count, such as: add, subtract, and divide, and they able to create something.<sup>4</sup>

"As carve in stone", that maxim which can reveal how the children think. Students at the elementary school have a very strong memory. Teachers and parents must be really patient and painstaking to guide and direct the child, because think power of children can be stable and calm. But if the lessons learned from teachers and parents can be understood by children, then this understanding will last a long time. So that teachers and parents have an important role to keep the children from bad things.

Starting from variety characteristics of student elementary school (SD)/Islamic elementary school (MI), and for the implementation of the Content Standards contained in the National Standard of Education, then learning on SD/MI is more suitable on managing by integrated learning as thematic integrative approach. This is supported by the opinion of I. W. Jiwa, N. Dantes, A.A.I.N. Marhaeni in his research, which says that thematic learning is very suitable to be applied to students based on the view that curriculum should be related to real experiences life of children. It means, the curriculum as a set of plans and setting of objectives, contents, materials,

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<sup>3</sup> Ibid.hlm.138

<sup>4</sup> Nana Syaodih Sukamadinata, *Landasan Psikologi Proses Pendidikan*, (Bandung: Remaja Rosdakarya, 2005), hlm. 117-118

and the learning process should be in accordance with the real experience life of children.<sup>5</sup>

This is confirmed by the Minister of Education and Culture Mohammad Nuh said that actually a lot of schools have implemented thematic integrative method. Since it is considered successful, then the governments adopt and implement in a national curriculum.<sup>6</sup>

The learning process in the classroom that point on the fact or experience of the student life that will be more easily to be absorbed the contents by the students. Capitalized of the students characteristics who fall into a relaxed and slow category in understanding something, it way or method is offered in the curriculum in 2013 deemed it suitable to develop the science be better. Curriculum 2013 is one of curriculum by using saintific approach, the approach using scientific method in the learning peocess. This approach is hoped be able to make the student can thing scienfically, logically, critically and obyective appropriate on the fact. The criteria that must be fulfil in the saintific approach application are: (1) the content of the learning is based on the fact or fenomena that can be expalined by logacally or reasoning. (2) Teacher expanation, the response of the student and interactive educative respon siswa dan interaksi educative teacher-student free from the prejudice as well as,

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<sup>5</sup> I. W. Jiwa, N. Dantes, A.A.I.N. Marhaeni, *Pengaruh Implementasi Pembelajaran Tematik Terhadap Prestasi Belajar Ditinjau Dari Motivasi Belajar Pada Siswa Kelas Iv Gugus Empat Di Kecamatan Gianyar*. Journal Program Pascasarjana Universitas Pendidikan Ganesha Program Studi Penelitian dan Evaluasi Pendidikan (Volume 3 Tahun 2013).

<sup>6</sup> Kementrian Pendidikan dan Kebudayaan Republik Indonesia, *Metode Tematik Integatif Bukan Hal Baru*, (<http://kemdikbud.go.id/kemdikbud/berita/915>, diakses 21 September 2014 jam 16.30 wib)

subjective thinking or reasoning that diverge from the thinking logically. (3) Prompt and give inspiration to the student to think critically, analistic, and appropriate in identifying, understanding, giving solution of the problem and applying in the content of materials. (4) Prompt and give inspiration to the student to think hypothetically in the difference, sameness and link from one to the other from the content of material (5) Prompt and give inspiration to the student to understand, apply and develop the system of thinking with rational and objective in responding the learning material (6) based on the concept, theory, and the empirical fact that can be responsible (7) the purpose of the learning is formulated with basic and clear, but the system of the learning is attractive.<sup>7</sup>

In the scientific approach there are many steps that to be done they are: observing, asking, thinking logically, trying, make the web of content material.<sup>8</sup>

The Governments through the Ministry of National Education strive to accommodate and also try to implement it through the curriculum 2013. In the implementation process of the national education curriculum 2013 it has been implemented with a variety of preparations and arrangements, including revisions, as well as improved means of supporting learning activities. One is the provision of learning devices, ranging from teacher, student books, assessment tools, evaluation tools, and instructional media.

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<sup>7</sup> Suherman Maman. <http://Suhermanmaman.wordpress.com/2013/10/05/scientific-approach-diakses-28.06.2015-pkl-0.13>

<sup>8</sup> Ibid

For elementary school curriculum, the subjects are organization of basic competence through an integrated approach. Through this approach occur reorganization Basic Competence subjects that integrate content of Natural Science and Social Science in Class I, II, III into some subjects to be simpler because the subject is reduced. In class IV, V, and VI of Natural Science and Social Science subjects have each basic competence and integrated into a variety of themes.<sup>9</sup>

One of the reasons for selecting teaching natural science (sains) and social science for the main thematic content is in line with the wishes of the government in KI-2 is social and KI-3 intellectuality or science. Although curriculum 2013 the achievement of KI-2 is not too elaborated the achievements but by making social science as major subjects in the thematic learning, then it is very likely if the students will easily evolve in social terms. Similar to the above statement, as well as natural science is basically focused on the achievement of KI-3 or scientific competence of students. So the science payload on several themes at present is more dominant than the other charge.

Natural science subject is one of the compulsory subjects for elementary school. It is because the students who are learning the science are expected to develop knowledge and understanding of science concepts that are useful and can be applied in their life. In addition, students can acquire a provision of knowledge, concepts and

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<sup>9</sup> *Kurikulum2013 Kompetensi dasar sekolah (SD)/ Madrasah Ibtidaiyah (MI)* (kementerian pendidikan dan kebudayaan, 2013), hlm.1

skills of science as a basis for continuing education to junior high school (SMP/MTs).<sup>10</sup>

Natural Sciences (IPA) is a rational and objective knowledge about the universe and everything in it. Learning IPA with an integrated thematic approach is expected to arouse the student's interest to improve their intelligence and understanding of the nature and its contents and open up opportunities to give student's curiosity naturally.

At the elementary school, set of equipment study is designed by hoping of having appropriate to elementary students in general subjects. This resulted in less optimal load material contained in each theme and sub-theme, which practically can be integrated with Islamic studies, both from the Qur'an and al-Hadith, which is expected to be excess or superiority, especially on students who are educated in Islamic Elementary School.

Based on the explain above, it need to be done the research on the development an integrated thematic learning model on Elementary School which is based on the analysis of the needs, especially in Islamic School. In this interview is conducted to the teacher of fourth grade MI Nurul Hikmah, she said:

"Thematic integrative book is good for children's learning in addition to the content that support for learning, as well as the attractiveness of the pictures inside. But unfortunately it is missing in study of Islam, I want thematic book there are elements relating to Islam, from the picture, the names or can be with the addition of the verses of the Quran or hadist."<sup>11</sup>

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<sup>10</sup> Ammalia Fitriani. "Pengembangan bahan ajar Ilmu Pengetahuan Alam Materi Cahaya dengan Pendekatan Keterampilan Proses Siswa Kelas V MI Miftahul Huda Kedung Bunder", Skripsi, Fakultas Tarbiyah UIN Malang, 2013, hlm.2.

<sup>11</sup> Wawancara dengan guru kelas IV yaitu bu Rahmah MI Nurul Hikmah Malang



Thematic teaching materials of curriculum 2013 competency with relation to religious and social attitudes are developed indirect teaching, students learn about the knowledge (Core Competency 3) and application of knowledge (Core Competency 4).<sup>12</sup> It is clear that the competence of religious education at the elementary school is taught separately. Teaching materials are taught is group A that includes religious education and moral education and citizenship, pillar of Indonesia, Indonesian language, mathematics, natural science and social science. Group B includes cultural arts and crafts, physical education, sports and health.<sup>13</sup>

This reason is prompt the researchers to develop thematic teaching materials special for elementary school by integrating the religious attitude to the competence of knowledge and application of knowledge. There are several studies on the development of teaching materials that have been done by Dini Maielfi dkk,<sup>14</sup> Fauziah dkk,<sup>15</sup> Erdi Guna Utama,<sup>16</sup> the development research is a similarity on the development of teaching materials based on religious.

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<sup>12</sup> *Kurikulum 2013 Kompetensi dasar sekolah (SD)/ Madrasah Ibtidaiyah (MI)* (kementerian pendidikan dan kebudayaan, 2013), hlm.5

<sup>13</sup> *Ibid*, hlm.3

<sup>14</sup> Dini Maielfi dkk. "Pengembangan Perangkat Fisika dengan Pendekatan Contextual Teaching Learning Berbasis Iman dan Taqwa". Jurnal penelitian pembelajaran fisika. No. 1 th. 2012.

<sup>15</sup> Fauziah dkk. "Pengembangan bahan Ajar Fisika Mengintegrasikan Nilai-Nilai Karakter Al-Qur'an pada Materi Fluida Statis dan Fluida Dinamis untuk Pembelajaran Siswa Kelas XI SMA". Jurnal penelitian fisika. No. 2.th. 2013.

<sup>16</sup> Erdi Guna Utama. "Pengembangan modul IPA Terpadu Tipe Webbed Berbasis Islam-Sains dengan Tema Gempa dan Tsunami untuk Siswa SMP/MTs Kelas IX". Skripsi. Thn.2014.

The purpose of this study is expected to facilitate learning with a character-based on Islam. Then the researchers took the title "**Development of Natural Science Thematic Materials Based on Religious and Sains Integrated in Elementary School Fourth Grade Student MI Nurul Hikmah Kedungkandang Malang**".

### **B. Formulation of the Problem**

Based on the background mentioned above, the problem can be formulated that development of natural science thematic materials based on Islam as follows:

1. What is the reason of development of natural science thematic materials based on Religion and Sains in class IV MI Nurul Hikmah with sub-theme *"Animals and Plants in My home environment"*?
2. How is the level of validation of natural science thematic materials based on Religious and Sains Integaretd in Elementary School Fourth Grade student MI Nurul Hikmah with sub-theme *"Animals and Plants in My home environment"*?
3. How is the level of attractiveness of natural science thematic materials based on Religious and Sains Integaretd in Elementary School Fourth Grade student MI Nurul Hikmah with sub-theme *"Animals and Plants in My home environment"*?
4. How is the level of effectiveness of natural science thematic materials based on Religious and Sains Integaretd in Elementary School Fourth Grade student

MI Nurul Hikmah with sub-theme “*Animals and Plants in My home environment*”?

### C. Objectives of the Research

Based on the problem formulation above, the study aims to:

1. To produce a product in the form of natural science thematic materials based on Religious and Sains Integaretd in Elementary School Fourth Grade student MI Nurul Hikmah with sub-theme “*Animals and Plants in My home environment*”.
2. To determine the validity of study by using development of natural science thematic materials based on Religious and Sains Integaretd in Elementary School Fourth Grade student MI Nurul Hikmah with sub-theme “*Animals and Plants in My home environment*”.
3. To determine the conspicuousness of study by using development of natural science thematic materials based on Religious and Sains Integaretd in Elementary School Fourth Grade student MI Nurul Hikmah with sub-theme “*Animals and Plants in My home environment*”.
5. To determine the effectiveness study by using natural science thematic materials based on Religious and Sains Integaretd in Elementary School Fourth Grade student MI Nurul Hikmah with sub-theme “*Animals and Plants in My home environment*”.

#### **D. Significances of the Study**

The benefit of this study is expected to be useful.

1. For students

To increase student's motivation in thematic learning and spirituality, and to improve student's moral into Islamic moral.

2. For an school institution or teacher

For consideration of schools and teachers to continue their learning by using thematic materials based on Islam and can be used to help teachers grow spiritually.

3. For researchers

To add insight and knowledge about the development of thematic teaching materials based on Islam and to deepen the study of Islam.

#### **E. Specifications of the Product**

1. Teaching material for student which has a thematic integrative character and complete to Islamic studies on the content of the material (without reducing the content of books that have been published by the Minister). Which includes study materials sourced from the Al-Qur'an, the Hadith, and the Asmaul Husna and other basic values of Islam;
2. Student book is completed with the addition of experimental activities, lab work, which is expected to enhance the student's understanding of concepts;

3. Teaching material for teacher which has a thematic integrative character and complete to Islamic studies on the content of the material on each theme, so expect easier to be submitted to the student;
4. Evaluation material comes with a written test which aims to explore the Islamic knowledge that had previously been presented in thematic learning.
5. Teaching material will be developed by researcher has extrinsic specification, as follow:
  - a. Using Comic Sains font letter size 14 for the title and 12 for the content.
  - b. Space will be used in development teaching material is 1, 5 cm.
  - c. Margin in size of paper in this development teaching material is top 2, left 2, bottom 1.5, right 1.5.
  - d. Dominant color will be used is blue.
  - e. Thick of paper will be used is A4 80 gram.

#### **F. Definition of the Terms**

To avoid misinterpretations of this study, the definition of terms related to the study will be presented as follows:

- a. Development



Development is process of translating or describing the specifications design into physical form.<sup>17</sup> In this study, the development is a systematic process to develop a thematic integrative model based on Islam in Elementary School of curriculum 2013.

b. Model

The model is defined as *"instructional model"* and it define as follows:

*"An integrated set of strategy component such as: the particular way the content ideas are sequenced, the use of overview and summaries, the use examples, the use of practice, and the use of different strategies for motivating the students"* (setting integrated components strategies such as: how certain ideas sorted content, the use of an overview and summary, the use of examples, the use of practice, and the use of different strategies to give motivation to the students).

This opinion emphasizes the understanding of the model as a number of components are arranged in integrative strategy, consisting of systematic steps, application of the ideas, examples, exercises, and various strategies to motivate the students.<sup>18</sup> So, the model of strategy is hoped can be more interesting of the students till they motivated to study hard.

c. Tools of Learning

The main learning resources that can be used on integrated learning is written texts such as books, magazines, brochures, newspapers, posters and

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<sup>17</sup> Punaji Setyosari, *Metode Penelitian Pendidikan dan Pengembangan* (Jakarta: Kencana, 2010), hlm. 197

<sup>18</sup> Iif Khoiru Ahmdi, Sofan Amri, *Pengembangan & Model Pembelajaran Tematik Integratif*, (Jakarta: Prestasi Pustaka, 2014), hlm.55

information, or a surrounding environment such as: natural environment, social environment. Environment not only acts as a medium of learning, but also as an object of study (learning resources). A teacher will arrange materials has to collect and prepare document or reference material (books and guidelines that is related and appropriate) to rearrange and develop syllabus. Search the information, can also take the advantage of sets equipment information technology such as multimedia and internet.<sup>19</sup>

d. Thematic Integrative

Thematic integrative means is a matter of learning activities which is integrating some subjects in one theme/topic of discussion. Sutirjo and Sri Istuti Mamik (2004:6) states Thematic integrative learning is effort to integrate knowledge, skills, values, or attitudes of learning, and creative thinking by using themes.<sup>20</sup>

e. Based on Religious and Sains

The meaning of religious and sains in combining research and development is a combination of sciences with Islam religion which includes a verse of the Qur'an, Hadith, and referring to Islamic values.

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<sup>19</sup> Ibid, hlm. 150.

<sup>20</sup> Ibid, hlm 90.

## CHAPTER II

### LITERATURE REVIEW

#### A. Previous Study

Research development of teaching materials has been carried out. Some related research with study above is as follows:

- 1) Dini Maielfi dkk. “Pengembangan Perangkat Fisika dengan Pendekatan Contextual Teaching Learning Berbasis Iman dan Taqwa”.<sup>21</sup>

This journal is constitute in development of physic set equipment based on based on faith and god fearing, this study aims for increase the education qualityand faith and god fearing of student be better and also this study aims to increase the study achievement for the student.

- 2) Fauziah dkk. “Pengembangan bahan Ajar Fisika Mengintegrasikan Nilai-Nilai Karakter Al-Qur’an pada Materi Fluida Statis dan Fluida Dinamis untuk Pembelajaran Siswa Kelas XI SMA.”<sup>22</sup>

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<sup>21</sup>Dini Maielfi dkk. “*Pengembangan Perangkat Fisika dengan Pendekatan Contextual Teaching Learning Berbasis Iman dan Taqwa*”. Jurnal penelitian pembelajaran fisika. No. 1 th. 2012

<sup>22</sup>Fauziah dkk. “*Pengembangan bahan Ajar Fisika Mengintegrasikan Nilai-Nilai Karakter Al-Qur’an pada Materi Fluida Statis dan Fluida Dinamis untuk Pembelajaran Siswa Kelas XI SMA*”. Jurnal penelitian fisika. No. 2.th. 2013

This journal content of development of teaching material integrated the values of A-Quran, this study aims to create the Islamic characteristic education for the student.

- 3) Erdi Guna Utama “Pengembangan modul IPA Terpadu Tipe Webbed Berbasis Islam-Sains dengan Tema Gempa dan Tsunami untuk Siswa SMP/MTs Kelas IX”.<sup>23</sup>

This thesis is a study in the development of teaching materials based character education Islam and sains that aims to educate students to make an Islamic character with a deep knowledge of sains.

Table 2.1 Previous Study

No	Name, Title Research	Focus	Model	Differences / Equation
1.	<b>Dini Maielfi dkk, 2012</b> By title: “Pengembangan Perangkat Fisika dengan Pendekatan Contextual Teaching Learning Berbasis Iman dan Taqwa”.	Focus on the development of physics teaching material based on faith and god fearing	using a Contextual Teaching Learning	<b>Differences:</b>  a. physics lesson b. development of physics teaching material  <b>Equation:</b>  a. The study is using faith and god fearing approach
2.	<b>Fauziah dkk, 2013</b> By title:	Focus on the development	Integrated of Al-Qur'an	<b>Differences:</b>

<sup>23</sup>Erdi Guna Utama. “Pengembangan modul IPA Terpadu Tipe Webbed Berbasis Islam-Sains dengan Tema Gempa dan Tsunami untuk Siswa SMP/MTs Kelas IX”. Skripsi. Thn.2014.

	<p>“Pengembangan bahan Ajar Fisika Mengintegrasikan Nilai-Nilai Karakter Al-Qur’an pada Materi Fluida Statis dan Fluida Dinamis untuk Pembelajaran Siswa Kelas XI SMA”.</p>	<p>of teaching materials based on values of Al-Qur’an</p>	<p>values</p>	<p>a) Physics lesson b) fluida statis and fluida dinamis material c) the study is done in eleven of senior high school</p> <p><b>Equation:</b></p> <p>a) The study equally develop teaching materials b) The study is integrated of Al-Qur’an</p>
3.	<p><b>Erdi Guna Utama, 2014</b> By title: “Pengembangan modul IPA Terpadu Tipe Webbed Berbasis Islam-Sains dengan Tema Gempa dan Tsunami untuk Siswa SMP/MTs Kelas IX”.</p>	<p>Focus on the development of teaching materials</p>	<p>Development of teaching material based on Islam and Sains</p>	<p><b>Differences:</b></p> <p>a) Development of teaching material of KTSP b) Using for SMP/MTs</p> <p><b>Equation:</b></p> <p>a) The study equally develop teaching materials b) Using on Religious and Sains</p>



## B. Foundation of Analysis

### 1) The meaning of Natural Science Thematic Learning

#### a. Understanding of Natural Science

According to AbdullahAli, IPA is a "theoretical knowledge acquired or organized in a distinctive or special way, by observation, experimentation, inference, theory development experimentation, observation and so on is interwoven between the way the other way".<sup>24</sup>

In essence Natural science includes four main elements: *First*, the attitude that consists of a curiosity about objects, natural phenomena, organism and the causal relationship raises new problems that can be solved through the proper procedure. *Secondly*, the process is trouble shooting procedure through scientific method include preparation of hypothesis, design an experiment or trial, evaluation, measurement, and conclusion. *Third*, the product is the fact form, principles, theories and laws. *Fourth*, the application is one of application of the scientific method and science concept in life. All four elements are the real hallmark of natural science intact cannot be separated from one to another.<sup>25</sup>

#### b. Understanding of Thematic Learning

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<sup>24</sup>Abdullah Aly & Eny Rahma, *Ilmu Alamiah Dasar*, (Jakarta: Bumi Aksara, 1998), hlm.12.

<sup>25</sup>Trianto, *Model Pembelajaran Terpadu dalam Teori dan Praktek*, (Jakarta: Prestasi Pustaka, 2007), hlm. 103

Thematic learning is learning patterns that integrate knowledge, skills, creativity, values and attitudes of learning by using themes. Thematic learning is "integrated learning" involving several subjects-even that fastened with certain themes. This learning involves some basic competencies, learning result and indicators of a subject or even some subjects.<sup>26</sup>

With thematic approach teachers are sued to be more creative in creating a learning environment to more understand the reality of life that is lived every day, either relation to his self or families, society, environment, and natural surroundings.

The most important in this study is to place the students as an object of learning, the teacher as a facilitator who supports the achievement of success in learning.

Every child has creativity, there for it is done the integrated learning, so that it can accommodate the child needs. With thematic learning that integrates material from several subjects to be one of topic, which is called theme. Thus, it is expected to appear integration between experiences in everyday with experiences is learned by the students.

In addition that is described above, there are several advantages of thematic learning.<sup>27</sup>

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<sup>26</sup>Mamad DKK. *Pedoman pelaksanaan pembelajaran tematik*. 2005. Hal 3

<sup>27</sup>Ibid, hlm.5.

- a) Learning materials is closer to the lives of students, so that they can easily understand and do.
- b) Students are also easier to link a relationship with the subject to the other subject, so the contextual value and *life-skills* are in the process of thematic learning more real.
- c) By doing in groups, students able to develop the ability to learn in cognitive, affective and psychomotor as well.
- d) Integrated Learning accommodates various types of intelligence (*multiple-Intelligence*) of the students. Integrated learning approach ease the teacher uses student active learning as a method.

- The basic principle and character

Currently socialized plan implementation competency-based curriculum with thematic learning as one of components. So in this case needs the principles that underlying the achievement of the objectives that will be achieved by the government.

The underlying principles of thematic learning are follows:<sup>28</sup>

- Integrated with environmental or contextual nature. It means, learning is packaged in a format of the link between "the ability of students in finding problems" with "solving real problems faced on a day life".

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<sup>28</sup>Ibid, hlm. 10.

While the discipline form learning in order the students work seriously in finding a real learning, then do it.

- Having theme as an integral tool from several subjects or study materials. In terminology curriculum of subject, the theme is so often referred as a center of reference in the process of renewal or integrating a number of subjects.
- Using the principles of learning within playing and fun (*joyful learning*).
- Learning provides the meaningful experience for students.
- Embedding the concept of various subjects or study material in a particular learning process.
- Separation or difference between the subjects with other subjects difficult to be done.
- Learning can be developed in accordance of capabilities, needs, and interests of students.
- Learning is flexible.
- Using variations method of learning.

c. Core Competency Class IV SD/MI

Competencies is translation or Competency Standards operational in the form of quality to be possessed by students who have completed education at a certain education units or levels of education particular, an overview of the

main competencies that are grouped into several aspects they are attitudes, skills, and knowledge to be learned by student to a school level, class and subject. Core competencies should describe the quality of the balance between the achievement of *hard skills* and *soft skills*.

Core competencies serve as elements organizers (organizing element) basic competence. As an organizer element, Core Competence is a fastened for vertical and horizontal organization of basic competency. Basic Competence of vertical organization is relationship between the content of the basic competencies or education one class or level on it so it meets the principles of learning that occurs a continuous accumulation between students learning content. Horizontal organization is the relationship between the content of Basic Competence from a subjects with Basic Competence from different content of subjects in the weekly meetings and the same class so that a process of mutually reinforcing.

Core competencies are designed in four inter-related groups, namely with regard to the religious attitude (Core Competency 1), social attitudes (Corecompetencies2), knowledge(Core Competency 3), and application of knowledge (Core Competency 4). The four groups are the reference of basic competencies and should be developed in any event integrative learning. Competence with regard to religious and social attitudes developed indirectly



(indirect teaching), when students are learning about the knowledge (Core Competency 3) and application of knowledge (Core Competency 4).<sup>29</sup>

**Table 2.2 Core Competency Class IV SD/MI**

No.	COMPETENCE CORE CLASS IV
1.	Receiving, implement, and appreciate to their religion
2.	Shows the behavior of an honest, disciplined, responsible, polite, caring, and confident in interacting with family, friends, teachers, and neighbors
3.	Understand the factual knowledge by observing and inquire based on curiosity about himself, God's creatures and activities, and the objects he encountered at home, at school and playground
4.	Understand of factual knowledge by observing and inquire based on curiosity about himself, God's creatures and activities, and the objects he encountered at home, at school and playground

## 2) Teaching Materials

### a) The Development of Teaching Materials

Teaching materials is a set of materials arranged systematically and attractive which is used as a study guide as a reference for students or teachers to teach the material to students. Abdul Majid said the teaching

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<sup>29</sup>*Kurikulum 2013 Kompetensi dasar sekolah (SD)/ Madrasah Ibtidaiyah (MI)* (kementerian pendidikan dan kebudayaan, 2013), hlm.5

materials are all kinds of materials, information, and text tools used to assist teachers/instructors in carrying out teaching and learning activities. Material is written or un written material form.<sup>30</sup>

Development of teaching materials should pay attention to the demands of the curriculum, it means learning materials that we will develop is suitable with the curriculum. At the educational level curriculum, graduates standards competency set by the government, but how to achieve and what teaching materials is used, gives over to the teachers as professionals.<sup>31</sup>

#### b) Functions of Teaching Materials

According to guide of development teaching materials mentioned that the Ministry of National Education serves as a teaching material:

- Guidelines for teachers who will direct the activities in the learning process, as well as a substance competency that should be taught to students.
- Guidelines for students who will direct all activities in the learning process, as well as a substance competency that should be learned/mastered.
- Achievement of evaluation tool/mastery of result learning.

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<sup>30</sup>Abdul Majid, *Perencanaan Pembelajaran* (Bandung: PT. Remaja Rosdakarya,2007), hlm. 173-174

<sup>31</sup>Iif Khoiru Ahmdi, Sofan Amri, *op.cit*, hlm 158.

### c) The purpose of Teaching Materials

For the purpose of making teaching materials include:<sup>32</sup>

- Provide teaching materials in accordance with the demands of the curriculum taking into account needs of the students, the teaching materials appropriate to the characteristics and *setting* or student social environment.
- Assist students in obtaining alternative teaching materials in addition the book sometimes difficult to obtain.
- Make an easy for teachers in implementing the learning.

### d) Type of Teaching Material

Teaching materials can be made of various shapes according to the needs and characteristics of teaching materials that will be presented. Form of teaching materials can be divided into four types, namely:<sup>33</sup>

- Print teaching material (*printed*) material is prepared in a number of papers, which can serve for learning purposes or delivery of information. For example, handouts, books, modules, student worksheets, brochures, leaflets, wall chart, photos/pictures, model/market.

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<sup>32</sup>Ibid, hlm.159

<sup>33</sup>Ibid., hlm. 162.

- Heard teaching material (*audio*) that can directly be played or heard by someone or group of people. For example, tapes, radio, phonograph records, compact discs and audio.
- View heard teaching material (*audio-visual*) is all that is possible it whole hog audio signal can be combined with moving images insequensia. For example, video compact disc, film.
- Interactive teaching material is a combination of two or more media manipulated by the user or treated to control a command or a natural behavior of a presentation such as a *compact disk material*.

e) Principles of Teaching Materials Selection

The existence of several principles is considered in preparation of teaching materials or learning materials. The principles of teaching materials selection are covering of relevance, consistency, and adequacy.<sup>34</sup>

- The principle of relevance means that linkage. Learning materials should be relevant or connection or relationship with the achievement competency standards and basic competency.
- The principle of consistency means constancy. If the basic competencies must be mastered by students there are four kinds, the teaching materials should taught include four kinds.

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<sup>34</sup>Abdul Ghofur, *Disain Intruksional: Langkah Sistematis Penyusunan Pola Dasar Kegiatan Belajar Mengajar* (Solo: Tiga Serangkai), hlm.17

- The principle of sufficiency means that the material being taught should be sufficient in helping students to master the basic competencies taught. The material should not be too little, and not be too much. If too little will be less help the students to achieve a basic competency and standard competency. Conversely, if too much would be a waste of time and energy that does not need to learn it.

f) Excess and Weakness of Print Teaching Material

**Excess of Print Teaching Material are:**

- a. *Availability*. Print teaching material is available in immeasurable of format and topic.
- b. *Flexibility*. Print teaching material is easy to adaptation of the immeasurable target and can be used on immeasurable environment of enough light.
- c. *Portability*. Print teaching material is easy to be brought from one place to other place and does not require the source of electrics current. Portability means that print teaching materials is a practical and easy to use. How to use the print teaching materials very easy to use without connecting to the electric flow like using a computer or software teaching materials. Students bring print teaching materials wherever they go and read it in their busy.
- d. *User friendly*. Print teaching material is easy to use and does not need special effort. In using of print teaching materials, students or user just



open the paper that has been printed and read it without following rules of the game like using or charging quiz or another activities in computer programs.

- e. *Economical*. Print teaching material cheap relative to be produced or bought and also can be used again at any times. Print teaching material form only spend a very affordable especially for students. The teaching materials are usually printed on A4 paper or f4 on standard sized. Papers can be found anywhere at a low price. Print teaching material can be learned anywhere, anytime and in any condition without any constraints.

**Weakness of Print Teaching Material Are:**

- a. *Reading level*. One of the problems faced in usage of print teaching material is level of student ability read. Some student which nonreader or have resistance in reading that will have this problem. Students with low literacy levels, would be very difficult to understand the material in the print teaching materials. The characteristic of early childhood or elementary school, tend to lazy for reading and they are still not fluent for reading. So this challenge is considered to be the weakness of print teaching materials.
- b. *Prior knowledge*. Usually print teaching materials in the textbook form is written for public reader. For the reader has resistance in knowledge

early/prerequisite will find difficulties in comprehending reading. The main characteristic of print teaching materials are the majority of the material presented in long and complex written form that often make the reader/students feel lazy and tired to continue reading especially for difficult material as science or mathematics. Preferably, difficult material is presented in the tables or images form in order to make the student easier for understand.

- c. *Memorization*. Some teacher often ask student to remember many definition and fact. This practice cause print teaching materials as a tool of assist to memorize merely. Mistake for learning is requires students to memorize the material and do not understand the material. This causes the contents of print teaching materials at school leads to theories without emphasis on practice or integration on students' daily lives. Some mistakes also occur during learning activities in the classroom. The teacher assigns students to read the contents of book and not to understand the book. Content of book too dense to absorb instantly by students so the impact students will memorize the contents of the material within a few days and not be able to actualize the material in his daily life.
- d. *Vocabulary*. Some textbook use many word terminology and concept which is difficult to be comprehended and lack of clarification. Most text books are charged science using scientific words and sometimes

just been known by students. This makes the students feel lazy to read the book. Student refers for playing a quiz on the computer or reading encyclopedia that dominant contains are images than difficult explanation. Would be better if book with difficult vocabulary is also equipped with the meaning of words in a standard language that easy to understand children.

- e. *One-way presentation.* Most print teaching materials less interactive so that have the passive character. Print teaching materials are selfish and do not care about the extent of understanding students or reader. In the text book there are some problems or student activities. Student activities in the textbook often pitched unidirectional or not to create an interactive character that inspires spirit of the students. Student activities in the textbook orders pitched than awaken students of doing things.

According to Anderson (1994) elaborating excess and limitation of print teaching materials as follows:

**Excess:**

- a. Student can desist at any times to see other source, for example dictionary, reference book, using calculator etc. By learning of using print teaching materials, proving the students not only learn from one

source but also from various sources because to understand the textbook student requires a dictionary or other reference books that can support the students understand of the material content. It is proven that by using the print teaching materials, able to sharpen the student's brain and uplifting the student to understand the material through the reading process.

- b. Student can learn as according to each speed. Through teaching materials, student can determine the exact moment have been selected by students. The moment is determined by the feeling or mood being experienced by the student, the level of intelligence, and also time have been owned a student. Moment defined by the student able to improve understanding of each student with their respective characters.
- c. Media generally is easy to be brought, so that can be used somewhere. Print teaching materials are usually presented in print teaching materials form. By the print form, this teaching material is easy to carry anywhere without worry damaged and easy to use.
- d. Instructor and student can learn easily to repeat the lesson. As the explanation above, the print teaching materials, students can organize their study time in accordance with the intellectual abilities of each student. If a student with a high intellectual level, the student only takes a minute to understand the content of the material, while student with moderate intellectual level would require a long process of

understanding than other friends. By this print teaching materials will be able to repeat the learning material still students understand the material and does not depend on the teacher's explanation.

- e. Picture or black and white photo can be adapted to page print. Images corresponding to the material can be presented in print form so the student will be easy to understand the material through the image.
- f. Lesson can be produced economically, can be distributed easily, and easy to be repaired. Print teaching materials form more easily disseminated to various schools and guaranteed quality. Teaching media in software form often have a virus that resulted in hard to open and contents cannot be learned. In fact, the extensions media will vary from one computer to another. It is not found when we use the printteaching materials.

**Limitation:**

- a. Printing media need sufficient time. Printing media is distributed to many school and give it to all of the students. Printing process is be limitation of prin teaching material.
- b. Printing chromatic picture or photo cost money costly. Presentation image corresponding to the material would be much better served in the color images form. This is done in order to overcome the confusion students' understanding of the image.



- c. Difficult to present motion in print page media. Print media has a disadvantage in terms of the appearance of 3-dimensional image that can be displayed, on the print instructional materials only pictures of dead or not moving.
- d. Lesson which is long to be presented with print media tend to kill enthusiasm and it cause boredom. The material are often presented in the long and complicated writing form these things make students feel bored. The student see the number of the words already bored more ever they have to read it certainly will be very reluctant.
- e. Without any good care, print media will lose and destroy. Teaching materials with quality plain paper will be very vulnerable to water. Once exposed to water, the teaching materials will be torn and damaged. Print teaching materials are also vulnerable to the longer time because the paper will be obsolete and is not interesting for reading.<sup>35</sup>

### 3) Development of Teaching Materials Based on Religious

#### a) Definition of Religious

The existence of religious education is a necessity in an attempt internalization of religious values as the substance of spirituality in the

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<sup>35</sup>Rahmat Saripudin. <http://rahmatsaripudin.wordpress.com/2008/10/05/media-dan-bahan-ajar-cetak/> diakses 25.9.2014 pkl 22:07

student's life. Religion is as a guide of human life by Allah. Education is as the only stabilization container in various strategies.<sup>36</sup>

So, the implementation of education based on Islam is very important because it will be very useful in the formation process of the Islamic character. Formation of religious man is required in development of religious life.

Islamic education is a conscious and deliberate effort for preparing students to know, understand, appreciate, to faith, pious, and to have a good characteristic in the teachings of Islam its primary source from Al-Qur'an and Al-Hadith.<sup>37</sup>

For this reason, researchers want to develop teaching materials based on Islam so that students understand deeply about teachings of Islam. This book will be very helpful to understand and implement thematic learning in Islam. A description of the various concepts and tactical measures about learning models, basic reference of thematic learning, thematic learning SD/MI in a variety of curriculum, thematic lesson plans, and strategy formulation and implementation of thematic learning assessment described the Islamic approach is very useful for students.

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<sup>36</sup>Kementrian agama RI. *Modul Pengembangan Agama Islam*. 2010: 1

<sup>37</sup>Ibid, hlm.5

b) Characteristics of Development Teaching Materials Based on Religious, namely:

- In the development of thematic teaching materials based on religious will refer to Islamic values, which is certain to follow the rules of religion.
- In this book has a mission to have good character formation, which has always emphasized on the positive things in the behavior and obedient the rules of Islam.
- In the development of thematic teaching materials based on religious considers two sides of the world and the Hereafter, that is where the life of the world will be taught how to properly interaction by forming the character of Islam. And in the Hereafter is the only bring the provisions from world, if life of the world is good, so hereafter will also be a good.

c) Excess of Development Teaching Materials Based on Religious

Excess in the development of thematic teaching materials based Islam on class IV is always emphasized on Islamic values are very important to be applied at an early age, so that students will grow within Islamic values. SpiritualembdeddinKI-1 of thematic integrative curriculum 2013. While it is clear that the spiritual aspect is on it, but the government does not necessarily include the existence of teaching material. Through the development of teaching materials based on religion, the author intends to give a way and easily the government's purpose. The unsound basis of religion on students can participate fully in the social and intellectual

development of student. The better of student quality, so the future of Indonesian will be growing.

#### 4) Development of Teaching Material Based on Sains

##### a. Definition of Sains

Sains is a series of concepts and conceptual schemes that relate one to another, and which is growing as a result of experimentation and observation, as well as useful for the observed and experimented further.<sup>38</sup> Science is divided into two: the pure and applied sciences. Pure science is the science of Astronomy, Chemistry, Geology, Mineralogy, Meteorology. While the applied science in science includes Biology, Zoology and Physiology.

Thus, science is important in life, so it is at the foundation that dominant in learning science. Science is a human interest in understanding the power of nature and its contents.

Development of teaching materials based on sains intended to add some material on themes related science, this addition is intended to enrich the sains on the theme "*Animals and Plants in My Home Environment*". One form of the addition of the development of sains in the book is for example the addition of photosynthesis in the learning material 3, which is less complete, so researcher

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<sup>38</sup>Sumaji, *Pendidikan sains yang Humanistik*. (Yogyakarta: Kanisius, 1998), hlm.31.

is trying to provide a more complete material so that students more understand the material.

#### 5) Development of Teaching Materials Based on Religious and Sains

In this development book, it's not only adding the religion or sains, but also integrated religion and sains. It aim that students are able to understand the values of Islam which is contained in the theme and students are able to understand sains. Thus the core competencies 1 (Religious) and core competencies 3 (Scientific) can be achieved simultaneously.

Development in this thematic book adapted from the aspects that can be developed. If the learning is less in the field of religion, the dominant religion in the development of learning. However, if lacking in scientific aspects of learning, the development of sains is more dominant than religion.

### C. Development Theory

In this chapter describes the research development. Explanation will begin to limit the development of research, the importance and purpose of the study, model of research development.

#### 1. Limitation of Development Research

Definition of research and development by Borg & Gall is a process used to develop and validate educational products.<sup>39</sup>

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<sup>39</sup> Punaji Setyosari, *Metode Penelitian Pendidikan* (Jakarta: Kencana, 2010), hlm. 222



This study followed the steps in the cycle. Step of the research or development process consists the study of the research findings that 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 test.

## 2. The Importance and the Objectives of Development Research

According to Van den Akker the importance of research and development is based on two reasons, the principal reason for that is derived from the idea that the research approach of "traditional" (there are survey research, correlation, experimental) with the research focusing only describe knowledge, rarely giving prescriptions that are useful in solving problems and instructional design or education. Another reason is the existence of a high spirit and complexity of the nature of the education reform policy.

The research development objective to assess the changes that occur within a certain time. Examples research development of differences in academic and social in a group of children from low and high income families. To do this kind of research is usually done through methods such as longitudinal, cross-sectional and cross sequential.<sup>40</sup>

## 3. Model of Development Research

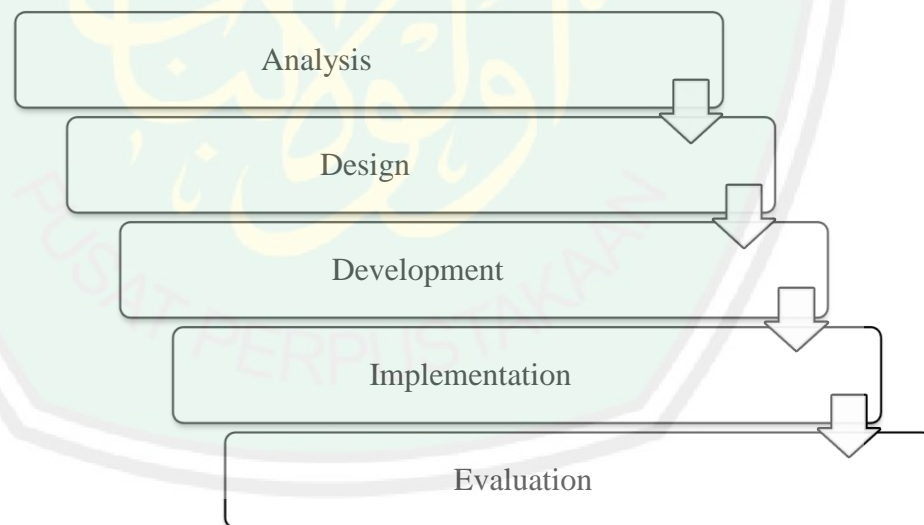
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<sup>40</sup> Ibid, hlm. 224

In the development of teaching materials there are some models that can be used for the development of such research is the model of ADDIE, Kemp, Borg & Gall, Dick & Carey.

a) Model of ADDIE

ADDIE Model is one of the instructional design models that are more generic. ADDIE Model (Analysis-Design-Develop-Implement-Evaluate) emerged in the 1990-an, developed by Reiser and Mollenda. One function of the ADDIE model that guide you in building the infrastructure and training programs are effective, dynamic, and support the performance of the training itself. These models use the five stages of development as follows:<sup>41</sup>



<sup>41</sup> Novan Ardi Wiyani, *Desain Pembelajaran Pendidikan*, (Yogyakarta: Ar-Ruzz Media, 2013), hlm. 42

Stages ADDIE described as follows

- 1) Analysis. Phase analysis is a process of defining what will be learned by the students, which do need assessment (needs analysis), identify problems (needs) and analyze the form of a task (task analysis). Therefore, the output will be generated in the form of the characteristics or profile of prospective learners, identifying gaps, identifying needs, and detailed task analysis is based on need.
- 2) Design. This phase also known as drafting (blueprint). In the design phase is required formulating SMART (the specific, measurable, applicable, realistic, times) learning goals. Then the teacher devising tests based on learning objectives defined earlier. The teacher determines what the appropriate learning strategies to achieve these goals.
- 3) Development. Development is a process for realizing design made into a reality. Means that if in the design required software of a multimedia learning form, so multimedia it should be developed, for example, required the print of module then the modules need to be developed. One important step in this development phase is a trial before being implemented. Test phase is part of one of ADDIE steps, namely evaluation. More precisely evaluation formative because the results are used to improve the learning system to be developed.
- 4) Implementation. Implementation is a concrete step to implement the learning system are made. This means that at this phase all of which have

been developed and prepared is according to the role and functions to be implemented.

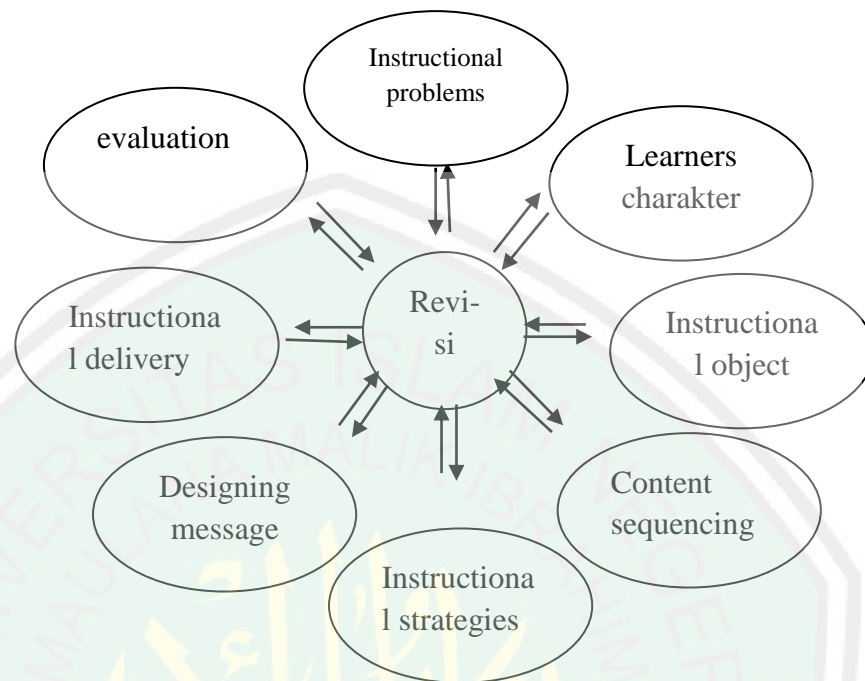
5) Evaluation. Evaluation is the process of learning to see whether the system is being built successfully, in line with expectations or not. In fact initial evaluation phase can be at four phases in the top. Evaluation occurs in every four phases above called formative evaluation due to need revision.

b) Model Kemp

Instructional design models developed by Kemp is a model that make up the cycle. According to Kemp study consists of various components that are developed appropriate to the needs, goals, and the obstacles that arise in learning. In this design consists of eight stages and each stage is the revision activities. Stages Kemp described as follows:<sup>42</sup>

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<sup>42</sup> Ibid, hlm. 48.



Explanation of the Kemp models are:

- 1) Determine the general learning (TIU), there are the goals to be achieved in each subject learning materials.
- 2) Make an analysis of the characteristics of learners. This analysis is necessary to know how the educational background, ability, cultural, social, owned by learners as a consideration in the design of learning activities.
- 3) Determine the specific learning objectives (ICT) in operational and measurable. With the expectation that learners know what to do, learn, and measurable success in learning.
- 4) Determine the material / teaching materials adapted to ICT



- 5) Establish initial assessment to determine the extent to which learners are qualified in the pre-determined learning. Thus, teachers can select, where the material which should be given or learned by the learners.
- 6) Determine the appropriate learning strategy. Selection of this learning strategy should be based on variables such as learning based learning objectives, aspects of learning materials and classroom condition. Moreover, teachers also have to look at the practicality, effectiveness and efficiency of a strategy that allows can be applied in learning.
- 7) Coordinate, which analyzes the existing functional component in learning.
- 8) Conducting evaluation of learning. This activity should be based on objective and materials learning that have been studied by learners.

Each step in the stage is always followed by repair and expected to produce a perfect design.

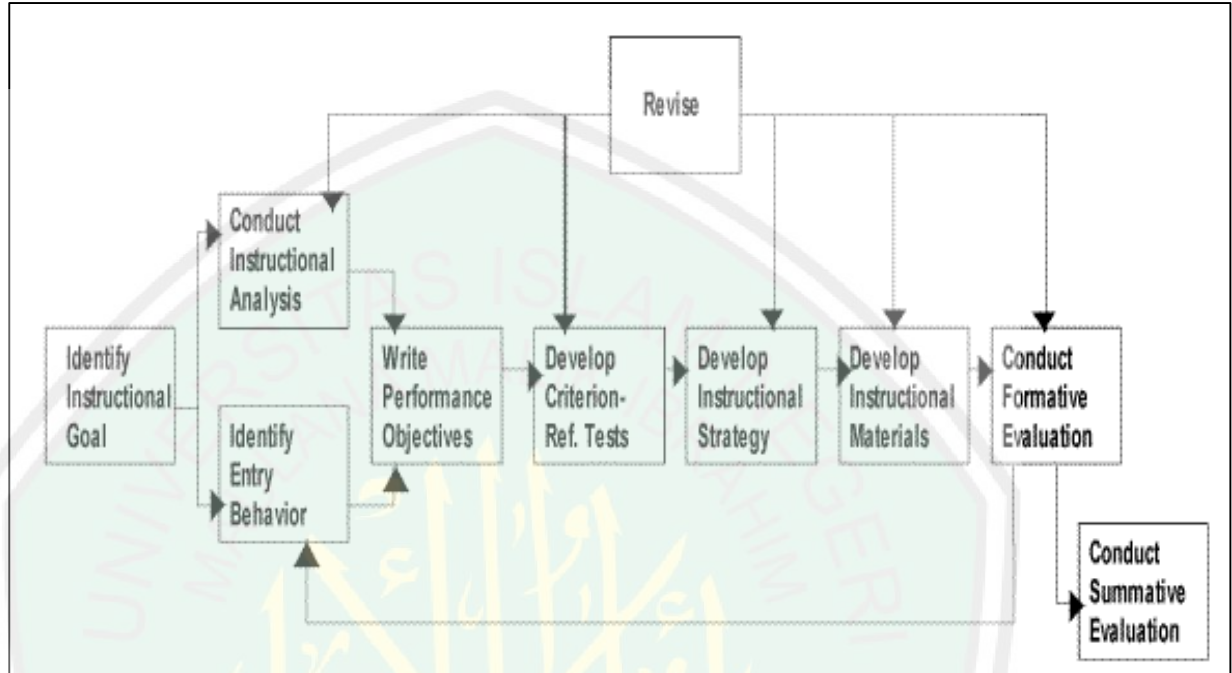
c) Model Dick & Carey

System model approach Walter Dick and Lou Carey is one of the most influential models. Component once the main steps of learning Dick and Carey, there are 10 stages of instructional design, among others:<sup>43</sup>

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<sup>43</sup> Punaji Setyosari, *op.cit.*, hlm. 230

Picture 2.1 model approach Walter Dick and Lou Carey



### 1) Assess needs to help identify learning goals

Conduct a needs analysis to determine the purpose of the program or product to be developed. This needs analysis activities researchers identified needs immediate priority needs are met. By assessing needs, researcher will be aware of a situation that should exist (what should be) and the real situation in the field of real or actual (what is). By way of "seeing" a gap that occurs, the development of trying to offer an alternative solution by developing a product or a particular design.

## 2) Conduct instructional analysis

If the background learning is selected, then the next step development of learning analysis, which includes the skills, processes, procedures, and learning tasks to achieve the learning objectives. Matters whatever the perceived need "felt need" need to be identified and subsequently disclosed in product design to be developed. It became a specification product or design which will be developed further and has its own peculiarities.

## 3) Analysis of the learner and the context

This analysis can be done simultaneously in conjunction with the analysis of the learning above, or conduct the learning analysis. Analysis of the learner and the context, which includes the ability, attitude and baseline characteristics of learners in the learning setting. And, also including the characteristics of the learning setting in which new knowledge and skills will be used. Step (2) and (3) can be performed either sequentially or simultaneously (simultaneous).

## 4) Write performance objectives

Formulate performance objectives or performance analyzes performed after learning and context. Formulating objectives of this performance is done by outlining a general purpose into more specific objectives that form the formulation of performance goals, or operational. This picture reflects the operational formulation of special purpose programs or

products, procedures developed. This goal is specifically to provide information to develop test items. Researcher perform general purpose or translation of competence existing standards into a more specific operational objectives with specific indicators.

5) Develop assessment instruments

The next step is to develop assessment instruments, which are directly related to the specific objectives, operational (as pointed out in the front). The task of developing this instrument becomes very important. Instruments in this case can be directly related to the operational objectives to be achieved based on certain indicators, and also instruments for a product to measure development design. Instruments relating to special purpose such as achievement test, while the instrument relating to the products or designs that are developed can be either a questionnaire or checklist.

6) Develop instructional strategies

Develop instructional strategies, specifically to help learners achieve specific objectives. Specific learning strategies designed specifically to achieve the objectives stated explicitly by developers. Learning strategies designed is also related to the product or design to be developed. For example, if a developer wants to create a media product image, then what strategy is used to present the image media. If developers want to develop a particular instructional design, what is the appropriate strategy and

chosen to support design. So in short, the strategy remains a very important role in the development process that want to be done.

#### 7) Develop and select instructional materials

This step is the actual activities carried out by the developer. Developing and selecting learning materials, which in this case may be: printed materials, manuals both for learners and learning, and other media that are designed to support the achievement of objectives, products or designs that are developed based on the type, kind, and certain models need of giving the argument or reason why did they choose and develop based on the type or model. The reason for choosing the type or model is usually expressed in subpart model of development.

#### 8) Design and conduct formative evaluation

Design and conduct formative evaluation, the evaluation carried out by the developer during the process, procedure, program or product is developed. Or formative evaluation is conducted during the learning process with a view to supporting the process of improving the effectiveness of the process.

Under certain conditions, the developer is quite up to this step. Dick & Carey recommend an evaluative process consists of three steps:

- ✓ Testing prototipe material individually (one-to-one trying out);  
individual testing is done to obtain early feedback about a particular



product or design. Individual testing is done to the subject of 1-3 people. After doing the individual testing, product or draft is revised.

- ✓ Testing of small groups (small group tryout). The test involves a subject that consists of 6-8 subjects. The results of these trials used small groups to revise the product or design.
- ✓ Field testing (field tryout). This field testing involving subjects in a larger class involving 15-30 subjects (a whole class of learners).

During this testing, the developer made some observations and interviews. Thus, developers perform a qualitative approach in addition to quantitative data (test results, the scale of attitudes, rubric and others). The results of the validation of step 8 is then used to make revisions.

#### 9) Revise instruction based from formative evaluations

Revisions are made to the process (learning), procedure. Programs, or products associated with the previous steps. Revisions were made to the first seven steps, namely: a general purpose learning, learning analysis, the initial behavior, performance or performance objectives, test items, learning strategies, and / or learning materials.

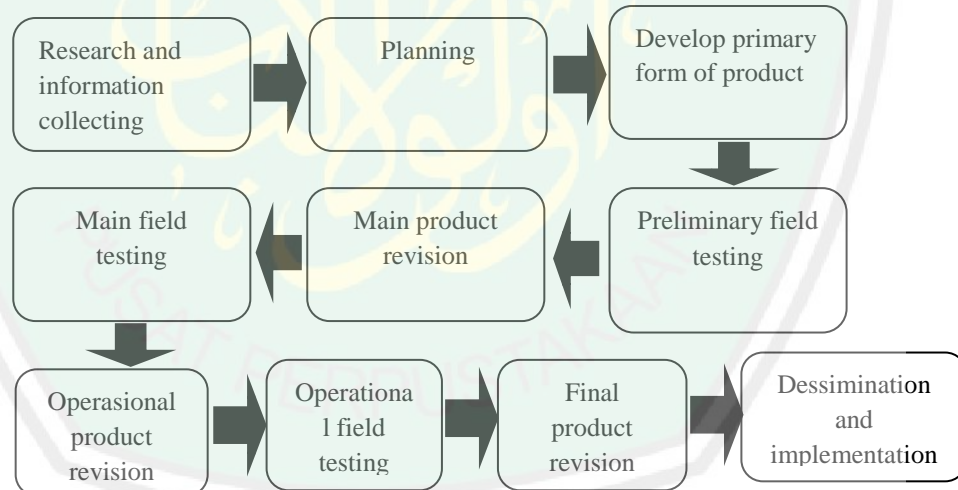
#### 10) Design and conduct summative evaluation

After a product, program or process development had been developed, the next step is to conduct a summative evaluation. Summative evaluation carried out in order to determine the level of effectiveness of the product, program, or the process as a whole compared to other programs.

For the purposes of this development is usually the researchers only used until the ninth step, namely the formative evaluation in which the design, process, or program is considered finished. However, for the purposes of testing the effectiveness of the design, process, comprehensive program required test or evaluation externally. Thus, the obtained level of efficiency, effectiveness and attractiveness of design, process and overall program

d) Model of Borg & Gall

In addition the model above, the model of Borg & Gall outlines the general steps to follow to produce a product, as a cycle of research and development. Steps Borg & Gall described as follows:<sup>44</sup>



<sup>44</sup> Ibid, hlm. 237

Each of the above will be described as follows:

1) Research and information collecting

Research and information collecting, which includes a literature review, observation and classroom observation, and preparation of the initial report. First observation or need analysis are very important step, that needs to be done to obtain preliminary information to perform development. It can be done, for example through classroom observation to see the real condition of the field. Literature review and include relevant supporting literature is indispensable as a foundation of the development.

2) Planning

Planning which includes the formulation ability, formulate specific goals to determine the sequence of material, and small-scale trials. It is very urgent in this step is to formulate specific goals to be achieved by the products developed. This objective is intended to provide solid information to develop a program or product, so that tested in accordance with the specific goal to be achieved.

3) Develop primary form of product

Develop primary form of product, or initial draft that includes the preparation of learning materials, handbooks, and evaluation tools. The format of the development of the program in question whether in the form of printed materials, such as modules and teaching materials such as

textbooks, sequences or procedures in the design process of the learning system, which is equipped with a video or in the form of a compact disk.

#### 4) Preliminary field

Preliminary field, conducted in the 1-3 school, involving 6-12 subjects and data from interviews, observations and questionnaires are collected and analyzed. The trial is conducted on whether the format of the program developed in accordance with a special purpose. The results of the analysis of these preliminary field be input to revise the initial product.

#### 5) Main product revision

Main product revision, based on the results of preliminary field. The results of field trials are obtained qualitative information about the program or product is developed. Based on these data are still required to do the same evaluation by taking the same sites as well. The products have been revised subsequently held the test.

#### 6) Main field testing

The products have been revised, based on the results of small-scale test, then it be tested again to the unit or try a larger subject. Field trials conducted on 5-15 schools with 30-100 involving the subject. These test is avarege scale categorized. Quantitative data of learning outcomes are collected and analyzed in accordance with the specific goal to be

achieved, or if possible, compared with the control group; in order to obtain data for further revision.

#### 7) Revision products

Revision products, which is done, based on the results of field test. The results of a field test involving a larger group of subjects is intended to determine the product's success in achieving its objectives and collect information that can be used to improve the program or product needs repair at a later phase.

#### 8) Operational field testing

After revised the product, if the developer wants a product that is more feasible and appropriate, the necessary field tests. This field test involving units or greater subject. This field test could involve 10-20 school or subject to 40-200; and accompanied by interviews, observation, and submission of the questionnaire and then analysis. The results of this analysis then becomes material for the purposes of the next revision of the product, or revision of the final product.

#### 9) Final product revision

Final product revision, revisions based on more extensive field tests. Revision of the final product is be size that the product is actually said to be valid because it has passed a series of tests in stages.



#### 10) Dissemination and implementation

Dissemination and implementation, which present the results of development (processes, procedures, programs or products) to the users and professionals through forums meetings or write in a journal, or in the form of a book or handbook.

This model is a model that will be used in the development of natural science thematic materials based on religious and saints integrated in fourth grade MI Nurul Hikmah Kedungkandang.

According to Borg and Gall research and development is a process used to develop and validate educational product. The steps of this process are usually referred to as the R&D cycle, which consist of studying research finding pertinent to the product to be developed, developing the product based on these findings, field testing it in the setting where it will be used eventually, and revising it to correct the deficiencies found in the field testing stage.<sup>45</sup>

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<sup>45</sup> Borg, walter R, *Educational Research an Introduction*, (Longman: The Book Press, 1979), hlm. 624

## CHAPTER III

### RESEARCH METHODS

#### A. Types of the Research

Type of research is a research and development method. Research and Development is a research method used to produce a particular product and test the effectiveness of these products. As explained by Sugiono that the research and development that produces a specific product for administration, education and social is still very low when certain products in the educational and social needs to be generated through research and development.<sup>46</sup> Research and development of teaching material is designed to conduct research in the field, so that researchers can solve problems that exist in the field by developing products.

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<sup>46</sup> Sugiono, *Metode Penelitian Kuantitatif, Kualitatif dan Research and Development* (Bandung: CV. Alfabeta, 2008), hal. 297

## **B. Models and Procedures of Development Teaching Material**

Based on the model of the system approaches Borg and Gall that researchers have mentioned before, the procedure of development of this study follow the steps as instructed in the Borg and Gall follows:

### **1. Research and information collecting**

The first step is done to find data on the 2013 curriculum specifically on thematic learning for elementary school. Then the researcher develop a thematic teaching materials based on religion and sains integrated with the election of Living Beings Matters theme with subthemes Animals and Plants in My home environment.

Furthermore, analyzing the context of research, especially in schools where the research development will be implemented. This context analysis is directed to the analysis of the potential that can support the implementation of the development, which has been carrying out the teaching school using thematic teaching materials.

Also conducted interviews with teachers, which will serve as the basis of a needs analysis of the material authorship. Results of data collection from the teacher is information about learning by using thematic teaching materials.

### **2. Planning**

Developers do some steps in the planning stages, the steps taken is to plan products that will result and design the development process is also testing the

product. In designing the product to be produced, the developer set a few things, namely: a) specify the purpose use of the product, b) determine who the users of the product, and c) determine the components and users.

a. Determine the purpose of the users of the product

The goal can be realized through the use of learning.

b. Determine who the users of these products

Product development is addressed to students of class IV MI Nurul Hikmah Kedungkandang Malang, amounting to 24 students and has been using thematic teaching materials in teaching and learning. Meanwhile, the teacher as the target of this development is thematic teacher fourth grade MI Nurul Hikmah Kedungkandang Malang.

c. Components and users

Integrated components into products is the physical form of the product development. The components of this product have developer in the form of the development of product specifications.

Subsequently, in designing step the product development process, the developer establishes general measures of development. Such steps include the development of the initial draft, initial field testing (validation test), revision, preliminary field testing, main field revision, main field testing, and the final product revision.

3. Develop preliminary form of product

Draft development products step and evaluation is done through the following steps:

- a. The first stage: Development teaching materials based on religion and sains integrated.

At this step, the activities carried developers include: collecting relevant material to the material on the theme of Living Beings Matters with subtema Animals and Plants in My home environment.

- b. The second stage: Establish data collection instruments

Data collection instruments that will be developed aims to collect data while test validation, preliminary field testing and main field testing. At this step of the design validation test (preliminary field testing), the data will be obtained from the content experts, design expert, using questionnaires and interviews. Meanwhile, to obtain data on main field testing, the data will be obtained from the interviews and questionnaires.

4. Preliminary field testing

Validation test is conducted to validate the design of products based teaching materials religion and sains integrated. This validation is done by asking the opinion, assessment, and advice from content expert, design experts. The purpose of this validation is that the product developed has feasibility macro, which means the product can be classified as a product of learning.



## 5. Main product revision

Revisions are made in accordance with the validation results obtained from the content experts, design experts. This revision creates a product development that meets the eligibility criteria at the macro, meaning based on the opinion of experts, this product is good to be tested in learning.

## 6. Main field testing

After product development has macro eligibility, the micro testing is done. This micro trials conducted in the form of preliminary field testing and main field testing. In the preliminary field testing, the product tested to six students. This initial field trials focused on the development and refinement of material products, have not been paying attention in the context of population viability.

## 7. Operational product revision

After finding the results of preliminary field testing, the results of questionnaires and interviews are obtained from students and then processed. The data processing will provide product development feasibility conclusions. Products are judged feasible and does not need to be revised if it came to the percentage of at least 69%, if the value is below the product needs to be revised. Revisions were made to the existing criteria in IPA thematic teaching materials based on religion and sains integrated.

## 8. Operational field testing

Main filed testing conducted to assess the feasibility of the product at the population level. At this step of field testing, test is conducted on a class

amount 24 students (grade IV). Tests conducted in the classroom. Questionnaires are also given to thematic teacher to make an assessment and give feedback on the products that have been developed.

#### 9. Final product revision

After the main field testing, the product improvements done again. Completion of product development is carried out as a final product development which already has the feasibility to be used in the context of actual learning. Revisions were made to the criteria given advice and feedback to the students.

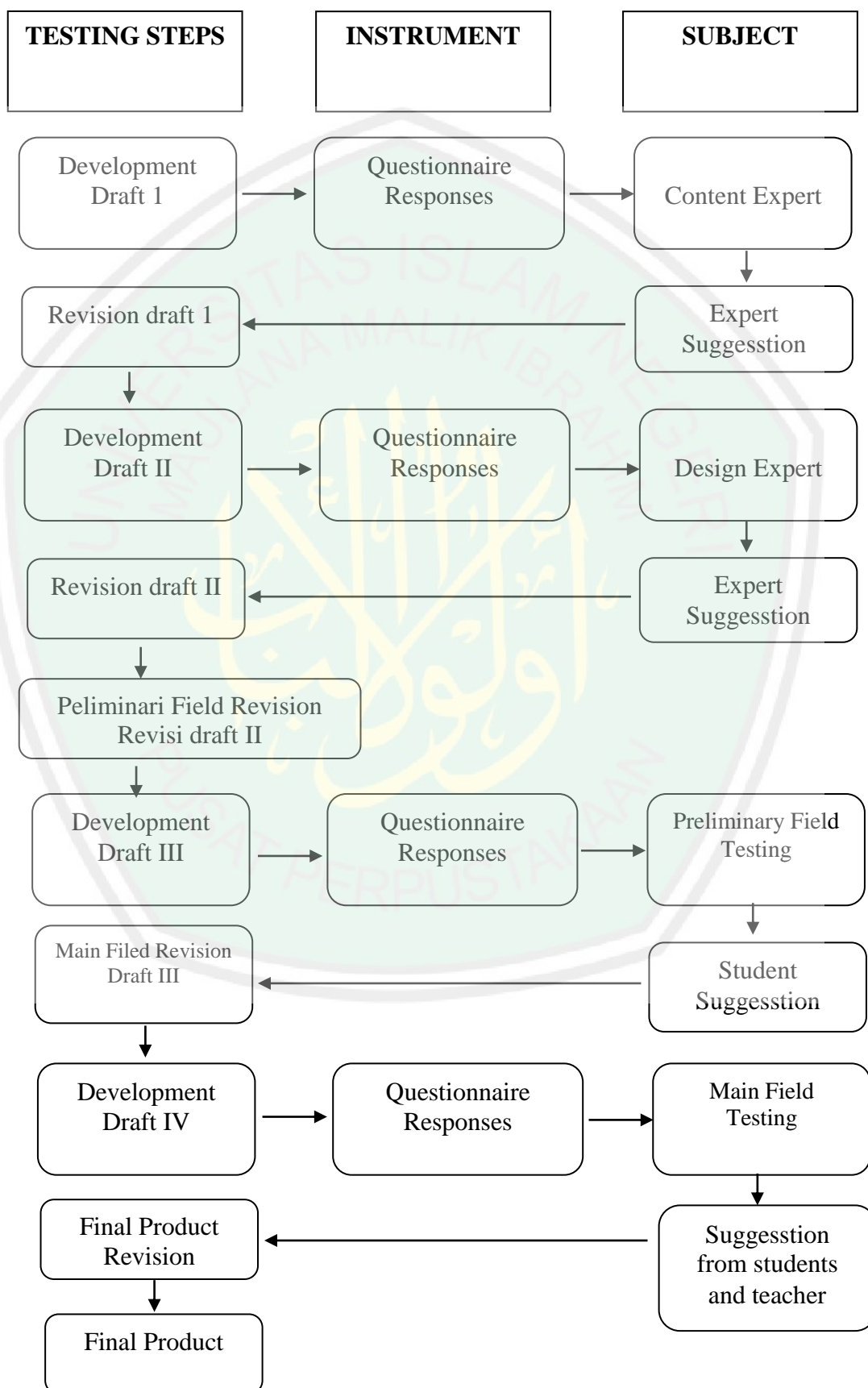
#### 10. Dissimination and distribution

The final step in this development process to write down the results of research and development in the form of a thesis. Writing this research and development from the first step until the results achieved, so from it will be known clearly.

### **C. Field Testing**

#### **1. Design of Testing Products**

Research development would require a series of tests on the products. This was done to test the validity of the product, whether actually be beneficial to improving the quality of learning or not. Trial design can be described in the groove below:

**Table 3.1**

## 2. Subjects of Testing Product

Test subjects is a person who directly involved in the teaching materials testing. Subjects of product assessment development of teaching materials IPA thematic based on religion and sains are:

### a) Content expert of thematic subjects

Content expert of thematic study is lecturer who has proficiency in thematic. Expert contents of this of study will provide an assessment of teaching materials that have been made. Assessment this thematic teaching materials not only in material terms but language learners primary school level characteristics and also an interesting presentation. But the most important in the assessment is the material on thematic teaching materials. In addition to providing an assessment on teaching materials also provide suggestions or feedback so that teaching materials be more perfect than before.

### b) Design expert of teaching materials

Expert design of teaching materials is a lecturer who has expertise in the field of design. This assessment is focused on the teaching materials design and attractiveness for using by the fourth grade. In addition to providing an

assessment on teaching materials also provide suggestions or feedback so that teaching materials become more perfect than before.

c) Target user

The target in this study are teachers and students MI Nurul Hikmah Kedungkandang class IV. Teachers and students will provide an assessment of thematic teaching materials that have been developed.

### **3. Location Research**

Researchers chose the location in MI Nurul Hikmah Kedungkandang class IV, for the reason that the MI Nurul Hikmah already used thematic teaching materials and accredited A.

### **4. Type of Data**

Based on the data to be used, the data is divided into two types, qualitative and quantitative data. Qualitative data obtained from interviews and advice, both on the stage of the validation testing or main field testing. While quantitative data is obtained from the questionnaire, at the stage of validation testing and field testing.



## 5. Data Collection Instrument

Instrument collection data used in this research is interview guides and questionnaires. The interview is intended to collect data in the form of suggestions, criticisms or suggestions, either at validation testing and main field testing. Data collection that is interview will generate qualitative data. As with interviews, questionnaires used to collect data both on validation testing and main field testing. While the questionnaire will produce quantitative data. Questionnaire is used to collect data on the effectiveness and attractiveness of the teaching materials have been developed. Form of presentation of the questionnaire such as the table below:

**Table 3.2**  
**Scale Assessment Questionnaire<sup>47</sup>**  
**Scale Assessment / Feedback**

Scale Assessment / Feedback				
1	2	3	4	5

Specification:

- a. Score 1 for not easy, not encourage, not attractive, not motivate.

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<sup>47</sup> Riduwan, *Skala Pengukuran Variabel-Variabel Penelitian*, (Bandung: Alfabeta, 2005), hlm. 13

- b. Score 2 for less easy, less encourage, less attractive, less motivate.
- c. Score 3 for enough easy, enough encourage, enough attractive, enough motivate.
- d. Score 4 for easy, encourage, attractive, motivate.
- e. Score 5 for very easy, very encourage, very attractive, very motivate.

## 6. Data Analysis Techniques

### a. Data analysis qualitative

Data analysis qualitative used in the study of this development only in the form of qualitative data exposure from experts and respondents in field testing. Sources of qualitative data derived from interviews directly to the informant and written responses to a questionnaire filled simultaneously. Qualitative data is also used as a guideline for the improvement of product development, apart from the assessment questionnaire.

### b. Data analysis quantitative

To determine the percentage level of effectiveness and attractiveness of the teaching materials, the quantitative data in the form of a Likert scale above are analyzed using the following formula:<sup>48</sup>

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<sup>48</sup> B. Subali, Idayani dan L. Handayani, “Pengembangan CD Pemebelajaran Lagu Anak Untuk Menumbuhkan Pemahaman Sains Siswa Sekolah Dasar” Jurnal, (Surabaya: Fakultas Ilmu Pendidikan Universitas Negeri Surabaya, 2011).

$$P: \frac{\sum x}{\sum xi} \times 100$$

**Explanation:**

P : percentage sought

$\sum x$ : the total number of scores answer validator (real value)

$\sum xi$ : the total amount of the maximum score in the overall instrument (expected value)

100: constant number

Of scores that have been in the can further put into the form of assessment qualification criteria as follows:

**Table 3.3**  
**Advisability Criteria Based on Likert Scale.**

Percentage (%)	Level of Validity	Remarks
85-100	Very valid	Not revised
69-84	Valid	Not revised
53-68	enough valid	Partially revised
37-52	Less valid	Revision
21-36	Very less valid	Revision total

Based on the criteria above, teaching materials considered valid if it meets the criteria for a score in the top 69 of all elements that late in student assessment questionnaire.

To test the taching material of effectiveness can use the one of pretest and posttest design. This group pretst and posttest design experiment just do in one group without any compare class. Tis model wiil be showed the comparation of the experiment. <sup>49</sup> So the product is trial in fourth grade in Islamic Elementary School Nurul Hikmah Kedungkandang Malang.



The teaching material can be said eeffective if the student can reach the minimum criteria in 75. If in held doesnot reach in score in 75, so the researcher should be trial the teaching material to the student so that the teaching material is affective in used.

Data ability early (pre-test) and data ability late (post-test) are analyzed using t-test to determine significant differences between learning to use the old

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<sup>49</sup> Suharsimi Arikunto. Manajemen Penelitian. (Jakarta: Rineka Cipta.1995), Hlm. 279

teaching materials with learning using teaching materials that have been developed. The formula that is used with a significance level of 0.05 is:<sup>50</sup>

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

**Explanation:**

T: t-test

D: Different (X<sub>2</sub> - X<sub>1</sub>)

d<sup>2</sup>: Variance

N: number of samples

The t-test results would lead to the conclusion that when connected  $t_{count}$  greater than  $t_{table}$  or  $t_{count}$  the teaching materials based on religion and sains that has developed an effect on student learning outcomes. With so  $H_a$  is accepted and  $H_o$  is rejected.

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<sup>50</sup> Subana dkk, *Statistika Pendidikan* (Bandung: Pustaka Setia, 2005), hlm. 131-132



## CHAPTER IV

### DATA ANALYSIS

Chapter IV will discuss (a) the development of IPA thematic teaching materials based on religion and sains, (b) the validity of IPA thematic teaching materials based on religion and sains, (c) Field testing results

#### A. The Development of IPA Thematic Teaching Materials Based on Religion And Sains

Development of teaching materials have been made by this developer namely instructional materials in the form of printed teaching materials on the subject of *Animals and Plants in My home environment* on the third theme for class IV SD / MI.

Teaching material is produced in this development contains four parts, namely the pre-introduction, introduction, content part and supporting part. Here are the explain of each part.

##### 1. Pra-Introductory

Pre-introductory section contains the components prior to start learning.

##### a. Cover

The front page (cover) consists of the title of the book "Come to Know the Environment, Animals and Plants in My home Environment ", for whom the textbook "for elementary / MI Class

IV", the picture on the cover in accordance with the materials developed as well as the author's name.



#### b. Preface

Preface is an explanation of the constituent general description contents of teaching materials, constituent expectations for teaching materials, thanks to all those who helped the development of teaching material and demand criticism and suggestions from authors to all readers for improvement of teaching materials.

**Kata Pengantar**

Puji syukur kami persembahkan kepada Tuhan Yang Maha Esa yang telah memberi hidayah, kekuatan, kesehatan, dan karunia kepada kami sehingga penyusunan bahan ajar IPA tematik berbasis Integrasi Agama dan Sains untuk kelas IV SD ini terselesaikan.

Dalam pengembangan bahan ajar IPA tematik ini selalu akan belajar agama yang menekankan nilai keislaman yang sangat penting untuk diterapkan sejak dini. Pengembangan berbasis sains adalah menambahkan materi sains pada tema, karena sains merupakan ilmu yang sangat penting dalam kehidupan, sehingga menjadi landasan bahwa sains dominan dalam pembelajaran.

Hal inilah yang menjadi pendorong bagi penulis untuk mengembangkan bahan ajar berbasis Agama dan sains agar peserta didik mampu memahami nilai-nilai Islam yang terkandung dalam tema dan juga memahami ilmu sains.

Akhir kata penulis mengucapkan terima kasih kepada semua pihak yang telah membantu dalam penyelesaian buku ini. Kritik dan saran sangat kami harapkan untuk perbaikan buku ini di masa yang akan datang.

### c. Competency Standards and Core Competencies

Competency standards and core competencies contains details standards competence and core competencies that must be mastered by the student.

**Standar Kompetensi Lulusan dan Kompetensi Inti Kelas IV**

DOMAIN	Standar Kompetensi Lulusan		
	SD	SWP	SMA
SIKAP	Menyakini, menjalankan, menghargai, dan mengamalkan.		
KETERAMPILAN	Menemukan, mencari, membaca, mengolah, menyaji, mendata, dan menginterpretasi. Individu yang berkecakupan pikir dan tindak yang efektif dan kreatif dalam ranah abstrak dan konkret.		
POKOK BAHAN	Mengetahui, memahami, menerapkan, mengonfirmasi, dan mengkonstruksi. Individu yang menguasai ilmu pengetahuan, teknologi, seni budaya dan berwujud pemanfaatan, kebangsaan, kemandirian dan peradaban.		

**Kompetensi Inti Kelas IV**

- Menyakini, menjalankan dan menghargai ajaran agama yang diwariskan.
- Memiliki perilaku jujur, disiplin, tanggung jawab, santun, peduli, dan percaya diri dalam berinteraksi dengan keluarga, teman, guru, dan tetangganya.
- Memahami pengetahuan faktual dengan cara mengamati (mendengar, melihat, membaca) dan mampu berdiskusi serta mengolah informasi yang diperoleh, memahami ciptaan Tuhan dan keagamaan, dan benda-benda yang dijumpainya di rumah, sekolah, dan tempat bermain.
- Menyajikan pengetahuan faktual dalam bahasa yang jelas, sistematis, dan logis, dalam yang estetik, dalam gambar yang menarik dan inovatif, dan dalam kehidupan yang menunjukkan peran ilmu anak beriman dan berakhlak mulia.

#### d. Table of contents

Table of contents on teaching material contains komppen title of the whole section contained in its pages and its teaching materials to help students find the material to be studied.

Daftar Isi	
Kata Pengantar .....	i
Standar Kompetensi Lulusan dan Kompetensi Inti Kelas IV .....	ii
Daftar Isi .....	iii
Pembelajaran 1 .....	1
Pembelajaran 2 .....	14
Pembelajaran 3 .....	25
Pembelajaran 4 .....	39
Pembelajaran 5 .....	46
Pembelajaran 6 .....	53
Daftar Pustaka .....	60

#### 2. Introduction part

Introduction part lies in early learning activities that aim to provide information material to be learned through basic competencies and indicators.

**Tema 1** Hewan dan Tumbuhan di Lingkungan Rumahku

**Kompetensi Dasar**

**3.2** Mengenal gambar alam benda, dan kalase

**4.2** membuat karya seni kalase dengan berbagai bahan

**Indikator:**

- Menciptakan karya seni kalase menggunakan bahan alam dan barang bekas

**Kompetensi Dasar**

**3.1** Mengenal konsep pecahan senilai dan melakukan operasi hitung pecahan menggunakan benda kongkret/gambar

**3.13** Menemukan pecahan senilai dan operasi hitung pecahan menggunakan benda kongkret/gambar

**4.13** Menguraikan sebuah pecahan menjadi sebagai hasil penjumlahan atau pengurangan dua buah pecahan lainnya dengan berbagai kemungkinan jawaban

**Indikator:**

- Menemukan pecahan setelah menggambar dan melingkupi tabul
- Membedakan pecahan senilai dan tidak senilai setelah melakukan eksplorasi dengan gambar pecahan dan dikusi kelas

**Kompetensi Dasar**

**3.2** Menjelaskan bentuk luar tubuh hewan dan tumbuhan dan fungsinya

**4.1** Mendeskripsikan hasil pengamatan tentang bentuk luar (morfologi) tubuh hewan dan tumbuhan serta fungsinya

**Indikator:**

- Menjelaskan bentuk luar (morfologi) tubuh hewan dan fungsinya setelah menggambar

**Pembelajaran 1**

### 3. Content Part

#### 1) Lesson 1

On this part in lesson 1 there is a picture point to islamic environment.

Sebelumnya kita sudah belajar tentang keanekaragaman budaya di Indonesia. Nah, sekarang kita akan mengisi lebih jauh tentang keanekaragaman tumbuhan dan hewan di sekitar rumah.

**Tahukah Kamu?**

Hewan di lingkungan rumahku

Amati gambar dan baca teks di halaman berikutnya



## 2) Lesson 2

In the second lesson shows about sains the title is animal groups according to the type of food. Materials sains presented a broader and more detailed elaboration.



## 3) Lesson 3

In the third lesson on the development of a book about sains with titles contain reciprocal relationship between two living beings. Material sain is presented a broader and more detailed elaboration.

**1. Simbiosis Mutualisme**



Makanan lebah adalah madu yang berasal dari bunga sama seperti kupu-kupu. Pada saat menghisap madu tubuh lebah akan menyentuh bagian bunga yaitu putik dan benang sari. Akibatnya tepung sari dapat menempel pada kepala putik sehingga terjadi penyerbukan.

Selain kupu-kupu dan lebah, yang dapat membantu penyerbukan adalah burung-burung kecil yang menghisap madu. Burung tersebut biasanya memiliki paruh yang panjang sehingga dapat masuk ke dalam bunga untuk menghisap madu.

Hubungan timbal balik antara dua makhluk hidup yang saling menguntungkan disebut simbiosis mutualisme. Contoh lain yaitu antara burung jalak dengan kerbau. Burung jalak mencari makan dari tubuh kerbau berupa kutu kerbau. Kerbau pun merasa diuntungkan karena kutu yang mengganggu tubuhnya dimakan burung jalak.



**2. Simbiosis Komensalisme**

Pernahkan kamu melihat suatu tanaman yang menempel pada pohon yang lebih besar, misalnya sejenis tanaman paku, lumut kerak, dan anggrek menempel pada pohon mahoni, mangga, atau jambu air.

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#### 4) Lesson 4

In the fourth lesson on the development of teaching materials is about *thoyyibah* sentence. This is so that students are able to understand sentences *hoyyibah* properly.

Bagaimana kalau kamu juga mencoba mengisi tabel berikut. Caranya adalah, isi jenis kebutuhan sehari-hari yang berasal dari hewan dan tumbuhan, kemudian tuliskan namanya pada kolom yang telah disediakan.

No.	Jenis Kebutuhan	
	Tumbuhan	Hewan
1		
2		
3		
4		
5		

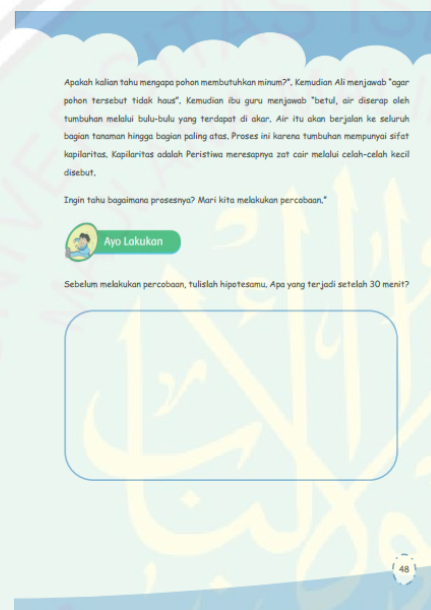
Setelah selesai berdiskusi, tiba-tiba seekor kupu-kupu melintas di hadapan mereka dan hinggap di atas sebuah bunga. Pandangan Ahmad dan teman-teman tertuju pada kupu-kupu tersebut. Kupu-kupu itu mempunyai warna yang sangat indah dan menarik. Mereka mengucapkan "Subhanallah" Maha Suci Allah yang telah menciptakan keindahan di alam semesta ini. Mereka mengucapkan syukur atas keindahan yang Allah berikan, dan selalu merawat lingkungan sekitar mereka. Kemudian mereka mengamati apa yang dilakukan oleh kupu-kupu. Mengapa kupu-kupu senang mendatangi bunga?

Ada apa di bunga tersebut? Mari kita cari tahu lebih jauh tentang bagian-bagian bunga dan fungsinya.

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### 5) Lesson 5

In the third lesson on the development of a book about sains with titles contain capilaritas process. Material sain is presented a broader and more detailed elaboration.



### 6) Lesson 6

In the sixth lesson on the development of the book contains verses of the Qur'an that explain on the obligation to preserve the nature that is contained in the letter Yasin ayat 33.

**Ayo Amati**

Cobalah berdiri sejengkal di tanah yang berisi macam-macam tumbuhan pada pagi hari. Pejamkan mata dan hirup udara sedalam-dalamnya. Lalu, bukalah mata kalian perlahan. Apa yang kalian rasakan saat itu? Segar, tenang pikiran dan tubuh. Allah memang begitu sempurna diciptakan oleh Allah SWT. Maka kewajiban kita adalah menjaga kelestarian alam tersebut, Allah berfirman dalam Al-Qur'an tentang fungsi tumbuhan terhadap manusia.

وَمَا آتَاكُمُ اللَّهُ مِنْ فَضْلٍ فَلَا تَوْبَعُوا إِيَّاهُ زُلْفَىٰ ۚ وَلَا تَوْنُوا ۚ وَابْتِغُوا فَضْلَهُ يَوْمَ يُنْفَخُ الْأَشْجَارُ وَأَنْتُمْ فِيهَا كَالْعِجَافِ ۚ

Artinya: Dan suatu tanda (kekuasaan Allah yang besar) bagi mereka adalah bumi yang mati. Kami hidupkan bumi itu dan Kami keluarkan dari padanya biji-bijian. Maka daripadanya mereka makan. (Qs. Yasin, 33)

Dari ayat di atas menjelaskan bahwa manfaat tumbuhan adalah untuk dikonsumsi oleh manusia. Selain manfaat di atas juga ada beberapa manfaat lainnya yaitu untuk hiasan, obat-obatan dan lain sebagainya. Dengan mengenali fungsi tumbuhan dengan baik, kita akan semakin cinta terhadap alam semesta.

Setelah kalian mengetahui fungsi tumbuhan terhadap manusia, sekarang kalian akan mengendat fungsi bagian tumbuhan.

**Ayo Membuat Peta Pikiran**

Buatlah peta pikiran bagian-bagian tumbuhan dan fungsinya.

#### 4. Section complementary

##### 1) Evaluation

Evaluation contains exercises to be undertaken students. The matter relating to the material on learning. Problem is structured so that students are easier to remember the material has been delivered.

Keterangan antarmakhluk hidup (manusia, hewan, dan tumbuhan).

Tuliskan empat contoh keterangan antarmakhluk hidup

- 1.
- 2.
- 3.
- 4.

Jelaskan kewajibannya terhadap lingkungan sekitar rumah.

Tuliskan dalil yang menjelaskan tentang manfaat tumbuhan bagi manusia.

## 2) Bibliography

Bibliography is a list of books or other sources used by the authors as a reference teaching materials manufacture located at the end of the teaching material.



## B. The Validity of IPA Thematic Teaching Materials Based on Religion and Sains

The data obtained in this study, there are two kinds, namely quantitative data and qualitative data. Data are obtained through two stages of assessment, namely the expert validation and field testing.

Data validation of teaching materials derived from the results of the evaluation conducted by three validator which is composed of a content expert, the design experts and the teachers who act as implementers MI in learning thematic.



The data obtained is quantitative data and qualitative data. Quantitative data derived from assessment questionnaire with Likert scale, where as qualitative data in the form of assessment or additional and suggestions from the validator. To questionnaires validator experts and students scoring criteria scores are as follows:

**Table 4.1 Criteria for scoring Questionnaire Validation Expert, Theacer of Study and Students**

Score				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Not appropriate</b>	<b>Less appropriate</b>	<b>Enough appropriate</b>	<b>Appropriate</b>	<b>Very appropriate</b>

Here is the presentation of data and data analysis assessment by the content expert, design expert and teachers fourth grade and their criticism and advice.

#### 1. Validation Results Content Expert

##### a. Quantitative Data

Quantitative data on the results of content expert can be seen in table 4.2.

**Table 4.2 Results content expert validation teaching materials based Thematic Religion and Sains**

<b>No</b>	<b>Statement</b>	<b>x</b>	<b><math>x_i</math></b>	<b>P (%)</b>	<b>the level of validity</b>	<b>Explanation</b>
1	What about the relevant level of development of teaching materials IPA thematic based on religion and sains with KI and KD?	4	5	80	valid	Not revision
2	How suitability pictures with the material presented?	2	5	40	Less valid	revision

3	Is the learning content in teaching materials in accordance with Curriculum 2013?	4	5	80	valid	Not revision
4	How systematic description of learning content in development of IPA thematic teaching materials based on religion and sains?	3	5	60	Enough valid	Not revision
5	How the scope of the material with the theme presented in the development of teaching materials based on religion and sains?	4	5	80	valid	Not revision
6	How does the level of language difficulty used in accordance with the level of student understanding?	5	5	100	very valid	Not revision
7	Is the material presented through the development of teaching materials based on religion and sains can provide motivation to the students to study harder?	4	5	80	valid	Not revision
8	Is the evaluation instrument used to measure the ability of students?	4	5	80	valid	Not revision
9	How is the material suitability religion and sains are presented with existing material?	5	5	100	very valid	Not revision
10	Does the formulation of indicators presented in the teaching materials based on religion and sains in accordance with the basic competencies specified in the curriculum in 2013?	4	5	80	valid	Not revision

<b>Analysis</b>	39	50	78%	Valid	Not revision
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**Explanation:**

P : percentage sought

$\sum x$  : the total number of scores answer validator (real score)

$\sum x_i$  : the highest total number of scores answer validator (real score)

100 : constant number

$$P : \frac{\sum x}{\sum x_i} \times 100$$

$$P : \frac{39}{50} \times 100$$

$$= 78\%$$

Based on the above calculation, the observations made by the whole content experts reach 78%, if matched with the eligibility criteria table, then the score is included in the valid criteria.

## b. Qualitative Data

Qualitative data on the results of expert material can be seen in table 4.3.

**Table 4.3 Suggestions Content Expert of thr Teaching Materials**


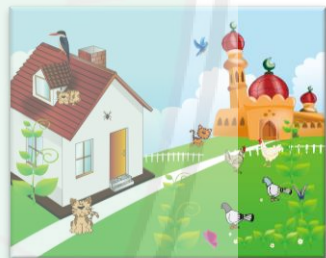
Name	Criticism and suggestions
Fitratul Uyun, M.PdI	<ul style="list-style-type: none"> <li>• Give concrete illustration for understanding the child at 10 years because in the concrete operational stage</li> <li>• Some less large font writing.</li> <li>• In page 7 give ayat about love each other, and combine it with hadiths supporters.</li> </ul>

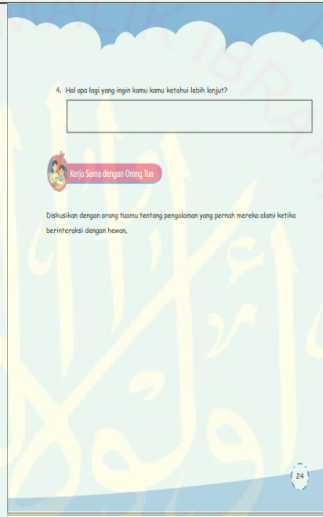
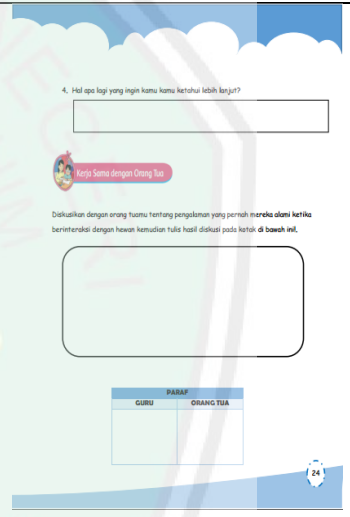
	<ul style="list-style-type: none"> <li>• Give scorecard process for student activities at home for evaluation and control of the parents.</li> <li>• Form letters can be considered reasons for their choice.</li> </ul>
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### c. Product revision

Based on the analysis performed, the revision of the development of teaching material are as follows.

**Table 4.4**  
**Revision of Teaching Material Based on Content Expert**

No.	Point	Before revision	After revision
1.	Concrete illustration		
2.	Some less large font writing.	<p>Pecahan Senilai</p> <p>Pada hari libur sekolah, Ali berniat untuk membuat rumah singgah burung diatas salah satu pohon yang terletak di belakang rumahnya. Rumah singgah tersebut akan dijadikan tempat pelindung burung-burung yang berkanjang dan bermain di pohon-pohon belakang rumah Ali.</p> <p>Ali menyayangi semua hewan, termasuk burung. Menyayangi binatang adalah termasuk anjuran Rasulullah kepada umat-Nya. Dalam Hadist, Rasulullah telah bersabda:</p> <p>مَنْ لَا يَرْحَمُ لَا يَرْحَمْ</p> <p>"Orang yang tidak menyayangi maka tidak diasayangi (oleh Allah)." (HR. Al-Bukhari)</p>	<p>Pecahan Senilai</p> <p>Pada hari libur sekolah, Ali berniat untuk membuat rumah singgah burung diatas salah satu pohon yang terletak di belakang rumahnya. Rumah singgah tersebut akan dijadikan tempat pelindung burung-burung yang berkanjang dan bermain di pohon-pohon belakang rumah Ali.</p> <p>Ali menyayangi semua hewan, termasuk burung. Menyayangi binatang adalah termasuk anjuran Rasulullah kepada umat-Nya. Dalam Hadist, Rasulullah telah bersabda:</p> <p>مَنْ لَا يَرْحَمُ لَا يَرْحَمْ</p> <p>"Orang yang tidak menyayangi maka tidak diasayangi (oleh Allah)." (HR. Al-Bukhari)</p> <p>Activate W</p>
3.	Ayat Al-Qur'an about love each other.		<p>وَإِذَا تَوَلَّى سَعَى فِي الْأَرْضِ</p> <p>لِيُفْسِدَ فِيهَا وَيُهْلِكَ الْحَرْثَ</p> <p>وَالنَّسْلَ ۗ وَاللَّهُ لَا يُحِبُّ الْفُسَادَ</p> <p>This means:</p>

			<p>"And when he turned away (from you), he walked on the earth to hold the damage to him, and destroy crops and cattle, and Allah does not love corruption." (Al-Baqoroh: 205)</p>
4.	scorecard process for student activities at home for evaluation and control of the parents.		

## 2. Validation Results Design Expert

### a. Quantitative Data

Quantitative data on the results of design expert can be seen in table 4.5.

**Table 45. Results of Validation Design Expert of the Teaching Materials Based Thematic Religion and Sains**

No	Statement	$x$	$x_i$	P (%)	the level of validity	Explanation
1	How does the attractiveness of the packaging design cover teaching	4	5	80	valid	Not revision



	materials based thematic IPA integarsi religion and science?					
2	How conformity with the image on the cover material on thematic IPA-based teaching materials integarsi religion and science?	5	5	100	Very valid	Not revision
3	How conformity with the selection of the chapter title in the chapter opening images IPA thematic teaching materials based integarsi religion and science?	4	5	80	valid	Not revision
4	How to design a concept map on the thematic IPA-based teaching materials integarsi religion and science?	4	5	80	valid	Not revision
5	Is the typeface used in accordance with the fourth grade students of SD / MI?	4	5	80	valid	Not revision
6	How layout typing on IPA thematic teaching materials based integration of religion and science?	4	5	80	valid	Not revision
7	How suitability font size used by students of class IV SD / MI?	5	5	100	Very valid	Not revision
8	How the image placement accuracy on any material in thematic IPA-based teaching materials integarsi religion and science?	4	5	80	valid	Not revision

9	Are the images in an interesting teaching materials for students to learn?	4	5	80	valid	Not revision
10	How the use of space and typing the title material?	4	5	80	valid	Not revision
<b>Analysis</b>		42	50	84%	valid	Not revision

**Explanation:**

P : percentage sought

$\sum x$  : the total number of scores answer validator (real score)

$\sum x_1$  : the highest total number of scores answer validator (real score)

100 : constant number

$$P: \frac{\sum x}{\sum x_1} \times 100$$

$$P: \frac{42}{50} \times 100$$

$$= 84\%$$

Based on the calculation above, the observations made by experts overall design reaches 84% if matched with the eligibility criteria table, then the score is included in the valid criteria.

**b. Qualitative Data**

Qualitative data on the results of design expert can be seen in table 4.6.

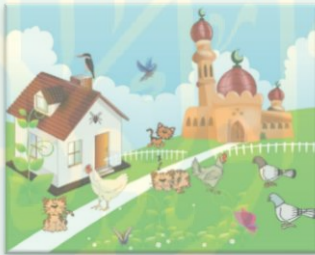
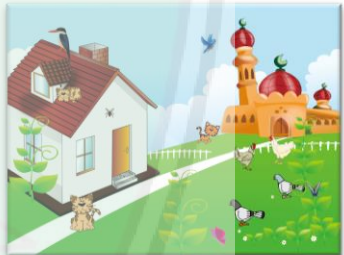
**Table 4.6 Suggestions Design Expert of thr Teaching Materials**

<b>Name</b>	<b>Criticism and suggestions</b>
Nurul Yaqien. M.Pd	Figure adapted to the real conditions in the field

### c. Revision Product

Based on the analysis performed, the revision of the book and media are as follows.

**Tabel 4.7**  
**Revision of Teaching Material Based on Design Expert**

<b>No.</b>	<b>No.</b>	<b>Point</b>	<b>Before revision</b>
1	Figure adapted to the real conditions in the field		

### 3. Validation Results Subject Teachers Thematic

#### a. Quantitative data

Quantitative data on the results of the validation thematic subject teachers can be seen in table 4.8.

**Table 4.8**  
**Results Teacher expert validation**  
**teaching materials based Thematic Religion and Sains**

No	Statement	$\bar{X}$	$x_i$	P (%)	the level of validity	Explanation
1	What about the relevant level of development of teaching materials IPA thematic based on religion and sains with KI and KD?	4	5	80	valid	Not revision
2	How suitability pictures with the material presented?	4	5	80	Valid	Not revision
3	Is the learning content in teaching materials in accordance with Curriculum 2013?	5	5	100	Very valid	Not revision
4	How systematic description of learning content in development of IPA thematic teaching materials based on religion and sains?	5	5	100	Very valid	Not revision
5	How the scope of the material with the theme presented in the development of teaching materials based on religion and sains?	5	5	100	Very valid	Not revision
6	How does the level of language difficulty used in accordance with the level of student understanding?	4	5	80	valid	Not revision
7	Is the material presented through the development of teaching materials based on religion and sains can provide motivation to the students to study harder?	4	5	80	Very valid	Not revision
8	Is the evaluation instrument used to measure the ability of students?	4	5	80	valid	Not revision

9	How is the material suitability religion and sains are presented with existing material?	5	5	100	Very valid	Not revision
10	Does the formulation of indicators presented in the teaching materials based on religion and sains in accordance with the basic competencies specified in the curriculum in 2013?	4	5	80	valid	Not revision
<b>Analysis</b>		44	50	88%	Very valid	Not revision

**Explanation:**

P : percentage sought

$\sum x$  : the total number of scores answer validator (real score)

$\sum x_i$  : the highest total number of scores answer validator (real score)

100 : constant number

$$P: \frac{\sum x}{\sum x_i} \times 100$$

$$P: \frac{44}{50} \times 100$$

$$= 88\%$$

Based on the calculation above, the observations made by the teacher expert of thematic lessons total 88% if matched with the eligibility criteria table, then the score is included in the very valid criteria.

**b. Qualitative Data**

Qualitative data validation results thematic lessons teachers can be seen in Table 4.9.



**Table 4.9**  
**Suggestions Teacher Thematic Expert of the Teaching Materials**

<b>Name</b>	<b>Criticism and suggestions</b>
Adna Arum A. S.Pd	<ul style="list-style-type: none"> <li>• Developement of teaching materials in accordance with the scope of the existing material on the curriculum 2013. The addition of material, for example symbiosis and very appropriate elaboration.</li> <li>• It should be added the problems of evaluation to measure the ability of learners.</li> </ul>

d. Revision Product

Based on the analysis performed, the revision of the product are as follows.

**Tabel 4.10**  
**Revision of Teaching Material Based on Teacher Thematic Expert**

<b>No.</b>	<b>Point</b>	<b>after revision</b>	<b>after revision</b>
1.	It should be added the problems of evaluation to measure the ability of learners.	lesson 1 1. What is rosulullah hadiths about the suggestion to love animals? 2. Why should we not kill animals?	1. Write a Qur'anic verse about the attitude of loving animals? 2. Mention 5 instances alms to friend!

		<p>lesson 2</p> <p>1. Mention 5 animal and the animal is distinguished by the type of food.!</p>	<p>1. What is meant by herbivores, carnivores and omnivores?</p> <p>2. Cat classified as carnivores, mentioned three types of animals that are often eaten!</p> <p>3. According to the type of man belonged to an omnivorous diet, explain!</p>
		<p>lesson 3</p> <p>1. What is photosynthesis?</p> <p>2. How many types of symbiosis? Identify and explain!</p>	<p>1. Write the parts of plants that are above the ground!</p> <p>2. Draw shapes of leaves and give examples each 3!</p> <p>3. What is the function the roots of the plants?</p> <p>4. Explain the meaning of the food chain!</p> <p>5. Make an example of the food chain in the pasture!</p> <p>6. What is the biotic and abiotic components?</p>

		lesson 4 1. What shall we say when seeing the beauty that God has created?	1. State the full flower section! 2. Section floral what protects when flowers are still buds?
		lesson 5 1. What is the process of capillarity?	1. Mention three examples of the process of capillarity in everyday life!
		lesson 6 1. Write arguments to explain about the benefits of plants to humans?	1. What are the benefits of plants for human life?

### C. Field Testing Results

#### 1. Results of small-scale test

Small scale test of this stage is testing about attractiveness. The small-scale test is conducted to student of MI Nurul Hikmah amounting to 6 students. 6 students is chosen from a student criteria that have the different score that the developer get from thematic teacher, they are 2 student with high score, 2 student medium score and 2 student with low score. Exposure data from the results of the assessment are as follows:

**Table 4.11**  
**Assessment-based Teaching Materials Religion and Sains Class IV**

No	Aspek Penilaian										$\Sigma N$	$\Sigma X_i$	%
	1	2	3	4	5	6	7	8	9	10			
1	3	4	4	3	3	1	1	3	4	3	29	50	58
2	5	3	2	1	5	4	3	3	4	4	34	50	68
3	3	4	4	4	3	5	5	3	3	4	38	50	76
4	2	3	4	4	3	4	4	5	3	3	35	50	70
5	4	4	5	4	4	4	3	5	5	3	41	50	82
6	4	5	3	4	4	4	5	5	3	4	41	50	82
$\Sigma N$	21	23	22	20	22	22	21	24	23	21	218	300	436
$\Sigma X_i$	30	30	30	30	30	30	30	30	30	30	300	300	6
%	70	77	73	67	73	73	70	80	77	70	730	100	73

**Explanation:**

1. Thematic teaching material based on religion and sains can facilitate learning.
2. Attractiveness of the existing image on teaching materials.
3. Compliance with picture material on teaching materials.
4. Compliance typeface and font size on teaching materials.
5. The material on teaching materials easy to understand.
6. Compliance practice questions with the content of the materials on teaching materials.
7. The language used in teaching materials easy to understand.
8. Attractiveness of the teaching materials to be studied.
9. The teaching materials can increase the motivation to learn.
10. The use Thematic teaching material based on religion and sains can give encouragement in learning.

**Responden:**

1. Eliya Masruroh student of class IV MI Nurul Hikmah Kedungkandang Malang
2. Hanin student of class IV MI Nurul Hikmah Kedungkandang Malang
3. Siti Aisyah student of class IV MI Nurul Hikmah Kedungkandang Malang
4. Mutiatul Hasanah student of class IV MI Nurul Hikmah Kedungkandang Malang
5. Novita Sari M student of class IV MI Nurul Hikmah Kedungkandang Malang
6. Riham Khazim student of class IV MI Nurul Hikmah Kedungkandang Malang



Here is the percentage level of achievement of the attractiveness of the material by using the questionnaire:

**Explanation:**

P :Persentase tingkat pencapaian

$\sum x$  : the total number of responden answer

$\sum x_1$  : the highest total number of responden answer

100 : constant number

$$P: \frac{\sum x}{\sum x_1} \times 100$$

$$P: \frac{218}{300} \times 100 \\ = 73\%$$

Based on the calculations above it can be concluded that the assessment questionnaire based on field tests class IV MI Nurul Hikmah Kedungkandang Malang total 73%. If matched with the eligibility criteria table, then the score is included in the criteria is attractive. It can be concluded that the teaching material that has been developed is interesting to learn.

## 2. Field Testing

### a. Attractiveness

Field testing of this stage is testing about attractiveness of the teaching materials based on religion and sains obtained from the score that has been filled by the object of study, namely grade IV MI Nurul Hikmah Kedungkandang Malang, amounting to 24 students.

Exposure data from the results of the assessment are as follows:

**Table 4.12**  
**Assessment-based Teaching Materials Religion and Sains Class IV**

No	Aspects of Assessment										$\Sigma N$	$\Sigma X_i$	%
	1	2	3	4	5	6	7	8	9	10			
1	5	5	4	4	5	5	4	4	4	5	45	50	90
2	4	4	4	5	5	5	3	4	4	5	43	50	86
3	5	5	5	4	4	4	5	5	4	5	46	50	92
4	5	5	5	4	5	5	4	5	5	5	48	50	96
5	3	5	1	5	4	5	3	4	2	1	33	50	66
6	3	5	5	5	5	5	4	4	4	4	44	50	88
7	4	5	4	4	4	5	5	4	5	5	45	50	90
8	4	4	4	5	5	5	4	4	4	5	44	50	88

9	5	4	3	2	1	5	5	5	4	3	<b>37</b>	<b>50</b>	<b>74</b>
10	4	4	3	4	4	5	5	5	4	4	<b>42</b>	<b>50</b>	<b>84</b>
11	4	5	4	4	5	5	4	4	5	5	<b>45</b>	<b>50</b>	<b>90</b>
12	4	4	5	5	5	4	5	5	5	5	<b>47</b>	<b>50</b>	<b>94</b>
13	5	1	5	5	4	5	4	4	4	5	<b>42</b>	<b>50</b>	<b>84</b>
14	3	5	1	5	4	5	1	2	3	5	<b>34</b>	<b>50</b>	<b>68</b>
15	5	5	5	5	4	4	4	3	5	5	<b>45</b>	<b>50</b>	<b>90</b>
16	5	4	3	5	4	4	4	4	4	4	<b>41</b>	<b>50</b>	<b>82</b>
17	5	5	4	4	4	5	5	5	4	4	<b>45</b>	<b>50</b>	<b>90</b>
18	4	4	4	5	5	5	5	5	5	4	<b>46</b>	<b>50</b>	<b>92</b>
19	4	5	4	5	3	5	5	4	5	5	<b>45</b>	<b>50</b>	<b>90</b>
20	3	3	5	2	1	5	4	1	3	5	<b>32</b>	<b>50</b>	<b>64</b>
21	4	4	5	5	5	4	4	5	4	5	<b>45</b>	<b>50</b>	<b>90</b>
22	5	5	5	5	5	5	5	5	5	5	<b>50</b>	<b>50</b>	<b>100</b>

23	3	4	3	4	5	1	3	1	2	3	29	50	58
24	4	4	4	3	5	5	5	5	5	5	45	50	90
$\Sigma N$	100	104	95	104	101	111	100	97	99	107	1018	1200	2036
$\Sigma X_i$	120	120	120	120	120	120	120	120	120	120	1200	1200	24
%	83,3	87	79,1	87	84,1	92,5	83,3	81	82,5	89,1	848,8	100	85

**Explanation:**

1. Thematic teaching material based on religion and sains can facilitate learning.
2. Attractiveness of the existing image on teaching materials.
3. Compliance with picture material on teaching materials.
4. Compliance typeface and font size on teaching materials.
5. The material on teaching materials easy to understand.
6. Compliance practice questions with the content of the materials on teaching materials.
7. The language used in teaching materials easy to understand.

8. Attractiveness of the teaching materials to be studied.
9. The teaching materials can increase the motivation to learn.
10. The use Thematic teaching material based on religion and sains can give encouragement in learning.

**Responden:**

1. Afif Mahbubi student of class IV MI Nurul Hikmah Kedungkandang Malang
2. Ainun Marsuki student of class IV MI Nurul Hikmah Kedungkandang Malang
3. Alfina Amaliatul K student of class IV MI Nurul Hikmah Kedungkandang Malang
4. Auliya Ayu Winda student of class IV MI Nurul Hikmah Kedungkandang Malang
5. Dicky Saputra student of class IV MI Nurul Hikmah Kedungkandang Malang
6. Efendi Khoiri student of class IV MI Nurul Hikmah Kedungkandang Malang
7. Elya Masruroh student of class IV MI Nurul Hikmah Kedungkandang Malang
8. Fitrotin Hariani student of class IV MI Nurul Hikmah Kedungkandang Malang
9. Hanien Arif student of class IV MI Nurul Hikmah Kedungkandang Malang



10. Ida Rahma Eka student of class IV MI Nurul Hikmah Kedungkandang Malang
11. Ismawati student of class IV MI Nurul Hikmah Kedungkandang Malang
12. Karen Imaniani student of class IV MI Nurul Hikmah Kedungkandang Malang
13. Khoirul Umam F student of class IV MI Nurul Hikmah Kedungkandang Malang
14. Muh. Abdul Aziz student of class IV MI Nurul Hikmah Kedungkandang Malang
15. Mutiatul Hasanah student of class IV MI Nurul Hikmah Kedungkandang Malang
16. Novita Sari Marsya student of class IV MI Nurul Hikmah Kedungkandang Malang
17. Nur Jannatin Arifah student of class IV MI Nurul Hikmah Kedungkandang Malang
18. Nur Maulidun Niam student of class IV MI Nurul Hikmah Kedungkandang Malang
19. Riham Khazim student of class IV MI Nurul Hikmah Kedungkandang Malang
20. Sendy Saputra student of class IV MI Nurul Hikmah Kedungkandang Malang
21. Siti Aisyah student of class IV MI Nurul Hikmah Kedungkandang Malang
22. Siti Nurul Hikmah student of class IV MI Nurul Hikmah Kedungkandang Malang
23. Yusril Maulana MH student of class IV MI Nurul Hikmah Kedungkandang Malang
24. Zahrotul Fadhillah student of class IV MI Nurul Hikmah Kedungkandang Malang

Here is the percentage level of achievement of the attractiveness of the material by using the questionnaire:

**Explanation:**

P :Persentase tingkat pencapaian

$\sum x$  : the total number of responden answer

$\sum x_1$  : the highest total number of responden answer

100 : constant number

$$P: \frac{\sum x}{\sum xi} \times 100$$

$$P: \frac{1018}{1200} \times 100$$

$$= 85$$

Based on the calculations above it can be concluded that the assessment questionnaire based on field tests class IV MI Nurul Hikmah Kedungkandang Malang total 85%. If matched with the eligibility criteria table, then the score is included in the criteria is very interesting. It can be concluded that the teaching material that has been developed is very interesting to learn.

b. Effectiveness

Field testing of this stage is testing about effectiveness of teaching materials that have been developed can be seen from the acquisition score of pretest and posttest. Pretest and posttest data presentation obtained from class IV Mi Nurul Hikmah Kedungkandang in field testing, presented in the table below:

**Table 4.13**  
**Results Assessment of Field Test *Pretest* and *Posttest***

No	Name	Score		Minimum Criteria	Descriptions	
		<i>Pretest</i>	<i>Posttest</i>		Passed	Not Passed
1	Afif Mahbubi	44	48	75		✓
2	Ainun Marsuki	76	80	75	✓	
3	Alfina Amaliatul Kh	48	60	75		✓

4	Auliya Ayu Winda	48	76	75	✓	
5	Dicky Saputra	48	52	75		✓
6	Efendi Khoiri	68	80	75	✓	
7	Elya Masruroh	44	52	75		✓
8	Fitrotin Hariani	52	60	75		✓
9	Hanien Arif Al Maduri	76	84	75	✓	
10	Ida Rahma Eka Putri	80	80	75	✓	
11	Ismawati	48	80	75	✓	
12	Karen Imaniani Izzah	88	88	75	✓	
13	Khoirul Umam F	72	80	75	✓	
14	Muh. Abdul Aziz	52	60	75		✓
15	Mutiatul Hasanah	72	80	75	✓	
16	Novita Sari Marsya	76	84	75	✓	
17	Nur Jannatin Arifah	76	80	75	✓	
18	Nur Maulidun Niam	44	60	75		✓
19	Riham Khazim	80	92	75	✓	
20	Sendy Saputra	48	72	75		✓
21	Siti Aisyah El Bahrofah	68	68	75		✓
22	Siti Nurul Hikmah	72	88	75	✓	
23	Yusril Maulana MH	52	92	75	✓	
24	Zahrotul Fadhillah	56	60	75		✓
<b>Total</b>		<b>1488</b>	<b>1756</b>	<b>1800</b>		
<b>Average</b>		<b>62</b>	<b>73</b>	<b>75</b>		

The students who are not passed in learning:

$$P = \frac{\sum x}{\sum xi} \times 100$$

$$P = \frac{10}{24} \times 100$$

$$P = 42\%$$

The students who are passed in learning:

$$P = \frac{\sum x}{\sum xi} \times 100$$

$$P = \frac{14}{24} \times 100$$

$$P = 58,3\%$$

So, according to the standardize of learning at school that he student should be reach the value in 75 so that the learning is effective. From the table above, all of the student are no reach the standardize yet in pretest. In other said, all the students still in under of the standardize. But in posttest 14 from the 10 students have reached the standardize of learning. So the level of achievement that passed is reached in 58,3%, it means that the learning by using the thematic teaching material based on religious and sains is effective.

Based on the explanation data above, it can be seen the average score of each test, the average score for the pretest of 62, while the average score of posttest of 73. The average posttest score obtained by the students is higher than pretest

score by a margin of 11. This shows that the students have increased the score or the learning outcomes after using the IPA thematic teaching materials based on religion and sains. Based on these data it can be said that the IPA thematic teaching materials based on religion and sains because it can be used effectively to improve student learning outcomes.

Pretest and posttest data were analyzed using two-sample t-test (Paired T Test) with significance level of 0.05. Technical analysis is used to determine whether there is a treatment that is imposed on the object. The steps for analyzing the t-test is as follows:

**Step 1:** Make  $H_a$  and  $H_o$  in the form of sentences

**$H_a$**  – There are differences in student learning outcomes between before and after using IPA thematic teaching materials based on religion and sains on the subject of animals and plants in my home environment.

**$H_o$**  – There are no differences in student learning outcomes between before and after using IPA thematic teaching materials based on religion and sains on the subject of animals and plants in my home environment.

**Step 2:** Looking for  $T_{\text{count}}$  with the following formula::

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



**Explanation:**

T : t-test

D : Different ( $X_2 - X_1$ ) $d^2$  : Variance

N : Total sample

**Step 3:** Determining the t-test criteria

- If  $T_{\text{count}}$  smaller than the  $T_{\text{table}}$  significantly,  $H_0$  accepted and  $H_a$  rejected
- If  $T_{\text{count}}$  greater than the  $T_{\text{table}}$  significantly,  $H_0$  is rejected and  $H_a$  accepted.

**Step 4:** determining the statistical results on the pretest and posttest with the t-test formula.

**Table 4.14**  
Results Assessment of Field Test *Pretest* and *Posttest* with t-test formula

No	Name	Score		d= ( $x_2 - x_1$ )	$d^2$
		<i>Pretest</i>	<i>Posttest</i>		
1	Afif Mahbubi	44	48	4	16
2	Ainun Marsuki	76	80	4	16
3	Alfina Amaliatul Kh	48	60	12	144
4	Auliya Ayu Winda	48	76	28	784
5	Dicky Saputra	48	52	4	16
6	Efendi Khoiri	68	80	12	144
7	Elya Masruroh	44	52	8	64
8	Fitrotin Hariani	52	60	8	64

<b>9</b>	Hanien Arif Al Maduri	76	84	<b>8</b>	<b>64</b>
<b>10</b>	Ida Rahma Eka Putri	80	80	<b>0</b>	<b>0</b>
<b>11</b>	Ismawati	48	80	<b>32</b>	<b>1024</b>
<b>12</b>	Karen Imaniani Izzah	88	88	<b>0</b>	<b>0</b>
<b>13</b>	Khoirul Umam F	72	80	<b>8</b>	<b>64</b>
<b>14</b>	Muh. Abdul Aziz	52	60	<b>8</b>	<b>64</b>
<b>15</b>	Mutiatul Hasanah	72	80	<b>8</b>	<b>64</b>
<b>16</b>	Novita Sari Marsya	76	84	<b>8</b>	<b>64</b>
<b>17</b>	Nur Jannatin Arifah	76	80	<b>4</b>	<b>16</b>
<b>18</b>	Nur Maulidun Niam	44	60	<b>16</b>	<b>256</b>
<b>19</b>	Riham Khazim	80	92	<b>12</b>	<b>144</b>
<b>20</b>	Sendy Saputra	48	72	<b>24</b>	<b>576</b>
<b>21</b>	Siti Aisyah El Bahrofah	68	68	<b>0</b>	<b>0</b>
<b>22</b>	Siti Nurul Hikmah	72	88	<b>16</b>	<b>256</b>
<b>23</b>	Yusril Maulana MH	52	92	<b>40</b>	<b>1600</b>
<b>24</b>	Zahrotul Fadhillah	56	60	<b>4</b>	<b>16</b>
<b>Total</b>		<b>1488</b>	<b>1756</b>	<b>268</b>	<b>5456</b>

Here are the results of pretest and posttest formula with the t-test formula:

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

$$t = \frac{11}{\sqrt{\frac{5456}{24(24-1)}}}$$

$$t = \frac{11}{\sqrt{\frac{5456}{552}}}$$

$$t = \frac{11}{\sqrt{9,9}}$$

$$t = \frac{11}{3,14}$$

$$= 3,5$$

**Step 5:** comparing  $t_{\text{count}}$  with  $t_{\text{table}}$

By measuring the level of specification ( $\alpha$ ) of 0.05 and the number of respondents is 24 it can be seen  $t_{\text{table}}$  is 1,711

$$T_{\text{count}} = 3,5$$

$$T_{\text{table}} = 1,711$$

$$T_{\text{count}} > T_{\text{table}} \text{ is } 3,5 > 1,711$$

**Step 6: conclusion**

From the above calculation shows that  $t_{\text{count}} > t_{\text{table}}$  is  $3,5 > 1,711$

Then the conclusion  $H_0$  rejected and  $H_a$  accepted, because there are significant differences between student learning outcomes before and after using the IPA thematic teaching materials based on religion and sains on the subject of animals and plants in my home environment. This shows that the teaching materials developed can effectively improve student learning.



## CHAPTER V

### DISCUSSION

This chapter describes the discussion. The discussion in this development is divided into four main ideas include: (a) analysis development of teaching materials, (b) analysis of the results of validation expert the development of teaching materials, (c) analysis of field testing

#### **A. Analysis Development of Thematic Teaching Material Based Religious and Sains**

Development of teaching materials based on religion and sains is based on the fact that the unavailability of teaching materials that have thematic learning specifications based on religion and sains. Thus the result of the development is intended to meet the availability of teaching materials that can improve the understanding of the religion and deepening in the field of sains in thematic teaching material.

Procedure development of teaching materials according Borg and Gall<sup>51</sup> is ten step, but researcher explains four developmnet steps including:

1. Step of pre-development by conducting a needs assessment and curriculum analysis.
2. Step of development by conducting the preparation of teaching materials.
3. Step of testing by conducting validation expert and thematic teachers.

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<sup>51</sup> Borg, walter R, *Educational Research an Introduction*, (Longman: The Book Press, 1979), hlm. 624



4. Step of revision products to enhance teaching materials. If a valid teaching materials already said the researchers do not need to do a revision and the product is ready to be implemented.

Product development of teaching materials has been carried out by an assessment of expert materials, design experts, teachers and students of class IV thematic MI Nurul Hikmah Malang as users of the development product. Aspects assessed in doing revision includes the elements of the feasibility of the components, the accuracy of the content, effectiveness and attractiveness of learning. The results of the responses of the experts would be a material improvement of product development prior to field testing.

Results of the development of teaching materials in the form of textbooks students with subject of *Animals and Plants in My home environment* class IV with the integration of religion and sains. Development of IPA thematic materials based on religion and sains are intended to help students understanding the thematic material with the deepening understanding of religion and sains so students can cultivate virtuous character and knowledgeable.

With regard to the problems faced by the unavailability of teaching materials based on religion and sains, so that the development can be utilized as an alternative teaching materials.

## B. Analysis of the Results of Validation Expert the Development of Thematic Teaching Materials Based Religious and Sains

Results of the validation some of the subject has been conserved on a percentage scale based on the level of validity as well as guidelines for revising the teaching materials developed with the level of achievement as follows:

**Tabel 5.1 Persentase Qualification Level Eligibility Based on Percentage**

Percentage (%)	Level of Validity	Remarks
85-100	Very valid	Not revised
69-84	Valid	Not revised
53-68	enough valid	Partially revised
37-52	Less valid	Revision
21-36	Very less valid	Revision total

### 1. Analysis of Results Validation Content Expert

Exposure data validation results content experts on teaching materials based on religion and sains.

- a. The level of relevance of teaching materials with core competence and basic competences applicable to the assessment obtained percentage 80% it indicate that the relevance of teaching materials and core competence and basic competence is relevance

- b. The suitability of the material with the images presented on the teaching materials acquired with the percentage 40% it indicates that the material and images contained in the instructional materials is less suitable.
- c. The suitability with the learning content curriculum teaching material obtained in 2013 on the assessment percentage 80% it indicates that the content of the learning materials to the curriculum in 2013 is suitable.
- d. Exactness of learning systematic description of the contents of the teaching material is obtained with a percentage 60% this it indicates that the systematic description of the learning content is enough exactness.
- e. The suitability of the material development with themes presented in teaching materials obtained with a percentage 80% this indicates that the material development with the theme is suitable.
- f. The suitability of the language difficulty level is used by the student's level of understanding obtained with a percentage 100% this indicates that the language difficulty level is used by the student's level of understanding is very suitable.
- g. The use of teaching materials can provide motivation to the students obtained ratings with percentage 80% this indicates that by using teaching materials give motivation to the students to learn.
- h. The suitability evaluation instruments to measure the ability of students to use the teaching materials acquired with the percentage 80% this indicates that the evaluation instrument to measure the ability of students to use the teaching material is suitable.

- i. The suitability religion and sains materials presented on the teaching materials acquired with the percentage 100% this indicates that religion and sains materials presented on the teaching materials is very suitable.
- j. The suitability formulation of indicators with basic competencies defined by the percentage 80% this indicates that the formulation of the indicator with the basic competencies is suitable.

From the expert content assessment can be calculated percentage of the level of validity of teaching materials as follows:

$$P : \frac{\sum x}{\sum xi} \times 100$$

$$P : \frac{39}{50} \times 100$$

$$= 78\%$$

## 2. Analysis of Results Validation Design Expert

Exposure data from validation of the design expert of teaching materials based on religion and sains are as follows:

- a. The attractiveness of the design cover in teaching materials based on religion and sains assessment obtained with a percentage 80%. This indicates that cover the teaching materials is attractive.
- b. The suitability picture on the cover with material on teaching materials acquired with a percentage 100%. This indicates that cover the material in a very appropriate teaching materials.

- c. The suitability chapter with the election of the opening image obtained with a percentage of 80%. This indicates of the chapter with the opening chapter is appropriate image selection.
- d. The suitability of the concept map design with assessment obtained material with a percentage 80%. This indicates that the design concept map with the appropriate materials.
- e. The suitability typeface in teaching materials class IV obtained with a percentage 80%. This indicates that type letters in teaching materials class IV accordingly.
- f. The suitability layout typing on teaching materials acquired with a percentage 80%. This indicates that the layout of typing in the appropriate teaching materials.
- g. The suitability font size on the teaching materials acquired with the assessment presentase 100%. This shows that the size of the letters on the teaching materials very appropriate.
- h. The accuracy of the placement of the image on the material in the teaching materials acquired with a percentage of 80%. This suggests that the placement of the image on the material in the proper teaching materials.
- i. The attractiveness of the images on teaching materials acquired with a percentage 80%. This indicates that the image on interesting teaching materials.



- j. The accuracy of the use of space and typing the title of the material obtained percentage 80%. This indicates that using of space and typing the title material.

$$P : \frac{\sum x}{\sum xi} \times 100$$

$$P : \frac{42}{50} \times 100$$

$$= 84\%$$

### 3. Analysis of Results Validation of thematic teaching materials

Exposure data validation results content experts on teaching materials based on religion and sains.

- a. The level of relevance of teaching materials with core competence and basic competences applicable to the assessment obtained percentage 80% it indicate that the relevance of teaching materials and core competence and basic competence is relevance
- b. The suitability of the material with the images presented on the teaching materials acquired with the percentage 80% it indicates that the material and images contained in the instructional materials is suitable.
- c. The suitability with the learning content curriculum teaching material obtained in 2013 on the assessment percentage 100% it indicates that the content of the learning materials to the curriculum in 2013 is very suitable.

- d. Exactness of learning systematic description of the contents of the teaching material is obtained with a percentage 100% this it indicates that the systematic description of the learning content is very exactness.
- e. The suitability of the material development with themes presented in teaching materials obtained with a percentage 100% this indicates that the material development with the theme is very suitable.
- f. The suitability of the language difficulty level is used by the student's level of understanding obtained with a percentage 80% this indicates that the language difficulty level is used by the student's level of understanding is suitable.
- g. The use of teaching materials can provide motivation to the students obtained ratings with percentage 80% this indicates that by using teaching materials give motivation to the students to learn.
- h. The suitability evaluation instruments to measure the ability of students to use the teaching materials acquired with the percentage 80% this indicates that the evaluation instrument to measure the ability of students to use the teaching material is suitable.
- i. The suitability religion and sains materials presented on the teaching materials acquired with the percentage 100% this indicates that religion and sains materials presented on the teaching materials is very suitable.
- j. The suitability formulation of indicators with basic competencies defined by the percentage 80% this indicates that the formulation of the indicator with the basic competencies is suitable.

From the expert of thematic teaching material can be calculated percentage of the level of validity of teaching materials as follows:

$$P : \frac{\sum x}{\sum xi} \times 100$$

$$P : \frac{44}{50} \times 100$$

$$= 88\%$$

### C. Analysis of Field Testing

Teaching materials is a set of materials arranged systematically and attractive which is used as a study guide as a reference for students or teachers to teach the material to students.<sup>52</sup> The attractiveness development of teaching material measured with analysis of field with the result are:

#### 1. Results of small-scale test

Results of the assessment field testing on each component can be interpreted as follows:

- 1) The using of teaching materials to facilitate the assessment of learning obtained with a percentage 70%. This indicates that the teaching material is helpfull of students learning.
- 2) The attractiveness of the images on teaching materials with the percentage 77%. This indicates that the image on the teaching materials is interesting.

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<sup>52</sup> Abdul Majid, *Perencanaan Pembelajaran* (Bandung: PT. Remaja Rosdakarya, 2007), hlm. 173-174

- 3) The suitability of assessment material with the image obtained with a percentage of 73%. This indicates that the material with the appropriate images on teaching materials.
- 4) The suitability typeface and font size are used mainly in the teaching materials acquired with the percentage of 67%. This indicates that the typeface and size is enough appropriate.
- 5) The ease of using the teaching materials acquired with the assessment percentage 73%. This indicates that the teaching material is easy to understand.
- 6) The suitability practice questions with the content material on assessment of teaching materials percentage 73%. This suggests that the practice questions with the content material appropriate teaching materials.
- 7) The exactness language used in teaching materials percentage 70%. This indicates that the language used in teaching material is appropriate.
- 8) The attractiveness of the using teaching materials obtained 80%. This indicates that using of teaching materials is interesting.
- 9) The use of teaching materials to motivate learning percentage 77%. This indicates that teaching materials can motivate students to learn.
- 10) The clarity of the material in the teaching materials acquired with the percentage of 70%. This indicates that the teaching material is clear to be studied.

$$P: \frac{\sum x}{\sum xi} \times 100$$

$$P: \frac{218}{300} \times 100$$

$$= 73\%$$

Based on the results of the field test results obtained percentage of 73%. The percentage achievement arriving valid qualification. Assessment results in field tests indicated the attractiveness development of teaching materials for students class IV SD / MI so the teaching material is feasible and can be used in learning activities

## 2. Field Testing

### a. Attractivene

Results of the assessment field testing on each component can be interpreted as follows:

- 1) The using of teaching materials to facilitate the assessment of learning obtained with a percentage 83,3%. This indicates that the teaching material is helpfull of students learning.
- 2) The attractiveness of the images on teaching materials with the percentage 87%. This indicates that the image on the teaching materials is very interesting.



- 3) The suitability of assessment material with the image obtained with a percentage of 79,1%. This indicates that the material with the appropriate images on teaching materials.
- 4) The suitability typeface and font size are used mainly in the teaching materials acquired with the percentage of 87%. This indicates that the typeface and size is very appropriate.
- 5) The ease of using the teaching materials acquired with the assessment percentage 84,1%. This indicates that the teaching material is easy to understand.
- 6) The suitability practice questions with the content material on assessment of teaching materials percentage 92,5%. This suggests that the practice questions with the content material on a very appropriate teaching materials.
- 7) The exactness language used in teaching materials percentage 83,3%. This indicates that the language used in teaching material is appropriate.
- 8) The attractiveness of the using teaching materials obtained 81%. This indicates that using of teaching materials is interesting.
- 9) The use of teaching materials to motivate learning percentage 82,5%. This indicates that teaching materials can motivate students to learn.
- 10) The clarity of the material in the teaching materials acquired with the percentage of 89,1%. This indicates that the teaching material is very clear to be studied.

$$P : \frac{\sum x}{\sum xi} \times 100$$

$$P : \frac{1018}{1200} \times 100$$

$$= 85\%$$

Based on the results of the field test results obtained percentage of 85%. The percentage achievement arriving very valid qualification. Assessment results in field tests indicated the attractiveness development of teaching materials for students class IV SD / MI so the teaching material is feasible and can be used in learning activities.

b. Effectiveness

The effectiveness of teaching materials that have been developed can be seen from the acquisition score of pretest and posttest. The testing will be presented in the following table:

**Table 5.2 Results Assessment of Field Testing on the *pretest* and *posttest***

No	Name	Value		Minimun Criteria	Descriptions	
		<i>Pretest</i>	<i>Posttest</i>		Passed	Not Passed
1	Afif Mahbubi	44	48	75		✓
2	Ainun Marsuki	76	80	75	✓	
3	Alfina Amaliatul Kh	48	60	75		✓
4	Auliya Ayu Winda	48	76	75	✓	
5	Dicky Saputra	48	52	75		✓
6	Efendi Khoiri	68	80	75	✓	
7	Elya Masruroh	44	52	75		✓

8	Fitrotin Hariani	52	60	75		✓
9	Hanien Arif Al Maduri	76	84	75	✓	
10	Ida Rahma Eka Putri	80	80	75	✓	
11	Ismawati	48	80	75	✓	
12	Karen Imaniani Izzah	88	88	75	✓	
13	Khoirul Umam F	72	80	75	✓	
14	Muh. Abdul Aziz	52	60	75		✓
15	Mutiatul Hasanah	72	80	75	✓	
16	Novita Sari Marsya	76	84	75	✓	
17	Nur Jannatin Arifah	76	80	75	✓	
18	Nur Maulidun Niam	44	60	75		✓
19	Riham Khazim	80	92	75	✓	
20	Sendy Saputra	48	72	75		✓
21	Siti Aisyah El Bahrofah	68	68	75		✓
22	Siti Nurul Hikmah	72	88	75	✓	
23	Yusril Maulana MH	52	92	75	✓	
24	Zahrotul Fadhilah	56	60	75		✓
<b>Total</b>		<b>1488</b>	<b>1756</b>	<b>1800</b>		
<b>Average</b>		<b>62</b>	<b>73</b>	<b>75</b>		

According to the standardize of learning at school that he student should be reach the value in 75 so that the learning is effective. From the table above, all of the student are no reach the standardize yet in pretest. In other said, all

the students still in under of the standardize and in posttest 14 from the 24 students have reached the standardize of learning in other said is passed. So the level of students achievement who not passed is reached in 42% and in passed is reached in 58,3%, it means that the learning by using the thematic teaching material based religious and sains is effective.

Stating that the results of the pretest total is 1488 with an average 62 and posttest total is 1756 with an average 73. From these results it can be proven that greater posttest with difference 11, states that effective teaching materials. Data pretest and posttest value then analyzed by two-sample t-test (Paired T Test) with significance level of 0,05. Technical analysis is used to determine whether there is a treatment that is imposed on the research object. In the table below:

**Table 5.3**  
**Results Assessment of Field Testing pretest and posttest with t-test formula**

No	Name	Value		d= ( $x_2 - x_1$ )	d <sup>2</sup>
		Pretest	Posttest		
1	Afif Mahbubi	44	48	4	16
2	Ainun Marsuki	76	80	4	16
3	Alfina Amaliatul Kh	48	60	12	144
4	Auliya Ayu Winda	48	76	28	784
5	Dicky Saputra	48	52	4	16
6	Efendi Khoiri	68	80	12	144
7	Elya Masruroh	44	52	8	64

<b>8</b>	Fitrotin Hariani	52	60	<b>8</b>	<b>64</b>
<b>9</b>	Hanien Arif Al Maduri	76	84	<b>8</b>	<b>64</b>
<b>10</b>	Ida Rahma Eka Putri	80	80	<b>0</b>	<b>0</b>
<b>11</b>	Ismawati	48	80	<b>32</b>	<b>1024</b>
<b>12</b>	Karen Imaniani Izzah	88	88	<b>0</b>	<b>0</b>
<b>13</b>	Khoirul Umam F	72	80	<b>8</b>	<b>64</b>
<b>14</b>	Muh. Abdul Aziz	52	60	<b>8</b>	<b>64</b>
<b>15</b>	Mutiatul Hasanah	72	80	<b>8</b>	<b>64</b>
<b>16</b>	Novita Sari Marsya	76	84	<b>8</b>	<b>64</b>
<b>17</b>	Nur Jannatin Arifah	76	80	<b>4</b>	<b>16</b>
<b>18</b>	Nur Maulidun Niam	44	60	<b>16</b>	<b>256</b>
<b>19</b>	Riham Khazim	80	92	<b>12</b>	<b>144</b>
<b>20</b>	Sendy Saputra	48	72	<b>24</b>	<b>576</b>
<b>21</b>	Siti Aisyah El Bahrofah	68	68	<b>0</b>	<b>0</b>
<b>22</b>	Siti Nurul Hikmah	72	88	<b>16</b>	<b>256</b>
<b>23</b>	Yusril Maulana MH	52	92	<b>40</b>	<b>1600</b>
<b>24</b>	Zahrotul Fadhillah	56	60	<b>4</b>	<b>16</b>
<b>Total</b>		<b>1488</b>	<b>1756</b>	<b>268</b>	<b>5456</b>

$$t = \frac{D}{\sqrt{\frac{d_2}{N(N-1)}}}$$



$$t = \frac{11}{\sqrt{\frac{5456}{24(24-1)}}}$$

$$t = \frac{11}{\sqrt{\frac{5456}{552}}}$$

$$t = \frac{11}{\sqrt{9,9}}$$

$$t = \frac{11}{3,14}$$

$$= 3,5$$

Dengan mengukur taraf spesifikasi ( $\alpha$ ) 0,05 dan jumlah responden sebanyak 24 maka dapat diketahui  $t_{\text{tabel}}$  yaitu: 1,711

$$T_{\text{count}} = 3,5$$

$$T_{\text{table}} = 1,711$$

$$T_{\text{count}} > T_{\text{table}} \text{ is } 3,5 > 1,711$$

The result point that  $T_{\text{count}} = 3,5$  and  $T_{\text{table}} 1,711$ , it means that  $T_{\text{count}}$  is greater than  $T_{\text{table}}$ , then  $H_a$  accepted and  $H_o$  rejected, so that there is a significant difference between the values before and after administration of product development. This shows that the use of teaching materials based on religion and sains are effective or use in learning. This is indicated by the increase in student learning outcomes MI Nurul Hikmah Kedungkandang.

## **CHAPTER VI**

### **CONCLUSION**

In Chapter VI will be described on two things, which are (a) the conclusion of development and (b) development studies suggestions, especially about teaching materials. The suggestions outlined suggestions include using of the product and continuing development of basic advice.

#### **A. Conclusion Development Results**

The results of development product that has been revised based on the results of the validation are as follows:

1. Development of IPA thematic teaching materials based on religion and sains is based on the fact that the unavailability of thematic teaching materials that integrate religion and sains. Development of teaching materials is intended to meet the availability of teaching materials that can increase the attractiveness and effectiveness in thematic learning. So as to achieve the results set out by in the curriculum.
2. Results of the assessment development thematic teaching materials based on religion and sains have a high level of validity, based on the responses and the assessment of the validation phase content experts, design expert and teachers of thematic learning. Results obtained are as follows:
  - a. Respons content expert on the results of the development thematic of teaching materials based on religion and sains is good based on assessment of the validity 78%.

- b. Respon design expert on the results of the development thematic of teaching materials based on religion and sains good based on assessment of the validity 84%.
  - c. Respon teacher thematic learning to the results of the development thematic of teaching materials based on religion and sains is very good based on an assessment of the validity 88%.
3. The results of field testing
  - a. The attractiveness of development IPA thematic materials based on religion and sains have an attractiveness of the assessment based on the results of field test, in the fourth grade MI Nurul Hikmah Kedungkandang Malang 73%.
  - b. The effectiveness of teaching materials have been developed that is measured by using the test results of the acquisition of learning, achievement test after analysis showed:
    - 1) Average of the learning outcomes in the posttest with an average of 73 compared to pretest an average of 62, so there is an increase in the acquisition of student learning outcomes after using the product of teaching materials based on religion and sains.
    - 2) Referring to the results of the t test manual showing results that  $T_{\text{count}} = 3,5$  and  $T_{\text{table}} 1,711$ , it means that  $T_{\text{count}}$  is greater than  $T_{\text{table}}$ , then  $H_a$  accepted and  $H_o$  rejected, so that there is a significant difference between the values before and after using of product development based on religion and sains.

## **B. Suggestions**

The suggestions put forward include suggestions for the purposes of utilization and further development purposes. detailed suggestions can be explained as follows:

### **1. Suggestions for the purposes of product utilization**

To optimize the utilization of the development teaching materials based on religion and sains suggested that the development of this teaching material should be used with the guidance of the teacher, because the need for teaching materials emphases made by teachers to highlight the Islamic character by studying sains.

### **2. Suggestions for the purpose of further development**

The development of teaching materials based on religion and sains is the product of this development is limited to thema 3 sub-themes 1 theme is animals and plants in my home environmmnet, and therefore the need for further development with other themes with the appropriate approach.

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Wawancara dengan guru kelas IV yaitu bu Rahmah MI Nurul Hikmah





KEMENTERIAN AGAMA  
UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG  
**FAKULTAS ILMU TARBIYAH DAN KEGURUAN**  
Jalan Gajayana 50, Telepon (0341) 552398 Faximile (0341) 552398 Malang  
<http://tarbiyah.uin-malang.ac.id> email : [psg\\_uinmalang@yahoo.com](mailto:psg_uinmalang@yahoo.com)

Nomor : Un.3.1/TL.00.1/2014  
Sifat : Penting  
Lampiran : -  
Hal : Izin Penelitian

04 Desember 2014

Kepada  
Yth. Kepala MI Nurul Hikmah 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	: Eva Nurdiana
NIM	: 11140073
Jurusan	: Pendidikan Guru Madrasah Ibtidaiyah (PGMI)
Semester – Tahun Akademik	: Ganjil - 2014/2015
Judul Skripsi	: Pengembangan Bahan Ajar IPA Tematik Berbasis Integrasi Agama dan Sains pada Kelas IV MI Nurul Hikmah Kedungkandang Malang

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.



Tembusan :

1. Yth. Ketua Jurusan PGMI
2. Arsip



Certificate No. ID08/1219





# YAYASAN NURUL HIKMAH MI. NURUL HIKMAH

TERAKREDITASI A

Jl. Muharto VII / 41 Telp. (0341) 323656 Kota Malang

## SURAT KETERANGAN

Nomor : 117 / A.4 / MLNH / V / 2015

Yang bertanda tangan di bawah ini :

Nama : SHOLIKHIN, S.PdI  
Jabatan : Kepala Madrasah  
Instansi : MI. Nurul Hikmah  
Alamat : Jl. Muharto VII/41 Telp. 0341-323656 Malang

Menerangkan bahwa :

Nama : EVA NURDIANA  
Jabatan : Mahasiswa  
NIM : 11140073  
Jurusan : Pendidikan Guru Madrasah Ibtidaiyah (PGMI)  
Instansi : Universitas Islam Negeri Maulana Malik Ibrahim Malang

Telah mengadakan penelitian di MI. Nurul Hikmah Malang selama 5 hari, pada tanggal 4 – 9 Mei 2015 untuk Skripsi dengan Judul *Pengembangan Bahan Ajar IPA Tematik Berbasis Integrasi Agama dan Sains Kelas IV MI Nurul Hikmah Kedungkandang Malang.*

Demikian surat keterangan ini kami buat dengan sebenarnya dan dipergunakan sebagaimana mestinya.

Malang, 27 Mei 2015

Kepala MI. Nurul Hikmah



Sholikhin, S.PdI

THE STATE ISLAMIC UNIVERSITY OF MAULANA MALIK IBRAHIM  
MALANG

TARBIYAH AND TEACHING TRAINING FACULTY

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Website: [www.tarbiyah.uin-malang.ac.id](http://www.tarbiyah.uin-malang.ac.id)

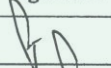


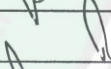

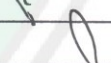
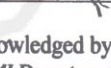

**EVIDENCE OF CONSULTATION**

Name : Eva Nurdiana

Number of Student : 11140073

Faculty/Program : FITK/ Departement of Islamic Elementary Teacher  
Education

Title of Skripsi : Development of Natural Science Thematic Materials  
Based on Religious and Sains Integrated in Fourth Grade  
MI Nurul Hikmah Kedungkandang Malang

No.	Date of Consultation	Consultation Material	Signature
1	December, 1 2014	Proposal Consultation	
2	December, 4 2014	Proposal Consultation	
3	December, 8 2014	Acc Proposal	
4	February, 11 2015	Chapter I,II,III	
5	May, 4 2015	Acc Chapter I,II,III	
6	May, 28 2015	Chapter IV, V, VI	
7	June, 11 2015	All Chapter	
8	June, 16 2015	All Chapter	

Acknowledged by,  
Head of PGMI Department



**Dr. Muhammad Walid, MA**  
**NIP. 197308232000031002**



## INSTRUMEN VALIDASI PENGEMBANGAN BAHAN AJAR IPA TEMATIK BERBASIS INTEGRASI AGAMA DAN SAINS UNTUK AHLI ISI

### A. Pengantar

Berkaitan dengan pelaksanaan kurikulum 2013 bahwasanya pada pembelajaran SD/MI menggunakan pendekatan terintegrasi yaitu dengan cara mengintegrasikan konten mata pelajaran Ilmu Pengetahuan Alam dan Ilmu Pengetahuan Sosial diintegrasikan ke dalam berbagai tema.

Buku/bahan ajar tematik kurikulum 2013 kompetensi yang berkenaan dengan sikap keagamaan dan sosial dikembangkan secara tidak langsung (*indirect teaching*) yaitu pada waktu peserta didik belajar tentang pengetahuan (Kompetensi Inti 3) dan penerapan pengetahuan (Kompetensi Inti 4). Hal ini secara jelas bahwa kompetensi pendidikan agama pada proses pembelajaran ditingkat SD/MI tersebut diajarkan secara terpisah. Maka dalam hal ini, peneliti bermaksud melakukan pengembangan bahan ajar tematik dikhususkan pada tingkat SD/MI dengan mengintegrasikan sikap keagamaan kepada kompetensi pengetahuan dan penerapan pengetahuan.

Untuk maksud di atas, peneliti mohon kesediaan Bapak/Ibu agar mengisi angket di bawah ini sebagai ahli isi. Tujuan dari pengisian angket adalah mengetahui kesesuaian pemanfaatan bahan ajar ini sebagaimana yang telah dirancang berdasarkan KI dan KD pada kurikulum 2013. Hasil pengukuran melalui angket ini akan digunakan sebagai penyempurna bahan ajar agar dapat dimanfaatkan dalam pembelajaran. Sebelumnya saya sampaikan terimakasih atas kesediaan Bapak/Ibu sebagai ahli isi.

Nama : .....

NIP : .....

Instansi : .....

Pendidikan : .....

Alamat : .....

## B. Petunjuk Pengisian Angket

1. Sebelum mengisi angket ini, mohon terlebih dahulu Bapak/Ibu membaca atau mempelajari bahan ajar yang dikembangkan.
2. Pilihlah salah satu angka pada jawaban yang sesuai dengan penilaian Bapak/Ibu anggap paling tepat.

Skala Penilaian/ Tanggapan				
1	2	3	4	5

Keterangan:

- a. Skor 1 untuk tidak sesuai, tidak relevan, tidak memotivasi, tidak mengukur kemampuan.
- b. Skor 2 untuk kurang sesuai, kurang relevan, kurang memotivasi, kurang mengukur kemampuan.
- c. Skor 3 untuk cukup sesuai, cukup relevan cukup memotivasi, cukup mengukur kemampuan.
- d. Skor 4 untuk sesuai, relevan, memotivasi, mengukur kemampuan.
- e. Skor 5 untuk sangat sesuai, sangat relevan, sangat memotivasi, sangat mengukur kemampuan.

## C. Pertanyaan- pertanyaan angket

NO	Pernyataan	Skala Penilaian				
		1	2	3	4	5
1	Bagaimana dengan tingkat relevansi pengembangan bahan ajar IPA tematik berbasis integrasi agama dan sains dengan KI dan KD?					
2	Bagaimana kesesuaian gambar dengan materi yang disajikan?					
3	Apakah isi pembelajaran dalam bahan ajar sesuai dengan Kurikulum 2013?					

4	Bagaimana sistematika uraian isi pembelajaran dalam pengembangan bahan ajar IPA tematik berbasis intregasi agama dan sains?					
5	Bagaimana ruang lingkup materi dengan tema yang disajikan dalam pengembangan bahan ajar IPA tematik berbasis intregasi agama dan sains?					
6	Bagaimana tingkat kesukaran bahasa yang digunakan sesuai dengan tingkat pemahaman siswa?					
7	Apakah materi yang disajikan melalui pengembangan bahan ajar IPA tematik berbasis intregasi agama dan sains ini dapat memberi motivasi kepada siswa agar lebih giat belajar?					
8	Apakah instrument evaluasi yang digunakan mengukur kemampuan siswa?					
9	Bagaimana kesesuaian materi agama dan sains yang disajikan dengan materi yang ada?					
10	Apakah rumusan indikator yang disajikan dalam bahan ajar IPA tematik berbasis agama dan sains sesuai dengan kompetensi dasar yang ditetapkan dalam kurikulum 2013?					

#### D. Kritik dan Saran

Malang, .....

Validator

---

NIP.



## INSTRUMEN VALIDASI PENGEMBANGAN BAHAN AJAR IPA TEMATIK BERBASIS INTEGRASI AGAMA DAN SAINS UNTUK AHLI DESAIN

### A. Pengantar

Berkaitan dengan pelaksanaan kurikulum 2013 bahwasanya pada pembelajaran SD/MI menggunakan pendekatan terintegrasi yaitu dengan cara mengintegrasikan konten mata pelajaran Ilmu Pengetahuan Alam dan Ilmu Pengetahuan Sosial diintegrasikan ke dalam berbagai tema.

Buku/bahan ajar tematik kurikulum 2013 kompetensi yang berkenaan dengan sikap keagamaan dan sosial dikembangkan secara tidak langsung (*indirect teaching*) yaitu pada waktu peserta didik belajar tentang pengetahuan (Kompetensi Inti 3) dan penerapan pengetahuan (Kompetensi Inti 4). Hal ini secara jelas bahwa kompetensi pendidikan agama pada proses pembelajaran ditingkat SD/MI tersebut diajarkan secara terpisah. Maka dalam hal ini, peneliti bermaksud melakukan pengembangan bahan ajar tematik dikhususkan pada tingkat SD/MI dengan mengintegrasikan sikap keagamaan kepada kompetensi pengetahuan dan penerapan pengetahuan.

Untuk maksud di atas, peneliti mohon kesediaan Bapak/Ibu agar mengisi angket di bawah ini sebagai ahli desain. Tujuan dari pengisian angket adalah mengetahui kesesuaian pemanfaatan bahan ajar ini sebagaimana yang telah dirancang berdasarkan KI dan KD pada kurikulum 2013. Hasil pengukuran melalui angket ini akan digunakan sebagai penyempurna bahan ajar agar dapat dimanfaatkan dalam pembelajaran. Sebelumnya saya sampaikan terimakasih atas kesediaan Bapak/Ibu sebagai ahli desain.

Nama : .....

NIP : .....

Instansi : .....

Pendidikan : .....

Alamat : .....



## B. Petunjuk pengisian angket

1. Sebelum mengisi angket ini, mohon terlebih dahulu Bapak/Ibu membaca atau mempelajari bahan ajar yang dikembangkan.
2. Pilihlah salah satu angka pada jawaban yang sesuai dengan penilaian Bapak/Ibu anggap paling tepat.

Skala Penilaian/Tanggapan				
1	2	3	4	5

Keterangan:

- a. Skor 1 untuk tidak sesuai, tidak tepat, tidak menarik.
- b. Skor 2 untuk kurang sesuai, kurang tepat, kurang menarik.
- c. Skor 3 untuk cukup sesuai, cukup tepat, cukup menarik.
- d. Skor 4 untuk sesuai, tepat, menarik.
- e. Skor 5 untuk sangat sesuai, sangat

## C. Pernyataan-pernyataan Angket

NO	Pernyataan	Skala Penilaian				
		1	2	3	4	5
1	Bagaimana kemenarikan pengemasan desain cover bahan ajar IPA tematik berbasis integrasi agama dan sains?					
2	Bagaimana kesesuaian gambar pada cover dengan materi pada bahan ajar IPA tematik berbasis integrasi agama dan sains?					
3	Bagaimana kesesuaian judul bab dengan pemilihan gambar pembuka bab dalam bahan ajar IPA tematik berbasis integrasi agama dan sains?					
4	Bagaimana desain peta konsep pada bahan ajar IPA tematik berbasis integrasi agama dan sains?					

5	Apakah jenis huruf yang digunakan sesuai dengan siswa kelas IV SD/MI?					
6	Bagaimana layout pengetikan pada bahan ajar IPA tematik berbasis integrasi agama dan sains?					
7	Bagaimana kesesuaian ukuran huruf yang digunakan dengan siswa kelas IV SD/MI?					
8	Bagaimana ketepatan penempatan gambar pada setiap materi dalam bahan ajar IPA tematik berbasis integrasi agama dan sains?					
9	Apakah gambar dalam bahan ajar menarik siswa dalam belajar?					
10	Bagaimana penggunaan spasi judul dan pengetikan materi?					

#### D. Kritik dan Saran

Malang .....  
Validator

\_\_\_\_\_  
NIP.



# INSTRUMEN VALIDASI PENGEMBANGAN BAHAN AJAR IPA TEMATIK BERBASIS INTEGRASI AGAMA DAN SAINS GURU PEMBELAJARAN TEMATIK KELAS IV

## A. Pengantar

Berkaitan dengan pelaksanaan kurikulum 2013 bahwasanya pada pembelajaran SD/MI menggunakan pendekatan terintegrasi yaitu dengan cara mengintegrasikan konten mata pelajaran Ilmu Pengetahuan Alam dan Ilmu Pengetahuan Sosial diintegrasikan ke dalam berbagai tema.

Buku/bahan ajar tematik kurikulum 2013 kompetensi yang berkenaan dengan sikap keagamaan dan sosial dikembangkan secara tidak langsung (*indirect teaching*) yaitu pada waktu peserta didik belajar tentang pengetahuan (Kompetensi Inti 3) dan penerapan pengetahuan (Kompetensi Inti 4). Hal ini secara jelas bahwa kompetensi pendidikan agama pada proses pembelajaran ditingkat SD/MI tersebut diajarkan secara terpisah. Maka dalam hal ini, peneliti bermaksud melakukan pengembangan bahan ajar tematik dikhususkan pada tingkat SD/MI dengan mengintegrasikan sikap keagamaan kepada kompetensi pengetahuan dan penerapan pengetahuan.

Untuk maksud di atas, peneliti mohon kesediaan Bapak/Ibu agar mengisi angket di bawah ini sebagai ahli pembelajaran tematik integratif. Tujuan dari pengisian angket adalah mengetahui kesesuaian pemanfaatan bahan ajar ini sebagaimana yang telah dirancang berdasarkan KI dan KD pada kurikulum 2013. Hasil pengukuran melalui angket ini akan digunakan sebagai penyempurna bahan ajar agar dapat dimanfaatkan dalam pembelajaran. Sebelumnya saya sampaikan terimakasih atas kesediaan Bapak/Ibu sebagai ahli pembelajaran tematik integratif.

Nama : .....

NIP : .....

Instansi : .....

Pendidikan : .....

Alamat : .....

## B. Petunjuk Pengisian Angket

1. Sebelum mengisi angket ini mohon terlebih dahulu Bapak/ Ibu membaca atau mempelajari bahan ajar yang telah dikembangkan.
2. Pilihlah salah satu angka pada jawaban yang sesuai dengan penilaian Bapak/Ibu anggap paling tepat.

Skala Penilaian/ Tanggapan				
1	2	3	4	5

Keterangan:

- a. Skor 1 untuk tidak mudah, tidak sesuai, tidak sistematis, tidak memotivasi, tidak mengukur kemampuan.
- b. Skor 2 untuk kurang mudah, kurang sesuai, kurang sistematis, kurang memotivasi, kurang mengukur kemampuan.
- c. Skor 3 untuk cukup mudah, cukup sesuai, cukup sistematis, cukup memotivasi, cukup mengukur kemampuan.
- d. Skor 4 untuk mudah, sesuai, sistematis, memotivasi, mengukur kemampuan.
- e. Skor 5 untuk sangat mudah, sangat sesuai, sangat sistematis, sangat memotivasi, sangat mengukur kemampuan.

## C. Pertanyaan-pertanyaan Angket

NO	Pernyataan	Skala Penilaian				
		1	2	3	4	5
1	Bagaimana dengan tingkat relevan pengembangan bahan ajar IPA tematik berbasis integrasi agama dan sains dengan KI dan KD?					
2	Bagaimana kesesuaian gambar dengan materi yang disajikan?					
3	Apakah isi pembelajaran dalam bahan ajar sesuai dengan Kurikulum 2013?					



4	Bagaimana sistematika uraian isi pembelajaran dalam pengembangan bahan ajar IPA tematik berbasis intregasi agama dan sains?					
5	Bagaimana ruang lingkup materi dengan tema yang disajikan dalam pengembangan bahan ajar IPA tematik berbasis intregasi agama dan sains?					
6	Bagaimana tingkat kesukaran bahasa yang digunakan sesuai dengan tingkat pemahaman siswa?					
7	Apakah materi yang disajikan melalui pengembangan bahan ajar IPA tematik berbasis intregasi agama dan sains ini dapat memberi motivasi kepada siswa agar lebih giat belajar?					
8	Apakah instrument evaluasi yang digunakan mengukur kemampuan siswa?					
9	Bagaimana kesesuaian materi agama dan sains yang disajikan dengan materi yang ada?					
10	Apakah rumusan indikator yang disajikan dalam bahan ajar IPA tematik berbasis agama dan sains sesuai dengan kompetensi dasar yang ditetapkan dalam kurikulum 2013?					

#### D. Kritik dan Saran



A large rectangular box for writing the critique and suggestions. In the background, there is a large, faint watermark of the logo of Universitas Islam Negeri Maulana Malik Ibrahim Malang. The logo is a green shield with a white border, containing the university's name in Indonesian and Arabic calligraphy.

Malang,.....

.....  
NIP.

## INSTRUMEN VALIDASI PENGEMBANGAN BAHAN AJAR IPA TEMATIK BERBASIS INTEGRASI AGAMA DAN SAINS OLEH SISWA

**Nama** : .....

**Kelas** : .....

**Sekolah** : .....

### A. Pengantar

Adik, buku tematik yang telah kita pelajari di sekolah mengintegrasikan konten mata pelajaran Ilmu Pengetahuan Alam dan Ilmu Pengetahuan Sosial diintegrasikan ke dalam berbagai tema. Buku ajar tematik kurikulum 2013 kompetensi yang berkenaan dengan sikap keagamaan dan sosial dikembangkan secara tidak langsung (*indirect teaching*) yaitu pada waktu peserta didik belajar tentang pengetahuan (Kompetensi Inti 3) dan penerapan pengetahuan (Kompetensi Inti 4). Maka dalam hal ini, peneliti bermaksud melakukan pengembangan bahan ajar tematik dikhususkan pada tingkat SD/MI dengan mengintegrasikan sikap keagamaan kepada kompetensi pengetahuan dan penerapan pengetahuan.

Berkaitan dengan pelaksanaan pembuatan bahan ajar IPA tematik berbasis integrasi agama dan sains dengan tema “*Peduli Terhadap Mahkluk Hidup*” subtema “*Hewan dan Tumbuhan di Lingkungan Rumahku*” maka peneliti bermaksud untuk mengembangkan bahan ajar tersebut dengan integrasi agama dan sains. Untuk maksud di atas, peneliti mohon kesediaan adik sebagai siswa kelas IV agar mengisi angket di bawah ini sebagai pemakai bahan belajar. Tujuan dari pengisian angket adalah mengetahui kesesuaian pemanfaatan bahan ajar ini sebagaimana yang telah dirancang berdasarkan KI dan KD pada kurikulum 2013. Hasil pengukuran melalui angket akan digunakan untuk menyempurnakan bahan ajar, agar dapat dimanfaatkan dalam kegiatan belajar mengajar. Sebelumnya saya sampaikan terima kasih atas kesediaan adik sebagai pemakai media belajar.

### B. Petunjuk Pengisian Angket

1. Sebelum mengisi angket ini, mohon terlebih dahulu adik membaca atau mempelajari bahan ajar yang dikembangkan.

2. Pilihlah salah satu angka pada jawaban yang sesuai dengan penilaian Bapak/Ibu anggap paling tepat.

Skala Penilaian/ Tanggapan				
1	2	3	4	5

Keterangan:

- f. Skor 1 untuk tidak mudah, tidak memberi semangat, tidak menarik, tidak memotivasi.
- g. Skor 2 untuk kurang mudah, kurang memberi semangat, kurang menarik, kurang memotivasi.
- h. Skor 3 untuk cukup mudah, cukup memberi semangat, cukup menarik, cukup memotivasi.
- i. Skor 4 untuk mudah, memberi semangat, menarik, memotivasi.
- j. Skor 5 untuk sangat mudah, sangat memberi semangat, sangat menarik, sangat memotivasi.

### C. Pertanyaan-pertanyaan Angket

No	Pernyataan	Skala Penilaian				
		1	2	3	4	5
1	Apakah bahan ajar IPA tematik berbasis integrasi agama dan sains dapat memudahkan adik dalam belajar?					
2	Apakah gambar yang disajikan menarik untuk dipelajari?					
3	Apakah gambar yang disajikan sesuai dengan materi?					
4	Apakah jenis huruf dan ukuran huruf memudahkan adik untuk memahami materi?					
5	Apakah adik mudah memahami materi yang ada di dalam bahan ajar IPA tematik berbasis integrasi agama dan sains?					
6	Menurut adik, bagaimana soal-soal pada bahan ajar IPA tematik berbasis integrasi agama dan sains sesuai dengan materi?					
7	Apakah bahasa yang digunakan dalam bahan ajar IPA tematik berbasis					

	integrasi agama dan sains mudah dipahami?					
8	Menurut adik, bahan ajar IPA tematik berbasis integrasi agama dan sains yang telah dikembangkan ini menarik untuk dipelajari?					
9	Apakah bahan ajar IPA tematik berbasis integrasi agama dan sains ini dapat menambah motivasi adik dalam belajar?					
10	Apakah dengan menggunakan bahan ajar IPA tematik berbasis integrasi agama dan sains ini dapat memberi semangat dalam belajar adik?					

**Terimakasih**





## PICTURES



Study Group



Learning in the classroom



Study Group



Playing “Burung Pelatuk”



Pretest



Posttest

## CURRICULUM VITAE



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### FORMAL EDUCATION

2011-now	S1 departement of islamic elementary teacher education Faculty of tarbiyah and teaching science
2005-2009	Kulliatul Mu'alimat Al Islamiyah, Pondok Modern Darussalam Gontor
2002-2005	MTsN Tambak Beras, Jombang
1996 -2002	MI Thoriqotul Hidayah, Centini, Laren, Lamongan.