

**THE INFLUENCE OF THE IMPLEMENTATION ECOPEDEAGOGY
BASED LEARNING MODEL AND CONVENTIONAL LEARNING
MODEL TOWARD ECO-LITERATE (ECOLOGICAL
INTELLIGENCE) OF SOCIAL STUDENT GRADE X**

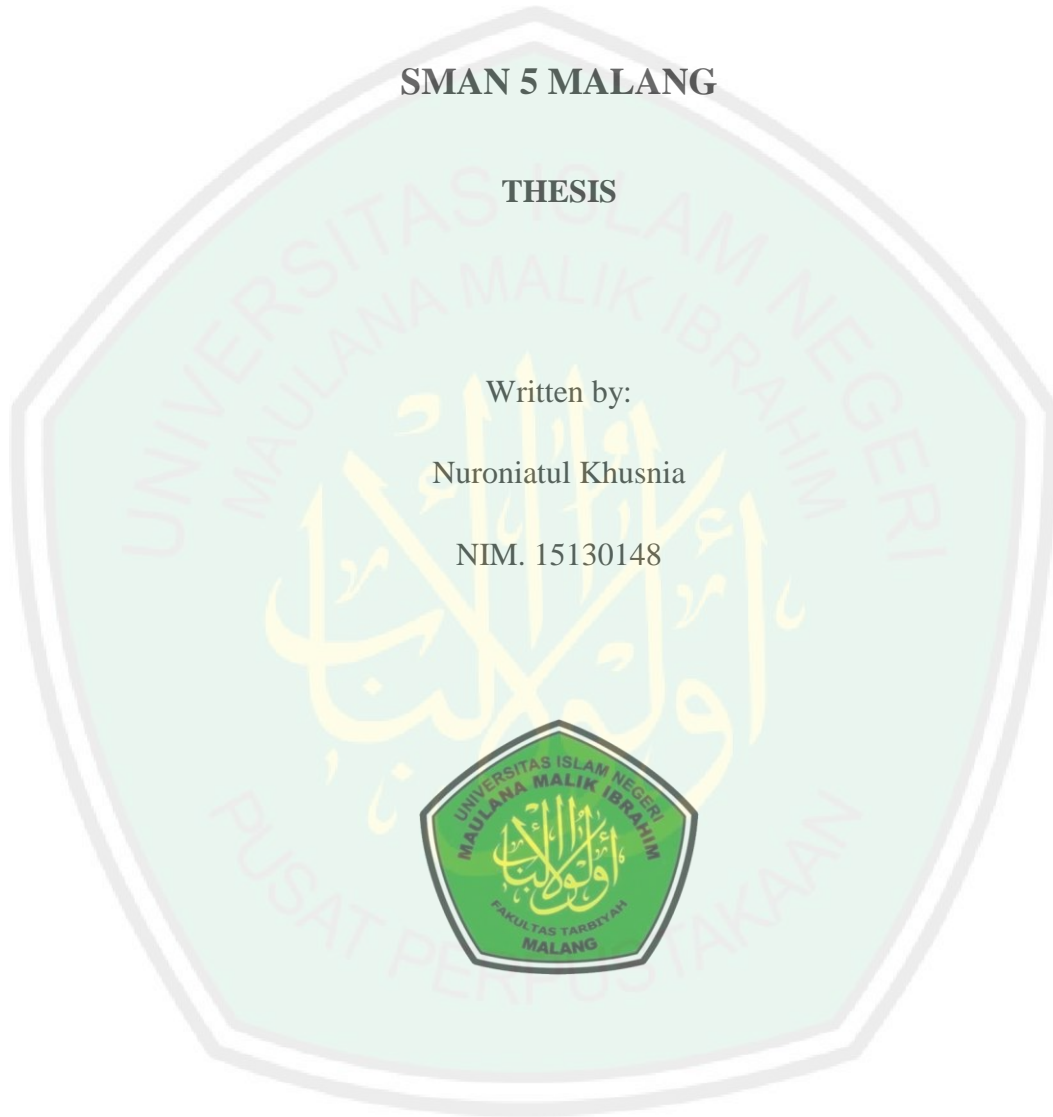
SMAN 5 MALANG

THESIS

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SOCIAL SCIENCE EDUCATION DEPARTMENT

TARBIYAH AND TEACHING TRAINING FACULTY

MAULANA MALIK IBRAHIM STATE ISLAMIC UNIVERSITY MALANG

MAY, 2019

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SMAN 5 MALANG

THESIS

Presented to Tarbiyah and Teacher Training Faculty Maulana Malik Ibrahim State
Islamic University Malang

In Partial Fulfillment of the Requirements for the Degree of *Sarjana Pendidikan* (S.Pd)

Written by:

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SOCIAL SCIENCE EDUCATION DEPARTMENT

TARBIYAH AND TEACHING TRAINING FACULTY

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APPROVAL SHEET

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LEARNING MODEL AND CONVENTIONAL LEARNING MODEL TOWARD
ECO-LITERATE (ECOLOGICAL INTELLIGENCE) OF SOCIAL STUDENT
GRADE X SMAN 5 MALANG**

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LEARNING MODEL AND CONVENTIONAL LEARNING MODEL TOWARD
ECO-LETERATE (ECOLOGICAL INTELLIGENCE) OF SOCIAL STUDENT
GRADE X SMAN 5 MALANG**

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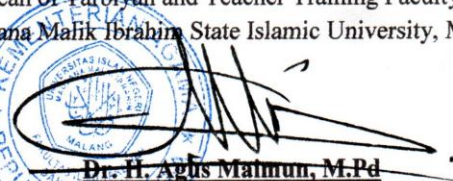


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DEDICATION

Bismillahirrohmanirrohim...Alhamdulillahirobbil'alamin

Thanks to Allah SWT, My lord who gave me His grace and guidance in my whole day, because of His miracle makes me possible to finish my thesis and make everything valuable for me. Sholawat and salam Also always be given to our Prophet Muhammad SAW who brings us from the darkness to the lightness, that is *Diinul Islam*.

I dedicate my work to:

My beloved education and environment of Indonesia

To my beloved *ayah* and *ibuk* (Mr. Manan and Mrs. Ma'rifah) who always by my side to support me and give me strength in all condition, I just want to say that I REALLY LOVE YOU, thank you so much for the entire best thing in the world, you are my angles who always give encouragement, motivation, inspirations and never ending *du'a*. Forgive me if I am not what you expect. Also thanks to my little sister Mushokhikhatul Khasanah, you know right that you are my precious thing after *ayah* and *ibuk*, I love you. Also my both little brother Nurul Khoiril Anam and M. Luthfi Khakim, both of u are my little upin ipin, let's spend our time in happy life, I Love You so deep *dek*

To all my family: *mbah*, *lek* and my friends from *Kontrakan* (Annisa, Nurul, Riris, Thiflia, Ria Khoiriyah, Farida Isna, Nadzifah), my friends from PKL Seremban too, also my beloved friends from SMP: Firda, Farida, In and Devi also other friends who can't be mentioned one by one which always support me, give their smile and beautiful day for me.

I would like to express my sincere thanks and greatest appreciations to my Bright from EXO and my Burning Soul from CNBLUE who always give me smile and support me with their beautiful voice and music. Keep strength; be mature and always happy for you both! I cheer you up

Big thanks for all of you, May Allah SWT give health, welfare, safety and guidance

Aamiin Yaa Robbal 'Aalamiin

MOTTO

وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رُوسِيَ وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَوْزُونٍ ﴿19﴾

وَجَعَلْنَا لَكُمْ فِيهَا مَعِيشَ وَمَنْ لَسْتُمْ لَهُ بِرُزُقِينَ ﴿20﴾

And the earth - We have spread it and cast therein firmly set mountains and caused to grow therein [something] of every well-balanced thing. And We have made for you therein means of living and [for] those for whom you are not providers. (Al-Hijr: 19-20)

“Nature is the source of all true knowledge. She has her own logic, her own laws, she has no effect without cause nor invention without necessity.”

(Leonardo Da Vinci)

Nurlaeli Fitriah, M.Pd

Lecture of Tarbiyah and Teacher Training Faculty

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ADVISOR OFFICIAL NOTE

Subject : Thesis of Nuroniatul Khusnia Malang, 20 May 2019

Attachment : 4 (fourth) Exemplar

To Whom It May Concern,

Dean of Tarbiyah and Teacher Training Faculty

Maulana Malik Ibrahim State Islamic University, Malang

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Assalamu'alaikum Wr. Wb.

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Is considered **acceptable** to be defended after being intensively read and regularly consulted in the area of research content, language, and writing composition.

Wassalamua'alaikum, Wr. Wb.

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CERTIFICATE OF THESIS AUTHORSHIP

I hereby declare this Thesis is originally written by Nuroniatul Khusnia, Student of Social Science Education Department (P.IPS) as the requirement for degree of *Sarjana Pendidikan (S.Pd)*, Faculty of Tarbiyah and Teacher Training at Islamic State University Maulana Malik Ibrahim Malang. The research writing does not incorporate any material previously written or published by other parties to achieve the other *Sarjana* status, except those which are indicate in the notes, quotation, and bibliography. Therefore, I am the only person who is responsible for the thesis if there is any objection or claim from others.

Malang, May 20 2019

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PREFACE

Bismillahirrohmanirrohim..

Alhamdulillah. All praises and great gratitude to Allah SWT Most Gracious and the Most Merciful, the only one lord in this universe. Thanks to Allah who always give me gracious mercy and tremendous blessing. Sholawat and salam may always delivered for Prophet Muhammad SAW who has brought from the darkness to the brightness called Islam and became inspiratory and pattern in this thesis entitled: “*The Influence of The Implementation Eco-pedagogy Based Learning Model and Conventional Learning Model Toward Eco-Literate (Ecological Intelligence) of Social Student Grade X SMAN 5 Malang*”

This thesis is done as a requirement in accomplishing the S-1 Degree at Social Science Education Department of Teachers Training and Education Faculty in Islamic State University Maulana Malik Ibrahim Malang. The researcher would like to thank for all of those who have given contribution so that this thesis can be finished timely. The researcher would like to deliver this thank to:

1. Prof. Dr. Abdul Haris, M. Ag, as The Rector of Islamic State University Maulana Malik Ibrahim Malang.
2. Dr. Agus Maimun, M.Pd, as The Dean of Tarbiyah and Teaching Training Faculty of the Islamic State University Maulana Malik Ibrahim Malang.
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9. *Mbak* Fakhita irfa and *Mbak* Hanik as my *Embak* in Social Science department office.
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Hopefully Allah replies all helps and bless for you all. The researcher realized this thesis still imperfect in arrangement and the content. The researcher hope the criticism from the readers can help the researcher in perfecting the next research about this thesis.

GUIDELINES FOR ARABIC - LATIN TRANSLATION

The writing or Arabic – Latin translation in this thesis is complying the guidelines of transliteration base on the shared decision of Minister of Religious Affairs and the Minister of Education and Culture Republic of Indonesia No.158 in 1987 and no. 0543 b/U/1987 which generally can be explained as bellow:

A. Alphabet

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

- (a) Long Vocal = a
- (i) Long Vocal = i
- (u) Long Vocal = u

C. Vocal Difthong

- أَو = aw
- أَي = ay
- أُو = u
- أِي = i

LIST OF TABLE

Table 1.1 Originality Research	10
Table 2.1 Indicators of Ecological Intelligence	25
Table 3.1 Nonequivalent Control Group Design	31
Table 3.2 Research Variable	33
Table 3.3 Instrument of Research	36
Table 3.4 Lattice Work of Eco-literate (Ecological Intelligence).....	39
Table 3.5 Lattice Work Eco-Literate of Cognitive Competence	41
Table 3.6 Criteria of Questionnaire.....	42
Table 3.7 Lattice Work Eco-literate of Affective Competence	42
Table 3.8 Lattice Work Eco-literate of Creativity Competence	43
Table 3.9 Result of Validity Test Instrument	47
Table 3.10 Result of Validity Subject and Test Instrument by Validator	47
Table 3.11 Result of Validity Questionnaire Instrument	49
Table 3.12 Result of Reliability Test	50
Table 3.13 Result of Reliability Questionnaire	51
Table 4.1 Total Quadratic of Test	63
Table 4.2 Table Quadratic of Attitude	64
Table 4.3 Table of Learning Model	65
Table 4.4 Mean, median, mode, range, minimum and maximum score of Pre-Existence (X)	66
Table 4.5 Distribution of Pre Existence (Pretest)	66

Table 4.6 Mean, Median, Mode, stde of mean, std deviation, range, minimum and maximum score of posttest (Ecological Intelligence).....	67
Table 4.7 Distribution of Frequencies and Percentage of posttest (Ecological Intelligence)	68
Table 4.8 The Result of Normality Test in Experiment Class	69
Table 4.9 The Result of Normality Test in Control Class	70
Table 4.10 The Result of Normality Questionnaire in Experiment Class	70
Table 4.11 The Result of Normality Questionnaire in Control Class	71
Table 4.12 The Result of Normality Test Of Psychometric in Experiment Class	71
Table 4.13 The Result of Normality Test of Psychometric in Control Class	72
Table 4.14 The Result of Linearity Test in Control Class.	73
Table 4.15 The Result of Linearity Test in Experiment Class	74
Table 4.16 The Result of Linearity Test of Questionnaire in Experiment Class	75
Table 4.17 The Result of Linearity Test of Questionnaire in Control Class	75
Table 4.18 The Result of Linearity Test of Psychometric in Control Class	76
Table 4.19 The Result of Linearity Test of Psychometric in Experiment Class	77
Table 4.20 The Result of Homogeneity of Test.....	78

Table 4.21 The Result of Homogeneity Test of Questionnaire Instrument	79
Table 4.22 The Result of Homogeneity Test of Creativity Aspect	79
Table 4.23 Partial Test of Post Test (Y)	80
Table 4.24 The Result of Independent Sample Test	81
Table 4.25 Partial test of Post Treatment of Creativity Aspect (Y)	82
Table 4.26 The Result of Independent Sample Test of Creativity Aspect	82
Table 4.27 Descriptive Statistic Post Test	84
Table 4.28 The Result of Test Between Subject Effects	84
Table 4.29 Descriptive Statistics of Psychometric Aspect	86
Table 4.30 The Result of Test between Subject Effects	86
Table 4.31 Paired Sample T-Test Statistic	88
Table 4.32 Paired Sample T-Test	89

LIST OF APPENDIX

- Appendix 1 Letter of Research Permission from CABDIN
- Appendix 2 Letter of Research Permission from University
- Appendix 3 Application Letter Becomes a Validator
- Appendix 4 Validation Sheet of Ecology Expert
- Appendix 5 Validation Sheet of Lesson Plan Expert
- Appendix 6 Validation Sheet of Subject and Evaluation Expert
- Appendix 7 Lesson Plan of Control Class
- Appendix 8 Lesson Plan of Experiment Class
- Appendix 9 Research Instrument of Affective Aspect
- Appendix 10 Research Instrument of Cognitive Aspect
- Appendix 11 Research Instrument of Psychometric Aspect (Presentation)
- Appendix 12 Research Instrument of Psychometric Aspect (Product)
- Appendix 13 Sample of Research
- Appendix 14 Result of Score Test (Knowledge)
- Appendix 15 Result of Instrument's Spread (Attitude)
- Appendix 16 The Result of Psychometric Aspect (Creativity)
- Appendix 17 Worktable Analysis Covariance of Cognitive Aspect (Test)
- Appendix 18 Worktable Analysis Covariance of Affective Aspect (Attitude)
- Appendix 19 Validity Test of Instruments Spread (Questionnaire)
- Appendix 20.Documentations
- Appendix 21 Curriculum Vitae

TABLE OF CONTENT

COVER
COVER OF THESIS	i
APPROVAL SHEET	ii
LEGITIMATION SHEET	iii
DEDICATION	iv
MOTTO	v
OFFICE MEMO OF ADVISOR	vi
CERTIFICATE OF THESIS AUTHORSHIP	vii
PREFACE	viii
GUIDELINES OF TRANSLITERATION	x
LIST OF TABLE	xi
LIST OF APPENDIX	xiv
TABLE OF CONTENTS	xv
ABSTRACT	xviii
المخلص	xix
ABSTRAK	xx

CHAPTER I: INTRODUCTION

A. Background	1
B. Research Questions	7
C. Research Objectives	7
D. Significance of The Research.....	8
E. Research Hypothesis	8
F. Scope of The Research	10
G. Research Originality	10

H. Operational Definition.....	12
I. Structure of Thesis	13

CHAPTER II : REVIEW OF RELATED LITERATURE

A. Learning Model	15
1. Definition of Learning Model	16
2. Learning Models Characteristics	16
3. Conventional Learning Model.....	18
B. Eco-Pedagogy.....	19
1. Definition of Eco-Pedagogy	19
2. Principles of Implementation Eco-Pedagogy.....	23
C. Eco-Literate.....	24
D. Learning Models and Eco-Pedagogy on Islamic Perspective.....	26
E. Influence of Eco-Pedagogy Based Learning on Eco-Literate.....	27

CHAPTER III : RESEARCH METHODS

A. Location of Research.....	30
B. Approach and Types of Research.....	30
C. Research Variables.....	32
D. Population and Sample.....	33
E. Data and Data Sources	34
F. Research Instruments	35
G. Technique and Data Collection	44
H. Validity and Reliability Test	46
1. Validity test	46
2. Reliability test.....	49
I. Data analysis	51
J. Research procedure	54

CHAPTER IV: DATA FINDINGS AND ANALYSIS

A. Research Site	56
1. School Profile	56
2. History of School.....	57

3. Vision and Mission of School	62
B. Description of Research Variable	63
1. Description of Predictor (A): Learning Model	64
2. Description of Covariance (X): Pre-Existence	65
3. Description of Criterion (Y): Eco-Literate (Ecological Intelligence)	67
4. The Result of Data Analysis	68

CHAPTER V: DISCUSSION

A. The Influence of the Implementation of Conventional Learning Model on Eco-Literate (Ecological Intelligence)	92
B. The Influence of the Implementation of Eco-Pedagogy Based Learning Model on Eco-Literate (Ecological Intelligence)	96

CHAPTER VI: CLOSING

A. Conclusion	110
B. Suggestion	112

BIBLIOGRAPHY	xxi
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ABSTRACT

Khusnia, Nuroniatul. 2019. *The Effect of Conventional Learning Model and Eco-Pedagogy-Based Learning Model on Eco-Literacy (Ecological Literacy) of Tenth Grade Students Majoring in Social Science at SMAN 5 Malang*. Undergraduate Thesis. Social Science Education Department, Faculty of Tarbiya and Teaching Science, Universitas Islam Negeri Maulana Malik Ibrahim Malang. Advisor: Nurlaeli Fitriah. M.Pd.

Keywords: Learning Model, Eco-pedagogy, Eco-Literacy

Principally, the general goal of education is to create an awareness toward everything surrounding a human being. One of the forms of awareness is awareness toward the environment since students tend to be less aware of it. Thus, teachers need to do better efforts in choosing and implementing learning instruction which is suitable for environmental awareness concept using eco-pedagogy-based learning model. It is then compared to conventional-based learning model.

This study aims to: (1) find out the effects of eco-pedagogy based learning model and conventional learning model toward ecological intelligence of tenth grade students majoring in Social Science Education at SMAN 5 Malang. (2) find out whether there is any difference in the ecological intelligence of tenth grade students majoring in Social Science Education at SMAN 5 Malang through the implementation of eco-pedagogy-based learning model and conventional learning model by controlling the initial skills.

To accomplish those purposes, the writer employs quantitative research approach with experimental research type. This study uses quasi research design employing control and experimental classes. The instruments employed are writing test and questionnaires. The data collection techniques used are observation, documentation, questionnaire, product assessment and writing test. The obtained data are analyzed using statistical measurement, which employs covariance analysis (ancova). The covariance is initial skill control. Afterward, the data are described and the conclusion is drawn.

The results of the study indicate that, 1) the implementation of eco-pedagogy based learning model has a significant effect towards the eco-literacy (ecological intelligence) of tenth grade students majoring in Social Science Education at SMAN 5 Malang, 2) there are some differences regarding the eco-literacy of tenth grade students majoring in Social Science Education at SMAN 5 Malang. The classes, where eco-pedagogy-based learning model is implemented, have higher mean scores in some aspects like knowledge (76.12) and skills (9.24) than the control class that implements conventional learning model. The control class' mean scores are 58.87 for knowledge and 8.59 for skill. The treatment given to both classes is started from initial skill control.

المستخلص

الحسنية، نورانية. 2019. تأثير تطبيق نموذج التعليم التقليدي ونموذج التعليم المتأسس على إيكو-البيداغوجيا إلى إيكو-المعرفة (الذكاء الإيكولوجيا) من الطلاب في الفصل العاشر بمدرسة الثانوية الحكومية الخامية مالانج. بحث جامعي، قسم تربية العلوم الاجتماعية، كلية علوم التربية والتعليم، جامعة مولانا مالك إبراهيم الإسلامية الحكومية مالانج. المشرف: نور ليلي فطرية، الماجستير.

الكلمات الأساسية: نموذج التعليم، إيكو-البيداغوجيا، إيكو-المعرفة.

في الحقيقة، يهدف التعليم إلى تنشئة الوعي نحو المتعلمين بما حولهم، منها الوعي بالمحيط أو البيئة. كمية الوعي من قبل المتعلمين ما زالت قليلة، فيحتاج إلى المحاولة المكثفة من المعلمين في خيار الإرشادات وتطبيقها حسب مفهوم الوعي بالبيئة باستخدام التعليم المتأسس على إيكو-البيداغوجيا ويقارنه بالتعليم التقليدي.

يهدف هذا البحث إلى: (1) معرفة تأثير تطبيق نموذج التعليم التقليدي ونموذج التعليم المتأسس على إيكو-البيداغوجيا إلى إيكو-المعرفة (الذكاء الإيكولوجيا) من الطلاب في الفصل العاشر بمدرسة الثانوية الحكومية الخامية مالانج؛ (2) معرفة وجود الفروق من إيكو-المعرفة (الذكاء الإيكولوجيا) من الطلاب في الفصل العاشر بمدرسة الثانوية الحكومية الخامية مالانج عبر تطبيق نموذج التعليم التقليدي ونموذج التعليم المتأسس على إيكو-البيداغوجيا بالتحكم على الكفاءة الأولية.

فللوصول إلى تلك الأهداف المنشودة، تستخدم الباحثة المدخل الكمي بنوع البحث التجريبي بخطة البحث الشبهي حيث يستختم الفصل التحكم والفصل التجريبي. والأدوات المستخدمة هي الاختبار التحريبي والاستبيانات بطريقة جمع البيانات عبر المقابلة، التوثيق، الاستبانة، تقويم المنتجات والاختبار التحريبي. ويتم التحليل بحساب الإحصاء بنظر كوفاريان بوجود التحكم على القدرة الأولية، وتستمؤ بوصف البيانات والاستنتاج.

فنتائج البحث تدل على: (1) هناك أثر جاسم من تطبيق ونموذج التعليم المتأسس على إيكو-البيداغوجيا إلى إيكو-المعرفة (الذكاء الإيكولوجيا) من الطلاب في الفصل العاشر بمدرسة الثانوية الحكومية الخامية مالانج؛ (2) هناك الفروق بين إيكو-المعرفة (الذكاء الإيكولوجيا) من الطلاب في الفصل العاشر بمدرسة الثانوية الحكومية الخامية مالانج حيث كان الفصل الذي يستخدم نموذج التعليم المتأسس على إيكو-البيداغوجيا له مستوى الدرجات أعلى في محور المعرفة (76.12) الكفاءة (9.24) من الفصل التحكم الذي يستخدم النموذج التقليدي بمستوى الدرجات أعلى في محور المعرفة (58.87) الكفاءة (8.59) عبر التحكم على القدرة الأولية.

ABSTRAK

Khusnia, Nuroniatul. 2019. *Pengaruh penerapan model pembelajaran konvensional dan model pembelajaran berbasis eco-pedagogy terhadap eko-literasi (kecerdasan ekologi) siswa IPS kelas X SMAN 5 Malang*. Skripsi. Jurusan Pendidikan Ilmu Pengetahuan Sosial, Fakultas Ilmu Tarbiyah dan Keguruan, Universitas Islam Negeri Maulana Malik Ibrahim Malang. Pembimbing Skripsi: Nurlaeli Fitriah. M.Pd.

Kata Kunci: Model Pembelajaran, Eko-pedagogi, Eko-literasi.

Sejatinya tujuan dari pendidikan secara umum adalah usaha untuk lebih sadar terhadap segala sesuatu di sekitar. Salah satunya sadar terhadap lingkungan, karena kesadaran terhadap lingkungan masih minim dimiliki oleh siswa, maka dari itu diperlukan upaya yang lebih baik dari guru dalam memilih dan menerapkan instruksi pembelajaran yang sesuai dengan konsep sadar lingkungan dengan menggunakan model pembelajaran berbasis eko-pedagogi serta dibandingkan dengan model pembelajaran berbasis konvensional.

Tujuan dari penelitian ini adalah untuk: (1) Mengetahui pengaruh model pembelajaran berbasis eko-pedagogi dan model pembelajaran konvensional terhadap eko-literasi (ecological intelligence) siswa IPS kelas X SMAN 5 Malang. (2) Mengetahui ada atau tidak ada perbedaan eko-literasi (ecological intelligence) siswa IPS kelas X SMAN 5 Malang melalui penerapan model pembelajaran berbasis eko-pedagogi dan pelaksanaan model pembelajaran konvensional dengan mengendalikan kemampuan awal.

Untuk mencapai tujuan di atas, digunakan pendekatan penelitian kuantitatif dengan jenis penelitian eksperimen dan menggunakan desain penelitian quasi yaitu menggunakan kelas kontrol dan kelas eksperimen. Instrumen yang digunakan adalah tes tulis dan kuesioner dengan teknik pengumpulan data berupa observasi, dokumentasi, angket, penilaian produk dan tes tulis. Data yang didapat dianalisis dengan perhitungan statistik menggunakan analisis kovarian (ancova) dengan kovarian berupa pengendalian kemampuan awal, mendeskripsikan data, dan menarik kesimpulan.

Hasil penelitian menunjukkan bahwa, 1) terdapat pengaruh signifikan dari penerapan model pembelajaran berbasis eko-pedagogi terhadap eko-literasi (kecerdasan ekologi) siswa IPS kelas X SMAN 5 Malang, 2) terdapat perbedaan eko-literasi siswa IPS kelas X SMAN 5 Malang. Kelas yang diterapkan model pembelajaran berbasis eko-pedagogi memiliki skor rata-rata lebih tinggi pada aspek pengetahuan (76.12) dan keterampilan (9.24) dibandingkan dengan kelas kontrol yang diterapkan model pembelajaran konvensional mempunyai skor rata-rata pengetahuan (58.87) dan keterampilan (8.59) dengan sama sama melalui pengendalian kemampuan awal.

CHAPTER I

INTRODUCTION

A. Background

Education is not a longer term is hard to look for meaning and senses. Most of the sources make it clear that education is a planned and conscious effort to bring about an atmosphere of learning process to make student improved their potential. So they have spirituality, self control, personality intelligence, great attitude and also skill that needed by them self.

Education also can be related by develop of attitude where they lived in, and live with the community and how it should behave in the surrounding. Because through the developing quality of education can also improve the quality of life of the communities and citizens, especially Indonesia, which is a country with a blessed rich of natural resources.

Natural resources in Indonesia if citizens cannot utilize well at least no need to ruin and destroy them slowly, And of course it is not too much to say that the environment in Indonesia has too many polluted by waste and garbage.¹ From the article said that Indonesia is one of the world's ten most polluted countries as well as China and Russia.

¹ Putriana Cahya. Sedih, Indonesia Termasuk 10 Negara Paling Tercemar di Dunia Lho (<https://www.idntimes.com/>. Accessed: 28-05-2019 at: 00.04 WIB).

Lately, global warming is a hot issue, as the problems of garbage in the sea of Nusa Penida, Bali some time ago.² not enough, the problem of smog in Riau, and also A dead whale washed up on the beach in the village of kapota wakatobi, more concern of it is found about five kilograms of plastic waste in the belly of a sperm whale.³ That suspected the whale died because of a malfunction in digestion because the Pope could not distinguish food and trash because of the many existing plastic garbage in the ocean.

We can see the student most take a vehicles for school, even when the availability of public transportation. And this thing does not happen only in large city, most high school students in the countryside (Village) also started to use private motor vehicles to go to school. This led to a large of pollution produced more and thus causing an inefficient and unbalance of ecosystem environment.

Environmental problems still not over here, many factors of the reduced awareness of environment as described above. Like trush in public dumpsites is over, the air is getting hot due to trees that are felled without selected and sort and processes uncontrolled reforestation could be a range of current environmental problems, certainly it is difficult to identify these problems in detail.

² CNNI, Menyelam Bersama Sampah Plastik di Nusa Penida (<https://www.cnnindonesia.com/> . accessed on 27-05-2018, at: 22.09 WIB.)

³ Bhakti Satrio Wicaksono. Paus Mati di Wakatobi, Bukti Nyata Indonesia Darurat Sampah Plastik (<https://sains.kompas.com/>. Accessed: 27-05-2019, at: 22.05 WIB.)

The latest data obtained through research of Sustainable Waste Indonesia (SWI) exposes that as of April 2018 as many as 24 percent of trash in Indonesia is still unmanaged, which is means of about 65 million tons of garbage produced in Indonesia daily, about 15 million tons of contaminates ecosystems and the environment. Meanwhile, 7 percent of trash is recycled and 69 percent of garbage ends up in Landfills.⁴ The things that should be noted is the behavior and habits of society itself, which often dump directly into the river or to any place.

The phenomenon of environmental problem might be resolved if each of the community have consciousness of the importance of caring for the environment like caring of our self, because it is a future investment and continuously. That awareness is not only owned by adults, because the awareness of socializing and caring nature should be initiated as early as possible to enhance the good habits as adults later.

The condition of course on concern because it is not only damaging the environment but also damaging to the future, both in the human and even the future environment. The role of education being one of the shortcuts that should be answered by educators and Government, as one example of the activist environmental from *Greeneration*, Mohammad Bijaksana Junerosano argues that

⁴CNNI, Riset: 24 Persen Sampah di Indonesia Masih Tak Terkelola (<https://www.cnnindonesia.com/> . accessed on 29-08-2018, at: 22.18 WIB.)

solving the problem of garbage especially plastic must involve the whole part in the community, including law enforcement, education and social awareness.⁵

Environmental issues must not only fixated on the role of education, but it would be nice if the understanding the importance of awareness to observe the environment together for the good of future applied through education at school with a meaningful learning. It happen because someone who has the intelligence of the ecology will re-think to dump in any place, use the plastic without consideration, or dispose of cigarette butts in any place, because it also have an impact on his own.

In the social studies also need to use the concept of eco-pedagogy, because social studies also studying about human and nature, how people deals with others, include environment and nature. Those things can be a reason why the concept of eco-pedagogy needed in social studies e.g. when the subject is social studies-geography, people try to learn and understanding nature by this subject, which is discuss about population density and the influence of it to environmental.

So the collective consciousness of eco-literate or ecological intelligence needs to be improved in sustainability so as to create a society that is caring and aware of the importance of the environment there we live. In accordance with the

⁵ Michael Hangga Wismabrata. (<https://sains.kompas.com/>. Accessed: 29-08-2018, at: 22.25 WIB.)

concept of SDG's or Sustainable Development Goals, here the importance of students having ecological intelligence or also called Eco-Literate. Because the bad environmental conditions are very difficult people to get out from poverty and hunger especially if they depend on the agricultural sector, fisheries (marine). Environment It also one of the essential elements of the SDG's are *planet, people, dignity, prosperity, justice, dan partnership*.⁶ So the needed improvements to the targets and indicators related to the environment, including through education.

So the concept of eco-pedagogy can be called as the concept that need to considered as seen from the urgently of environmental side and nature, between the community and the future life and also the urgency in social studies. And the concept of eco-pedagogy can be assumed if applied in learning process It would be more effective to increase ecological Intelligence of student.

SMAN 5 Malang for the example, the school is known as the best school in the field of care for the environment. Which the year 2008 had started was awarded the "Adiwiyata Kencana" and continuing in subsequent years, so the researcher consider that SMAN 5 Malang is the ideal school to make the object of research in the field of Eco-Literate, particularly through education.

⁶ SDG's Essential concept (<https://sustainabledevelopment.un.org/sdgs>., accessed 07-12-2018 at: 22.57)

One of the innovations in improving the eco-literate that can be applied through learning is the use of a Model of learning while teachers have a big role towards the learning activities by giving meaning to the materials. According to Nana Supriatna, eco-pedagogy in learning is mentioned as an academic approach to educate and equip students about the importance of performing actions that are aligned with the preservation of nature to support sustainability of the planet.⁷ Also was supported by result of research by Fani N.K.D, one of the Master's Student in UPI, with the title "*Implementasi Pembelajaran Sejarah Berbasis Ecopedagogi Untuk Meningkatkan Keterampilan Pengambilan Keputusan Yang Ramah Lingkungan*" that conclude if after being established Eco-pedagogy based learning it appears that students are doing environmentally friendly actions, like Maintenance of plants, effective use of electricity and fuel, waste in place and so on.⁸

So the researcher needs to know the possibility of the influence caused by the use of a model of learning to Eco-literate of students with research entitled "The Influence Implementation of Eco-pedagogy base Learning Model and Conventional Learning Model to Eco-Literate of Social Student in Grade X

⁷ Nana, S. *Eco-pedagogy Membangun kecerdasan ekologis dalam pembelajaran IPS*. (Bandung: Rosdakarya, 2016) Pg: 6.

⁸ N.K.D, Fani. *Implementasi Pembelajaran Sejarah Berbasis Ecopedagogi Untuk Meningkatkan Keterampilan Pengambilan Keputusan Yang Ramah Lingkungan : Penelitian Tindakan Kelas di SMA Kartika XIX-2*. S2 thesis, Universitas Pendidikan Indonesia. 2016. Pg: 159

SMAN 5 Malang” the school is potential institution because SMAN 5 Malang is a school that already presented the school Adiwiyata.

B. Research Questions

Based on description explanation of the background above, so we can conclude the formulation of the problem

1. Does the implementation of Eco-pedagogy base learning model and implementation of conventional learning model influence on Eco-Literate (Ecological Intelligence) of social student grade X SMAN 5 Malang?
2. Is there a difference of Eco-Literate (Ecological Intelligence) social student grade X SMAN 5 Malang in terms of learning model based on implementation of Eco-pedagogy base learning model and implementation of conventional learning model by controlling pre-existing condition?

C. Research Objectives

Based on the formulation of the problem above, so the goal of this research is:

1. To determine the influence of Eco-pedagogy base learning model and conventional learning model on Eco-Literate (Ecological Intelligence) of social student grade X SMAN 5 Malang.
2. To determine there are differences or nothing Eco-Literate (Ecological Intelligence) social student of grade X SMAN 5 Malang in terms of

implementation of Eco-pedagogy base learning model and implementation of conventional learning model by controlling pre-existing condition.

D. Significance of the Research

Significance from this research are:

1. Theoretical Benefits

- a) The result of this research can contribute to academic thinking on the terms of ecological intelligence and the implication of eco-pedagogy base learning model
- b) The foundation of the reference for research in the future

2. Practical Benefits

- a) The results of this research are expected to add the understanding of student by interpreting learning through the use of eco-pedagogy base learning model to eco-literate of student.
- b) The results of this research are expected to add the reference and increase the creativity by using the eco-pedagogy base learning model.

E. Research Hypothesis

Based on Research Question, then the Hypotheses are:

1. (H_0): There is no influence of implementation eco-pedagogy base learning model and conventional learning model on eco-literate (Ecological Intelligence) in cognitive aspect of Social Student grade X SMAN 5 Malang by controlling pre-existing condition.
2. (H_0): There is no influence of implementation eco-pedagogy base learning model and conventional learning model on eco-literate (Ecological Intelligence) in psychometric aspect of Social Student grade X SMAN 5 Malang by controlling pre-existing condition.
3. (H_0): There are no difference average scores of eco-literate (Ecological Intelligence) in affective aspect of Social Student grade X SMAN 5 Malang before and after treatment.
4. (H_a): There is an influence of implementation eco-pedagogy base learning model and conventional learning model on eco-literate (Ecological Intelligence) in cognitive aspect of Social Student grade X SMAN 5 Malang by controlling pre-existing condition.
5. (H_a): There is an influence of implementation eco-pedagogy base learning model and conventional learning model on eco-literate (Ecological Intelligence) in psychometric aspect of Social Student grade X SMAN 5 Malang by controlling pre-existing condition.

6.(H_a): There are difference average scores of eco-literate (Ecological Intelligence) in affective aspect of Social Student grade X SMAN 5 Malang before and after treatment.

F. Scope of the Research

This research focus discussing on the influence of implementation Eco-pedagogy base learning model to eco-literate of social student grade X SMAN 5 Malang, and specifically grade X J2 is experimental group who will get a treatment of Eco-pedagogy based learning model, and conventional learning model in grade X I2 SMAN 5 Malang is control group. And this research include geography lesson and environmental. And also considering pretest and posttest to calculate the influence of the learning model.

G. Research Originality

This research originality presents the similiarity and differentiation of previous study that is related to this research. This research originality is explained to prevent to reitition and plagiarism of the similar object. Therefore, researcher summarized as what was explained in the table:

Table 1.1 Originality of Research

Nu mb.	Research Identity	Similarity	Deferentiati on	Research Originality
1.	Muraina Olugbenga Omiyefa, “ <i>Exploring</i>	Studying about Eco-	This research is focused	The target is the application of

	<i>Eco-pedagogy for the Attainment of Education for all in Nigeria</i> ”, Jurnal of education and practice, www.iiste.org. 2015.	pedagogy and Eco-Literate	towards role of eco-pedagogy is seen in terms of education through a program of education for all (EFA) in Nigeria	research-based learning Ecology through the EFA and analysis of education in Nigeria that should be facilitated learning about the environment
2.	N.K.D, Fani. “Implementasi Pembelajaran Sejarah Berbasis Ecopedagogi Untuk Meningkatkan Keterampilan Pengambilan Keputusan Yang Ramah Lingkungan : Penelitian Tindakan Kelas di SMA Kartika XIX-2”. S2 thesis, Universitas Pendidikan Indonesia. 2016.	Studying about the influence of implementati on eco-pedagogy on Eco-friendliness (eco-literate)	Difference in research methods, thus research using classroom action research.	Based on the problems that occur and the existence of previous research which discusses research about implementation of eco-pedagogy on learning process, then the difference between this research is about research methods and Eco-literate will be a new discovery in the field of the environment through education at the school.
3.	Hana Yunansah and Yusuf tri Herlambang, “Pendidikan berbasis Ekopedagogik dalam Menumbuhkan Kesadaran Ekologis dan Mengembangkan Karakter Siswa Sekolah Dasar”, Journal of basic	Discussion of environmenta l education in the form of education that seeks to improve the eco-literate or ecological	This research focused on the analysis of learning at the elementary school level to know the ecological intelligence	Previous research took the object of research of elementary school through the analysis of learning, so this research still can be said original cause of different subject

	education, Universitas Pendidikan Indonesia, 2017.	awareness.	of students.	and focus of research. Although both aim to know the development of students eco-literate.
4	Richard Khan. " <i>From Education for Sustainable Development to Eco-pedagogy: Sustaining Capitalism or Sustaining Life?</i> " on <i>Green theory & Praxis: the Journal of Eco-pedagogy</i> . Volume 4, No 1 2008. 2008.	Discussion of environmental education (eco-pedagogy) in the form of education	This research focused on the eco-pedagogy, but most of them just only in socio and culture, not in school.	Based on the problems that occur and the existence research of Richard which discusses a lot of eco-pedagogy but most of them just focus on socio and culture, so this research is still original and still and have the characteristic

H. Operational Definition

To get the overview from this research, so researcher tries to explain with a short and easy language first several keywords in this research:

1. Conventional Learning Model

Conventional model is a learning process in which teaching and learning are implemented in ways that the old, i.e. in the delivery of the lesson the teacher still rely on teacher always talk too much. And this learning model is focus on Teacher Centre and use of preaching methods.

2. Eco-pedagogy Based Learning Model

Eco-pedagogy according to Gadotti called as Earth Pedagogy while is the opposite of conventional pedagogy that still says about antroposentrisme of humas as the core of everything. Most of them were mentioned on Paulo freire's book and journal by Richard Khan about eco-pedagogy is anty-hegemony movement and anti-eropasentris in the education.

Eco-pedagogy based learning model As just described by nana supriatna, he states that ecological intelligence expressed by Daniel goleman put aspects of intellectual knowledge or intelligence is fundamental of ecological intelligence. And nana also says that to achieve ecological intelligence needed the eco-pedagogy as one approach of learning

3. Eco-literate

Eco-Literate is a form of awareness of the importance of conserving the Earth as our place. And according to experts (Daniel Goleman) is an intelligence to understand how nature works, including the recognition and understanding of work system of humans interact with nature.

I. Structure of Thesis

CHAPTER 1 discussed on the introduction and included of Background of the Research, Research Question, Research Hypothesis, Scope of the Research, Operational Definition, and Structure of Thesis.

CHAPTER II discussed on Literature review that included of Learning Model, Eco-pedagogy, Eco-literate (Ecological intelligence), The Influence of Eco-pedagogy to eco-literate (Ecological intelligence).

CHAPTER III discussed on the research methods that included of Location of Research, Approach and Type of Research, Research Variables, Population and Sample, Data and Source Data, Research Instrument, Data Collection Techniques, Test of Validity and Reliability, and Data Analysis.

CHAPTER IV discussed on the exposure data and research findings during research. This included of description of Research Location, Description of the Research Variables, and Hypothesis Test.

CHAPTER V will be discussed the result that was exposing in chapter iv and include the result of this research and include of the influence of Eopedagogy based learning model and conventional learning model to eco-literate of Student, especially Social student on the subject Geography.

CHAPTER VI contain of conclusion of the whole thesis and the solution that is recommended by researcher. This chapter is the last chapter of this thesis.

CHAPTER II

REVIEW OF RELATED LITERATURE

A. Learning Model

1. Definition of Learning Model

Learning model is a particular pattern or step of learning applied in order to achieve the goals or competencies of learning outcomes which expected to be achieved effectively and efficiently. Similarly, according to Weil, learning model is a plan or pattern that can be used to form a curriculum for long-term implementation plans, designing learning materials and guiding learning in the classroom or others.⁹

In other side, Winataputra argues that learning model is a conceptual framework describing the systematic procedures in organizing learning experiences to achieve certain learning goals. It is a guide for learning designers and instructors in planning and implementing learning activities in the operational level of learning models and learning strategies that exchanged frequently.¹⁰

Therefore Learning Model can be termed as a form or frame of learning that illustrated from the beginning to the end which is presented by

⁹ Rusman. *Model-model pembelajaran: mengembangkan profesionalisme guru*. (Jakarta: Rajawali Pers. 2011) Pg: 133.

¹⁰ Sugianto. *Model-model pembelajaran inovatif*. (Surakarta: Yuma Pressindo, 2010) Pg: 3

the teacher in a typical way. This could be a frame or package of approach, method, and learning technique application.

2. Learning Models Characteristics

Learning Model has the following characteristics:

- 1) Based on educational and learning theories from certain experts. For instance, group research model was designed by Herbert Thelen and based on John Dewey's theory. This model is designed to train democratic participation in groups.
- 2) Having certain mission or purpose of education. For example, the model of inductive thinking which is designed to develop inductive thinking processes.
- 3) Can be used as a guide for improving teaching and learning activities in the classroom, as an example of *syntactic* model designed to improve creativity in authoring lessons.
- 4) Having parts of model as named: (a) sequence of learning steps (Syntax); (b) existence of reaction principles; (c) social systems; and (d) support systems. The four parts are practical guidelines if the teacher will implement a learning model.
- 5) Having impacts as the result of applied learning models. It includes: (1) the impact of learning, namely measured learning outcomes; (2) Surrounding impacts, namely long-term learning outcomes.

- 6) Making teaching preparation (instructional design) with learning model guidelines chosen.¹¹

What must be considered in choosing by teacher are:

- 1) Considerations of the objectives to be achieved. The questions that can be asked are:
 - a) Are the learning objectives to be achieved in the related to academic competencies, personality, social and vocational competencies or which were termed as cognitive, affective or psychomotor domains?
 - b) How is the complexity of the learning objectives to be achieved?
 - c) In achieving it, are academic goals needed?
- 2) Considerations which related to learning materials or objects:
 - a) Is the learning material in the form of fact, concept, law, or certain theory?
 - b) Does learning material require a prerequisite or not?
 - c) Are there relevant materials or sources available to study the material?
- 3) Considerations from student perspective:
 - a) Is the learning model in accordance with the maturity level of students?

¹¹ Rusman. *Op.cit.*, Pg: 136.

- b) Is the learning model in accordance with interests, talents and conditions of students?
 - c) Is the learning model in accordance with the learning style of students?
- 4) Other non-technical considerations:
- a) Is achieving the goal through one learning model sufficient?
 - b) Is the learning model that set the only model that can be used?
 - c) Does the learning model have value of effectiveness and efficiency?¹²

3. Conventional Learning Model

Freire claimed that the conventional learning model is bank style. In KBBI states that "conventional" is a traditional, and traditional is defined as "the next stance and a way of thinking and acting that always cling to the norms and habits which there are hereditary. Therefore, the conventional model may also be referred to as traditional models."¹³

It is mean that the conventional model is a learning process in which teaching and learning are implemented in ways that the old, i.e. in the delivery of the lesson the teacher still rely on teacher always talk too much.

¹² Sugianto. *Op.cit.*, Pg: 133-134.

¹³ https://www.academia.edu/6942550/Pembelajaran_Konvensional. Accessed at 21-12-2018/ 12:15 WIB

B. Eco-pedagogy

a. Definition of Eco-pedagogy

Eco-pedagogy was a movement from Latin America that had context in education. It was the product of *Second Earth Summit* in Rio de Janeiro, Brazil 1992. This movement is an expression of a petition about the relationship between humans and the earth and also a general way of education to integrate ecological ethics in it.¹⁴

Same with the above, eco-pedagogy is a movement intellectuals desire to make a systematic statement about the interrelationship between humanity and the earth and formulate a mission for education to universally integrate an ecological ethic. As explained in journal of education and practice that Eco-pedagogy is an approach to an education of the earth and its citizens, as pointed earlier, eco-pedagogy is discourse, a movement, and an approach to education that has emerged from leftist educators.

The theory is based on Paulo Freire's critical Pedagogy theory which defined as the theory of education and learning practices designed to build critical awareness of oppressive social conditions. Critical pedagogy is a learning approach that seeks to help students question and challenge domination and dominating beliefs and practices. The term is found in the

¹⁴ Muraina Olugbenga Omiyefa. *Exploring Eco-pedagogy for the Attainment of Education for all in Nigeria*", Jurnal of education and practice, 2015. www.iiste.org. Pg: 40.

monchinski book which then quoted by Rakhmat Hidayat in his book entitled *Critical Pedagogy: History, Development and thought*.¹⁵

Critical pedagogy basically was created through two reflections of Paulo Freire's life about critical awareness faced with the practice of education that is very shackles.¹⁶ It is more explained in his book entitled *Pedagogy of the Oppressed* (1972) or education of the oppressed and also the *Pedagogy of Indignation* (2004).

Eco-Pedagogy is more focused on "co-existential" educational practices which teachers and students alike become subjects and play an important role in survival through awareness of the real reality of education shackles.¹⁷ But moving in modernism era, oppression is not only carried out by groups in power over other groups but also over nature and other living beings.¹⁸ So that, Eco-pedagogy or the concept of education is formed as a result of the reactions to education that occur in schools generally and focused on understanding students' ecological education.

Etymologically the term of eco-pedagogy comes from two words:

Ecology means science that studies the reciprocal relationship among living

¹⁵ Rakhmat, H. *Pedagogi Kritis: Sejarah, Perkembangan dan pemikiran*. (Jakarta: raja wali. 2013) Pg: 6.

¹⁶ *Ibid.*, Pg: 9.

¹⁷ Paulo, F. *pendidikan Kaum Tertindas*. Terj.,LP3ES. Pengantar F. Danuwinata. (Jakarta: Pustaka LP3ES Indonesia. 2008)

¹⁸ Nana, S. *Eco-pedagogy Membangun kecerdasan ekologis dalam pembelajaran IPS*. (Bandung: Rosdakarya, 2016) Pg: 47.

beings and their environment, and Pedagogic means education theoretically and practically based on philosophical values.¹⁹

In terms of the concept of eco-pedagogy is the integration of education and ecology as well as how humans should live alongside the natural surroundings, as well as the explanation that because eco-pedagogy is an approach to an education of the earth and its citizens, as pointed earlier. Eco-pedagogy is discourse, a movement, and an approach to education that has emerged from leftist educators.²⁰

Eco-pedagogy is a critical pedagogy which gets praxis through the curriculum. However, eco-pedagogy has historical value as a pedagogy that supports sustainable life and education in sustainable development (Education for Sustainable Development) which promoted by Richard Khan in his book and also written with the title *From Education for Sustainable Development to Eco-pedagogy: Sustaining Capitalism Sustaining Life? "* in *Green theory & Praxis: the Journal of Eco-pedagogy*. volume 4, No. 1 of 2008.

Similar to those listed on International Journal of Sustainability in Higher Education Where it talks about EfS or known as Education for Sustainability, which is one of the environmental education in Asia, the

¹⁹ Hana Yunansah & Yusuf tri Herlambang, “Pendidikan berbasis Ekopedagogik dalam Menumbuhkan Kesadaran Ekologis dan Mengembangkan Karakter Siswa Sekolah Dasar”, (Jurnal Pendidikan Dasar, Bandung: Universitas Pendidikan Indonesia, 2017) Pg: 29

²⁰ Muraine. *Opcit.*, Pg:41

alignment of Confucian ideology, or other local schools of philosophy advocating the harmony of humans and nature, with the landscape design for EfS or even the Education for Sustainability programs could be an effective approach to promote a pro-environmental attitude.²¹

Environment education was intended “to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones”. The intended result of these programmes was social change towards a more environmentally sustainable society, assuming that social and economic sustainability is dependent on environmental integrity. At the time, ecocentric education was found to be best suited for this aim as it enables radical and disruptive change.²²

According to the definition above, it can be concluded that eco-pedagogy is an effort or approach aimed to building ecological awareness based on critical reflection of life conditions which not similar with expectations and to build a better future.

²¹ Chi Chiu Hheang, dkk. *Education for sustainability using a campus eco-garden as a learning environment*. International Journal of Sustainability in Higher Education Vol. 18 No. 2, Emerald Publishing Limited, 2017. Pg:256

²² Hellen kopnina & Andreea cocis. *Environmental Education: Reflecting on Application of Environmental Attitudes Measuring Scale in Higher Education Students*. Journal education and sciences, Vol 7 Issue 3. 2017.

b. Principles of Implementation Eco-pedagogy

In educational application, eco-pedagogy needs to be developed in advance based on the principles and approaches which comprehensive or can be understood through holistic learning as follows:

- 1) Learning is not only developed by cognitive domain of orientation achievement, but also including multi domains of cognitive, affective, and psychomotor.
- 2) Eco-pedagogy learning basis emphasizes the development of material which not only limited to textual, but also needs to be developed through contextual approach. It means that learning must be essentially developed by using resources and media in the context of student's life in order to students enable to construct knowledge meaningfully.
- 3) Learning must be oriented to the activity and involvement of students in solving problems cooperatively and collaboratively purpose is to develop students' critical thinking skills to analyze various problems in their life and enable to take solutions to these problems wisely and develop the character of students.

- 4) Learning must be based on an interdisciplinary approach in order to enrich students' knowledge and apprehension comprehensively.²³

C. Eco-Literate (Ecological Intelligence)

Ecological intelligence is the result of understanding eco-pedagogy. Ecological intelligence is an understanding of hidden ecological impacts and solutions to solve them. Also ecological intelligence is built through the understanding that the nature they live must be maintained to keep the energy to support them and others.²⁴

In contrast, Palmer (1998) stated that competence or ecological intelligence includes aspects of knowledge, understanding, and skills which also include competencies in terms of environmental participation. Hines, ecology expert, identifies four main elements that must exist in ecological intelligence:

- a. Knowledge of environmental issues.
- b. Knowledge of specific action strategies to be set on environmental issues.
- c. Ability to act on environmental issues.
- d. Have quality in addressing and good personality attitude.²⁵

²³ Hana Yunansah & Yusuf tri Herlambang, "Pendidikan berbasis Ekopedagogik dalam Menumbuhkan Kesadaran Ekologis dan Mengembangkan Karakter Siswa Sekolah Dasar", (Jurnal Pendidikan Dasar, Bandung: Universitas Pendidikan Indonesia, 2017) Pg: 31

²⁴ Nana S. *Op.cit.*, Pg: 24.

²⁵ Hana Yunansah & Yusuf tri Herlambang. *Op.cit.*, Pg: 32

The main indicators of ecological intelligence developed by *The Center for Ecoliteracy* (2011) include aspects of Knowledge (Head / Cognitive), Attitudes (Heart / Emotional), Skills (Hand / Active) and spiritual (Spirit / Connectional) grouped as follows:²⁶

Table 2.1: Indicators of Ecological Intelligence

No.	Core Competencies	Set of Core Competencies from The Centre of Ecoliteracy
1.	Aspect of Knowledge (Head/ Cognitive)	<ul style="list-style-type: none"> • Approach issues and situations from a system perspective. • Understand fundamental ecological principles. • Think critically, solve problem creatively, and apply knowledge to new situations. • Assess the impact and ethnical effect of human technologies and actions. • Efficient the long-term consequences of decisions.
2.	Aspect of Attitude (Heart/ Emotional)	<ul style="list-style-type: none"> • Feel concern, empathy, and respect for other people and living things. • See from and appreciate multiple perspectives; work with value others with different backgrounds, motivations, and intentions. • Commit to equity, justice, inclusivity, and respect for all people.
3	Aspect of Creativity (Hands/ Active)	<ul style="list-style-type: none"> • Create and use tools, objects, and procedures required by sustainable

²⁶ Nana, S. *Op.Cit.*, Pg: 216.

		<p>communities.</p> <ul style="list-style-type: none"> • Turn convictions into practical and effective actions and apply ecological knowledge to the practice of ecological design. • Assess and adjust uses of energy and resources.
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D. Learning Model and Eco-Pedagogy in Islamic Perspective

Eco-pedagogy is a movement that exists in the context of education. Eco-pedagogy is also the same concept as environmental education. In this term of education, learning model is one of the most appropriate efforts combined with the concept of eco-pedagogy.

As the movement in environmental and educational issue, it has the important role in this era. Because relates to the future, it is the future of education, and the environment. As explained in Qur'an surah Ar-Rum 'verse 41-42:

ظَهَرَ الْفَسَادُ فِي الْبَرِّ وَالْبَحْرِ بِمَا كَسَبَتْ أَيْدِي النَّاسِ لِيُذِيقَهُمْ بَعْضَ الَّذِي عَمِلُوا لَعَلَّهُمْ يَرْجِعُونَ
 قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ كَانَ عَاقِبَةُ الَّذِينَ مِنْ قَبْلُ ۚ كَانُوا أَكْثَرُهُمْ مُشْرِكِينَ

It means: "Corruption has appeared throughout the land and sea by [reason of] what the hands of people have earned so He may let them taste part of [the consequence of] what they have done that perhaps they will return [to righteousness](41). Say, [O Muhammad], "Travel through the land and observe how was the end of those before. Most of them were associators [of others with Allah](42).²⁷

²⁷ <https://quran.com/30/41-42> accessed on 13 Mei 2019 at: 09.16 WIB

The Importance of preserving nature or environment set out in Qur'an Ar-Rum 'verse 41-42 which explain That Allah SWT created the universe and all its content is to be utilized by man for the welfare of his life and prosperity. Mankind was appointed as the Caliph on Earth who was being ayed to preserve nature not to be damaged. People are allowed to dig up the riches of nature, process them, and utilize them as a provision of worship to God and have charity. But in fact, because human beings have greedy, (excessive) nature so that the excavation of nature is uncontrollable which affects natural disasters, such as landslides, floods, nature becomes barren, drought, nature becomes arid, and air contaminated and others. The destruction of the nature will also affect the human self.

E. Influence of Eco-pedagogy base Learning to Eco-Literate

Eco-pedagogy as form of critical theory of education, it can work at meta-level to offer dialectical critiques of environmental education and education for sustainable development. Daniel Goleman says in his book that Ecological Intelligence melds these cognitive skills with empathy for all life.²⁸ So this statement could mean that Ecological Intelligence can increase by learning that will have an impact on the cognitive ability of students.

²⁸ Daniel Goleman. *Ecological Intelligence How knowing the hidden impacts of what we buy can change everything*. (New York: Broadway Books, 2009) Pg: 96.

Daniel Goleman added a statement said that actually we might understand the complexity of the ecological intelligence by the interaction of human and nature. But still no one can keep this one by them self, we must help each other to navigate those complexity. We can try by collaborating of people, as like teachers and students.²⁹

Statement above shows us that Eco-literate can be enhanced through the process of learning, and teachers have a big role in the learning process. So teachers can add ecological education or eco-pedagogy on the planning of learning.

As just described by nana supriatna, he states that ecological intelligence expressed by Daniel goleman put aspects of intellectual knowledge or intelligence is fundamental of ecological intelligence.³⁰ And nana also says that to achieve ecological intelligence needed the eco-pedagogy as one approach of learning.³¹

There is also explained in a document called Earth Charter formulated by the United Nations Environment Programe in 1992 in Rio de Jenairo that Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues... it is critical for achieving environmental and ethical awareness, values and

²⁹ *Ibid.*, Pg: 104.

³⁰ Nana S. *Op.Cit.*, Pg: 90

³¹ *Ibid.*, Pg: 79.

attitudes, skill and behavior consistent with sustainable development and for effective public participation in decision-making (United Nations conference on environment and development, 1992, p.2)³².

In terms of techniques and sociological aspects, eco-literate not only meant by the influence of human beings against other human beings, but also to the environmental system, as explained in the journal *Green & Praxis* that the functional or technical, Eco-literacy is Largely congruent with what is often referred to in contemporary educational literature as “environmental literacy”. It involves goals of learning to understand basic scientific ecology, geology, biology and other scientific insights of the degree that they are relevant to social life. Technical eco-literacy also involves, at more advanced level of research, knowing how societies can affect ecological systems for better or worse.³³

So based on the theory above, It can be known if eco-pedagogy based learning is one way that can be used to improve ecological intelligence of students, one of them with a combined with a model of learning so that it becomes an Eco-pedagogy base Learning Model.

³²Richard Khan. From Education for sustainable development to ecopedagogy: capitalism or sustaining life?. *Journal: Green theory & Praxis the journal of ecopedagogy*. Los Angle June ,2008: Page 6

³³ *Ibid.*, Page 9.

CHAPTER III

RESEARCH METHODS

A. Location of Research

The Location of this research is ten grade in State Senior High School 5 Malang (SMAN 5 Malang) that located in East Java, directly in Tanibar Street number 24 opposite the Aisyiyah Islamic Hospital Malang. The school was chosen because it known as the best school in the field of care for the environment in which the year 2008 had started was awarded the "Adiwiyata Kencana" and continuing in subsequent years. So it was interesting to be used as place of research on the Influence of Implementation eco-pedagogy based learning model to know how the Eco-literate or ecological intelligence of students.

B. Approach and Type of Research

This study uses the Quantitative Approach. That is one form of scientific research that examines problem and phenomena; also see the possibilities of relation of the problem between variables. Objectives of quantitative research to get explanations about significance on model of the right hypothesis as the answers to the problems that have been formulated before.³⁴

Whereas type of this study is Experimental Research which is researchers conducted with a scientific approach, where a set of variables are kept constant

³⁴ Rulli I & Poppy, Y. *Metodologi penelitian Kuantitatif, kualitatif, dan campuran untuk manajemen, pembangunan, dan pendidikan*. (Bandung: Refika Aditama, 2014). Pg: 51

while the other set of variables are being measured as the subject of experiment.³⁵

The objective of this experimental research is testing the implementation of eco-pedagogy base learning model against eco-literate of social students of grade X SMAN 5 Malang. and comparing with implementation of conventional learning model in control group that was doing by teacher in other class.

This research uses Quasy Experimental Design that question of research must contain the relation of causality between variable which is already found at the time of formulating background.³⁶ The subject of the research on this design is natural, for example, research in the group following the Division of the existing class. In this research using Nonequivalent Control Group Design because this research uses two design group, experimental group and control group. Can be described as follows:

Table 3.1: Nonequivalent Control Group Design

Group	Pre-test	Treatment	Post-test
Experimental Group	O ₁	X	O ₂
Control Group	O ₁	-	O ₂

Description:

O₁ : Pretest Result

O₂ : Posttest Result

X : Treatment

³⁵ *Ibid.*, Pg: 57.

³⁶ Deni Darmawan. *Metode Penelitian Kuantitatif*. (Bandung: Rosdakarya, 2014). Page: 51

C. Research Variables

Research variable is every phenomena the observed and became the focus of the research, in other word variable is derivative concepts which contain data or information is dynamic, flexible, volatile, and has the quality characteristics (good and bad).³⁷

1. Independent Variable

Independent variable is variable that has theoretical possibility giving impact to other variables, in this research; researcher using two independent variables is learning models and also using co-variant variable. Co-variant is a variable that predicted have the relation to the learning model, it's a pre-condition before treatment in the classroom that can be known by a pre-test also questioner.

2. Dependent Variable

Dependent variable is the variable being tested and measured in a scientific experiment. The dependent variable is 'dependent' on the independent variable. As the experimenter changes the independent variable, the effect on the dependent variable is observed and recorded. This dependent variable being a “*Primary interest to the researcher*” or main problem for researcher and then become an object of research. In this

³⁷Rulli I & Poppy, Y. *Op.Cit.*, Pg: 12.

research using only one dependent variable is Eco-Literate or Ecological Intelligence.

Identification of the variable can be described as follows:

- Learning model (A₁ and A₂) : Factor / Independent Variable
- Pre-condition (Pre-Test) (X) : Co-Variant / Independent Variable
- Eco-Literate (Y) : Criterium / Dependent Variable

And this is the table work:

Table 3.2: of Research Variable

Eco-pedagogy base learning model (A ₁)		Conventional learning model (A ₂)	
Pre-Condition (X)	Eco-Literate (Y)	Pre-Condition (X)	Eco-Literate (Y)

D. Population and Sample

A. Population

The definition of population is a very important. In this relation it is necessary to distinguish between a population Target (Target/actual Population) and a population of affordable (Accessible Population). The Target/actual Population is the population who want to generalize by researchers, the

Target/actual Population is an ideal choice and affordable population is a realistic choice.³⁸

Target/actual Population in this research are whole students of X grade SMAN 5 Malang 2018-2019 that amounted to 352 students. While the Population is affordable in this study are all social students of grade X SMAN 5 Malang that amounted to 78 students. Population is the collection of all elements that will be drawn the conclusion.

B. Sample

According to Sugiyono, sample is part of the number and characteristics owned by population.³⁹ The samples in this research use the sampling group (*Cluster Sampling*). Cluster sampling is a sampling technique in which his election refers to groups rather than to individual.⁴⁰ So researcher use class X J2 that amounted to 26 students as a sample research of experiment class and X I2 that amounted to 27 Students as a sample research of control class.

E. Data and Data Sources

Resource data is everything that can provide the information based source, and Data is description or information of materials that can be foundation of the study. Resource of data divided into two part is:

³⁸ Uhar Suharsaputra. *Metode Penelitian Kuantitatif, kualitatif, dan tindakan*. (Bandung: Refika Aditama, 2014). Pg: 115.

³⁹ Anih Widia Fadillah, (<http://anihwidia.blogspot.co.id/> accessed 23 march 2017. At: 13.09)

⁴⁰ Uhar Suharsaputra. *Op.Cit.*, Pg: 118.

a) Primary Data

Primary data is data that is got or collected directly in the research field when research is done. Primary data in this research obtained by result of pre-test and post-test and questionnaire also observation against student that used to determine the influence of independent variable (Eco-pedagogy base learning model) to dependent variable (Eco-literate).

b) Secondary Data

Secondary data is the data that collected by other people, not by researchers. This data usually from other research while do by institutions or other organization. Secondary data that used in this research is data that obtained from school part of SMAN 5 Malang in the form of the data of students, school information and additional document that relevant to the study.

F. Research Instruments

Research instrument is a tool or equipment for researcher is used to collect data or information that relevant to the research problems.⁴¹ So the use of research instruments to find complete information about a problem, natural and social phenomena. The instrument used in this research is intended to produce accurate data. The instrument used in this research is a form of test instruments by using a variable, sub variable and indicators and Questionnaire, and the instrument of research as follows:

⁴¹ Rulli I & Poppy, Y. *Op.Cit.*, Pg: 112.

Table 3.3: Instrument of research

Variables	Sub Variables	Indicator	instrument
Learning Model (A)	Eco-pedagogy Base Learning Model (A1)	<ul style="list-style-type: none"> a. Provide material about the study which is being examined by the concept of eco-pedagogy b. Can help students towards an in-depth understanding of the learning material. c. Can provide benefits in learning classrooms; d. Useful for students and the environment 	RPP (Lesson Plan)
	Conventional Learning Model (A2)	<ul style="list-style-type: none"> a. Teacher arranges the learning process with students participate in hands on hand problem solving activities without including concept of eco-pedagogy. b. Teacher emphasizes in process c. Failure encourages the students to continue to search for solution. 	RPP (Lesson Plan)
Pre-Existing Condition (X)	Eco-literate (ecological intelligence) in Knowledge aspect (Head/	<ul style="list-style-type: none"> a. Approach issues and situations from a systems perspective. b. Understand fundamental 	Test (Pre-Test)

	cognitive)	<p>ecological principles</p> <p>c. Think critically, solve problems creativity, and apply knowledge to new situations.</p> <p>d. Assess the impacts and ethical effect of human technologies and actions.</p> <p>e. Envision the long-term consequences of decisions.</p>	
	Eco-literate (ecological intelligence) in Affective aspect (Heart/Emotional)	<p>a. Feel concern, empathy, and respect for other people and living things.</p> <p>b. See from and appreciate multiple perspectives; work with and value others with different backgrounds, motivations, and intentions.</p> <p>c. Commit to equity, justice, inclusivity, and respect for all people.</p>	Questionnaire
	Eco-literate (ecological intelligence) in Creativity aspect (Hand/Active)	<p>a. Create and use tools, objects, and procedures required by sustainable communities.</p> <p>b. Turn convictions into practical and effective actions and</p>	Product, portfolio and practice assessment

		<p>apply ecological knowledge to the practice of ecological design.</p> <p>c. Assess and adjust uses of energy and resources.</p>	
Eco-Literate (Ecological Intelligence) (Y)	Eco-literate (ecological intelligence) in Knowledge aspect (Head/ cognitive)	<p>a. Approach issues and situations from a systems perspective.</p> <p>b. Understand fundamental ecological principles</p> <p>c. Think critically, solve problems creativity, and apply knowledge to new situations.</p> <p>d. Assess the impacts and ethical effect of human technologies and actions.</p> <p>e. Envision the long-term consequences of decisions.</p>	Test (Post-Test)
	Eco-literate (ecological intelligence) in Attitude aspect (Heart/ Emotional)	<p>a. Feel concern, empathy, and respect for other people and living things.</p> <p>b. See from and appreciate multiple perspectives; work with and value others with different backgrounds, motivations, and intentions.</p>	Questionnaire

		c. Commit to equity, justice, inclusivity, and respect for all people..	
	Eco-literate (ecological intelligence) in Creativity aspect (Hand/ Active)	<p>a. Create and use tools, objects, and procedures required by sustainable communities.</p> <p>b. Turn convictions into practical and effective action, and apply ecological knowledge to the practice of ecological design.</p> <p>c. Assess and adjust uses of energy and resources.</p>	Product, portfolio and practice assessment

Table 3.4: Lattice Work of Eco-Literate (Ecological Intelligence)

Core Competencies	Indicators	Sub-Indicators
Cognitive (knowledge)	<p>a. Approach issues and situations from a systems perspective.</p> <p>b. Understand fundamental ecological principles</p> <p>c. Think critically, solve problems</p>	<ul style="list-style-type: none"> • Students describe relations between situation of lithosphere and the urgency of protecting environment by using reusable product, save energy, save fuel and other save earth activities. • Students identifying problem on lithosphere caused of human activities. • Students can identify concern

	<p>creativity, and apply knowledge to new situations.</p> <p>d. Assess the impacts and ethical effect of human technologies and actions.</p> <p>e. Envision the long- term consequences of decisions.</p>	<p>environmental culture of society by understanding subject about exogen energy and utilization of soil.</p> <ul style="list-style-type: none"> • Students can be describing benefits of using reusable product, save energy, save fuel, and other save earth activities. • Students can analysis the sustainability impact of using reusable product, save energy, save fuel, and other save earth activities to environment. • Students can identify ecological intelligence to environment around them in the real life relating with the principal of ecology- interaction, diversity, sustainable, dependency and harmony.
Affective (attitude)	<p>a. Feel concern, empathy, and respect for other people and living things.</p> <p>b. See from and appreciate multiple perspectives; work with and value others with different backgrounds, motivations, and intentions.</p> <p>c. Commit to equity, justice, inclusivity, and respect for all</p>	<ul style="list-style-type: none"> • Students have attitude of caring living thing in environment. • Students have care attitude of environment by using reusable product, save energy, save fuel, and other save earth activities to preserve the environment. • Students be assertive with other that have different perception and action to preserve the environment.

	people.	
Psychomotor (creativity)	<p>a. Create and use tools, objects, and procedures required by sustainable communities.</p> <p>b. Turn convictions into practical and effective action, and apply ecological knowledge to the practice of ecological design.</p> <p>c. Assess and adjust uses of energy and resources.</p>	<ul style="list-style-type: none"> • Students create something by using eco-friendly materials or recycled materials with a message about preserve for the environment. • Students following social media account with environmental theme and can analysis the latest environmental issues from the account. • Students can communicate and socialize message about environmental issues caused of less caring society to environment from the account.

Table 3.5: Lattice Work Eco-literate of Cognitive Competence

No.	Indicator	Sub Indicator	Numb. Of Question
1.	Approach issues and situations from a systems perspective.	Students identifying problem on lithosphere caused of human activities.	3
2.	Understand fundamental ecological principles	Students can identify ecological intelligence to environment around them in the real life relating with the principal of ecology- interaction, diversity, sustainable, dependency and harmony.	5
3.	Think critically, solve problems creativity, and	Students can identify concern environmental culture of society by understanding subject about	6

	apply knowledge to new situations.	exogen energy and utilization of soil.	
4.	Assess the impacts and ethical effect of human technologies and actions.	Students can analysis the sustainability impact of using reusable product, save energy, save fuel, and other save earth activities to environment.	7
5.	Envision the long- term consequences of decisions.	Students can be describing benefits of using reusable product, save energy, save fuel, and other save earth activities.	8

Then the criteria of selected answer in aspect of attitude will be scored according to the answer level. The criteria are:

Table 3.6: Criteria of Questionnaire

Category	Score
S = Always	4
SR = Often	3
J = Rarely	2
TP = Never	1

Then the research lattice of affective competence as follows:

Table 3.7: Lattice Work Eco-literate of Affective Competence

No.	Indicator	Sub Indicator	Numb. Of
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			Question
1.	Feel concern, empathy, and respect for other people and living things.	Students have attitude of caring living thing in environment.	5, 9, 11
2.	See from and appreciate multiple perspectives; work with and value others with different backgrounds, motivations, and intentions.	Students have care attitude of environment by using reusable product, save energy, save fuel, and other save earth activities to preserve the environment.	1, 2, 4, 6, 7,
3.	Commit to equity, justice, inclusivity, and respect for all people.	Students be assertive with other that have different perception and action to preserve the environment	3, 8, 10

Table 3.8: Lattice Work Eco-literate of Creativity Competence

No.	Indicator	Sub Indicator	Numb. Of Question
1.	Create and use tools, objects, and procedures required by sustainable communities.	Students create something by using eco-friendly materials or recycled materials with a message about preserve for the environment.	assessment rubrics
2.	Turn convictions into practical and effective action, and apply ecological	Students following social media account with environmental theme and can analysis the latest environmental issues from the	assessment rubrics

	knowledge to the practice of ecological design.	account.	
3.	Assess and adjust uses of energy and resources.	Students can communicate and socialize message about environmental issues caused of less caring society to environment from the account.	assessment rubrics

G. Technique of Data Collection

This research uses data collecting techniques in the form of dissemination of the question form (questionnaire), test, and observation. Because this research is quantitative in experimental type and researcher as subject:

1. Questionnaire

Questionnaire is a Collecting data technique by giving or spread list of questions to respondent so that respondents giving response from it.⁴² And the definition of Wikipedia is a research instrument consisting of a series of questions (or other types of prompts) for the purpose of gathering information from respondents.⁴³ So questionnaire is a data collecting tool in the form of a series of written questions that submitted to subject to get answers.

⁴² Juliansyah Noor. *Metodologi Penelitian skripsi, thesis, disertasi dan karya ilmiah*. (Jakarta: Prenada Media, 2016) Pg: 139.

⁴³ Wikipedia (<https://en.wikipedia.org>. Accessed 17-1-2019)

Question form to be used in the form of the now closed, i.e. now which has been equipped with alternative answers, using four alternative answers of which always, often, rarely, and never. Respondents answered him by giving the sign of the checklist.

2. Test

In fact the test is a device that contains a series of tasks that must be done or questions that should be answered by students to measure a specific aspect, thus the function of test is as measurement tool. The scope of the question as seen from the aspect of what data will be taken, in this research only search through information and data about Eco-Literate only in the cognitive aspects or knowledge, so the tool to collecting data is use a test that students must be completed.

a. Pre-test

Pretest is a test that is used to find out the capabilities of the students before the process of learning a given treatment. The data obtained from the pretest data was an initial capability possessed by students.

b. Post-test

Posttest is a test that is used to find out the capabilities of the students after the learning process has been given treatment. The data from this posttest is the final ability possessed by students

3. Observation

In completing the research data, then the researcher went to the field that is SMAN 5 Malang, with the aim of knowing and observing directly the problems that occurs which become the research topic. Especially on the subject of geography in ten grade.

H. Validity and Reliability Test

1. Validity Test

Validity is the index or test to know how far the instrument can measure something that wants to be measured. Validity look at the accuracy of the instrument to know if test instrument drafted already valid or not, so need to be tested with the test of the correlation between the score each question with a score total of the questionnaire.⁴⁴

This research using analysis to examine validity of question test, and score of question test is correlated with total score. This exam using formula correlation product moment by Pearson. Instrument has been valid if it has significance <0.05, if Significance >0.05 the item is not valid. To make it easier for analyzing data that was collected so researchers using SPSS Application version 16.0 for windows.

Formula:

$$r_{iY} = \frac{n \sum X_i Y - \sum X_i \sum Y}{\sqrt{[n \sum X_i^2 - (\sum X_i)^2][n \sum Y^2 - (\sum Y)^2]}}$$

⁴⁴ Rulli I & Poppy, Y. *Op.Cit.*, Pg: 132.

Description:

R_{xy} : Coefficient correlation from X and Y

N : total of Sample

X : X-X Average

Y : Y-Y Average

ΣX : total of X Variable

ΣY : total of Y Variable

Table 3.9: Result of Validity Test Instrument

Item	Corrected Item Total Correlation	Sig.	Explanation
1	0.390	0.005	Valid
2	0.287	0.043	Valid
3	0.489	0.000	Valid
4	0.345	0.014	Valid
5	0.435	0.002	Valid
6	0.413	0.003	Valid
7	0.479	0.000	Valid
8	0.718	0.000	Valid

Table 3.10: Result of Validity Subject and Test Instrument by Validator

No.	Statement	Scale	Score
1.	Materi relevan dengan kompetensi yang	Very Good	5

	harus dikuasai siswa		
2.	Konsep ekologi yang ditambahkan dalam materi relevan	Good	4
3.	Kelengkapan materi sesuai dengan tingkat perkembangan siswa	Good	4
4.	Materi cukup memenuhi tuntutan kurikulum	Very Good	5
5.	Ilustrasi bahan dan media sesuai dengan tingkat perkembangan siswa	Enough	3
6.	Ilustrasi bahan dan media yang fungsional cukup	Enough	3
7.	Materi yang disajikan sesuai dengan kebenaran keilmuan	Very Good	5
8.	Materi yang disajikan sesuai dengan perkembangan mutakhir	Good	4
9.	Materi yang disajikan sesuai dengan kehidupan dan permasalahan sehari-hari	Very Good	5
10.	Pengemasan materi dalam bahan dan media sesuai dengan pendekatan keilmuan yang bersangkutan (pendekatan scientific)	Very Good	5
11.	Menyajikan kompetensi yang harus dikuasai siswa.	Very Good	5
12.	Kesesuaian konsep fungsi	Very Good	5
13.	Keseuaian konsep pelestarian lingkungan	Good	4
14.	Mendorong rasa keingin tahuan siswa	Very Good	5
15.	Mendorong terjadinya Interaksi siswa	Very Good	5
16.	Mendorong siswa membangun pengetahuannya sendiri	Good	4
17.	Mendorong siswa belajar secara kelompok	Very Good	5

And the conclusion of the validator is “bisa digunakan atau Uji coba dilapangan sesuai dengan revisi dan saran”.

Table 3.11: Result of Validity Questionnaire Instrument

Item	Corrected Item-Total Correlation	Sig.	Explanation
X1	0.386	0.052	Un-Valid
X2	0.377	0.058	Un-Valid
X3	0.377	0.058	Un-Valid
X4	0.616	0.001	Valid
X5	0.609	0.001	Valid
X6	0.348	0.081	Un-Valid
X7	0.625	0.001	Valid
X8	0.174	0.396	Un-Valid
X9	0.504	0.009	Valid
X10	0.619	0.001	Valid
X11	0.413	0.036	Valid

2. Reliability Test

Reliability is Index that shows measuring instrument can be trusted or relied. Its mean that reliability is index or test to know how measuring instrument already consistent, if measuring twice or more towards the same phenomena. To be known that calculation/ reliability instrument should be

done only on the statement that already have validity test, and if not have the eligible of it so there is no need to continue in reliability instrument.⁴⁵

Reliability of instrument measurement in this research is used Alpha cronbach. This method is suitable for interval data. So, score owned in between numerical value, or example 0-10, 0-100 or 1-5 and so on.

Formula:

$$r_{11} = \frac{k}{k - 1} \times \left\{ 1 - \frac{\sum S_i}{S_t} \right\}$$

Description:

r_{11} : Reliability Instrument.

k : total of question

$\sum S_i$: total of variants question

S_t : Variance total.

According this formula, the correlation coefficient can be looked on the table:

Table 3.12: Result of Reliability Test Instrument

Reliability Statistics	
Cronbach's Alpha	N of Items
.402	8

Cronbach Alpha 0.402 > 0.279 so this test instrument is reliable.

⁴⁵ *Ibid.*, Page: 130-131.

Table 3.13: Result of Reliability Questionnaire

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.550	.634	11

Cronbach Alpha $0.550 > 0.388$ so this questionnaire is reliable.

I. Data Analysis

In this research using Covariate Analysis (ANACOVA), which is the analysis is used with combining comparison test and test correlation. And using *One Way ANCOVA Model*.⁴⁶ Usage analysis covariate caused this research aims to find and test the hypothesis in the form of the influences of independent variable to dependent variable but researcher want to more thoroughly the data that has been obtained caused there is another variable uncontrolled.⁴⁷ Then to avoid them is used Analysis Co-variant, but before is using a classic assumption test and then test the hypothesis.

1. Classical Assumption test

a. Normality Test

Normality test aiming to test wither the regression model, both the dependent variable and independent variable, both of which have normal

⁴⁶ I Gusti Ngurah Agung. *Manajemen Penyajian Analisis Data Sederhana untuk skripsi, Tesis, dan Desertasi yang Bermutu*. (Jakarta: Raja grafindo, 2014) Pg: 185

⁴⁷ Sudjana. *Teknik Analisis Regresi Dan Korelasi Bagi para Peneliti*. (Bandung: Tarsito, 2003) Pg: 256.

distribution or not. Good regression model is a regression model that has a normal or nearly normal distribution.⁴⁸ This research using Kolmogorov-smirnov technique by SPSS version 16.0 for windows.

Normality test with Kolmogorov-smirnov technique almost the same as the Liliefors technique, Test of normality by techniques Kolmogorof-Smirnov conducted by calculating the maximum score from the difference between the cumulative proportion (Kp) and score Z table on top of the bottom.⁴⁹

b. Homogeneity Test

Homogeneity test is a test about similarity or not about distribution of two variants or more. Homogeneity test is used to determine data in X variable and Y variable are homogeneous or not. As propounded in regression analysis required the assumption that Y has the same variants/homogeneity for each X.

In this study using Levene Test with One Way ANOVA to test the homogeneity of data by testing technique of Kolmogorov-Smirnov. as for the formula whose hypotheses are:

H_0 : Variants score experiment group and control group is not same.

H_a : Variants score experiment group and control group is same.

⁴⁸ Imam ghozali *Aplikasi Analisis Multivariat dengan IBM SPSS 25*. (Semarang: badan penerbit Undip, 2018) Pg: 161

⁴⁹ Rulli I & Poppy, Y. *Op.cit.*, Page: 176

In this case if the significance $<0,05$ so the variance both of groups is not same, its mean that H_a rejected.

c. linearity Test

This test is used to see if the specifications of the models used are correct or not. Is the function that used in an empirical study should preferably be linear, quadratic or cubic.⁵⁰ In this research researcher analyzing data by using application of data analysis is SPSS 16 for windows.

2. Hypothesis Test

a. T-Test

T-test is known as partial test, it the test that is used to determine how the effect of every independent variable to dependent variable separately from other independent variable.⁵¹ This table is applicable with comparing $t_{\text{statistic}}$ and t_{table} .

With the formula:

$$T = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

T : Hypothesis Test
R : coefficient regression
N : total of respondent

⁵⁰ Imam Ghozali. *Op.Cit.*, Pg: 167.

⁵¹ Imam Ghozali. *Op.Cit.*, Pg: 179

b. F-Test

F Test is a method to compare variance of two different sets of values. F test is applied on F distribution under null hypothesis. For calculating F test value, we first find the mean of two given observations and then calculate their variance.⁵² F test value is expressed as the ratio of variances of two observations. The comparison between the variances of two sets of data can lead to many predictions.⁵³

F-test is applicable to compare between $F_{\text{statistic}}$ and F_{table} . If $F_{\text{statistic}} > F_{\text{table}}$, Model is significance. Model is significance when significance (%) < Alpha.

With the formula:

$$F_{\text{statistic}} = F = \frac{R^2 / k}{(1 - R^2) / (n - k - 1)}$$

Explanation:

R : multiple correlation coefficient

K : total of independent variable

N : total of sample

J. Research Procedure

This research procedure contains and arranges the stages of research conducted by the researcher. In doing research, the researcher goes beyond several stages, namely:

⁵² Sudjana. *Op.Cit.*,Pg : 260

⁵³ F Test Methods. (<https://formulas.tutorvista.com> Accessed 20-12-2018 at: 22.13 WIB)

1. Pre Research Stage

At this stage researcher make observations to school (SMAN 5 Malang) that related to school “Adiwiyata Kencana” which is can be related too with eco-pedagogy. Furthermore, the researcher submits the title to the lecturer for approval and once approved then researcher registered to department office and get announced about supervisor. After that researcher conduct guidance at least eight times as a condition to take exam of proposal.

2. Research Stage

The first step taken by researchers at this stage is to submit a permit to *CABDIN.Kota Malang* then we will be connected with school. After obtaining approval, the researcher will conduct research to school by teach in two class and distributing instruments of research that will be filled by students of social students in grade ten SMAN 5 Malang, and also collecting documentary of the school to complete the result of research.

3. Post Research Stage

At this stage the research performs the calculation result and analysis of data from multiple sources of data are obtained from the primary and secondary data. From the results of the data analysis then described to address research hypotheses.

CHAPTER IV

DATA FINDINGS AND ANALYSIS

A. Research Site

1. School Profile



Name of School	: SMA Negeri 1 Malang
NPSN	: 20533653
Address	: Jl. Tanimbar No 24 65117,
RT/RW	: 1/3
Kelurahan	: Kasin
Distric	: Klojen
City	: Malang
Province	: East Java
Phone Number/ Fax	: Telp (0341) 364580, Fax (0341)348498
Email	: inbox@sman5malang.sch.id
Website	: http://sman5malang.sch.id/
Headmaster	: Drs. Amat. M. M.Pd
Accreditation	: A
Curriculum	: 2013

2. History of School

In 1960 in municipality of Malang have stood 4 State of Student High School, namely:

- who has the major/ section A
- who has the major/ section B
- who has the major/ section B
- who has the major/ section A and B

Along with the development of education in municipality of Malang especially to accommodate graduates from junior high school so government of municipality of Malang trying to add new state senior high school of course through the ministry of education and culture.

Based on the announcement on the radio in august 1965 built State Senior high school 5 Malang that is the finale of state senior high school 3 Malang. from the announcement on radio so actionable with the publication of the certificate of Ministry of education and culture No.96/SK/13/III/1965 on 13 September 1965. From the date, and this month is the pride day of SMAN 5 Malang, exactly is birthday of SMAN 5 Malang.

The impact of the G 30S PKI/bring a pretty monumental influence for the existence of SMAN 5 Malang, with tenacity group of KAPPI and KAMI, the school building which belong to an ethnic Chinese called MA CHUNG

can be taken over by the Government of Malang and next to the building and the facilities earmarked for educational means.

At that time Mr Drs. Suroto get the trust became a PLH headmaster and Mr. Hadi Sudarmo as the chairman of TU (Tata usaha) and helped by Mr. Djasan As the staff. In teaching and learning activities that time there are 17 teachers, consists of 7 permanent teachers and 10 temporary teachers. Viewed from a sufficient number of students number of students pretty much IE 180 students are divided into 4 classes.

A short history for the building is:

- Panca Tunggal Kodya Malang No.83/U/I/1966 dated 10 October 1966 M. Ng. Sudarto. Kol CAM/TNI about the use of foreign school/ building MA CHUNG for SMAN 5 Malang + SMEA Negeri Malang + ST Negeri 4 Malang
- Penguasa Pelaksana Dwikora Daerah (Pepelrada) Jatim No.67/II/1966 dated 16 September 1966. Sumitro Mayjen TNI about the surrender of the place/the use of the foreign school building MA CHUNG Street Nusa kambangan Malang to became SMAN 5 Malang + SMEA Negeri Malang + ST Negeri Malang.
- Head of the representation of the Ministry of education and culture of East Java No:001/PW.Kpts/SekAsing/1967 dated 3 January 1967. Moh. Abd.

Norbambang about usage and inventory building MA CHUNG to SMAN 5 Malang + SMEA Negeri Malang + ST Negeri Malang.

- Panca Tunggal Kodya Malang No.28/80/PT/1967 dated 2 February 1967 E.P Gondo Subowo about the placement of the building of the former school of foreign / RRT/ MA CHUNG at street Tanimbar Malang given to SMAN 5 Malang + SMEA Negeri Malang + ST Negeri Malang.

The beginning of the year 1975 Government policy is published to enhance the vocational school. With the policy so SMEA Negeri Malang be made the unit a new building located in the Janti on July 1980 SMEA Negeri Malang officially moved from location Jl. Tanimbar and using the new building in Janti.

With the move of SMEA quite happy to SMAN 5 Malang be strong in his decision letter from Walikotamadya of the head regional Level II Malang No. SK/29A/U/III/1980 dated 22 March 1980 about using the building Ex-SMEA Negeri for SMAN 5 Malang + ST Negeri Malang.

Growing conditions and integrity will be medium-skilled workforce is more, then the Government's policy of improving educational services specifically vocational school so STM Negeri 1 Malang created new building that are located in the region of mondoroko Singosari Malang, so lucky favors for SMAN 5 Malang This is apparent with the publication of a letter from the head of the Regional Office of the Ministry of education and culture of East

Java no. 290/104/83/SK dated 21 September 1983. SUGIJO NIP 130048913 about setting back the use of the former space ST Negeri 1 Malang for SMAN 5 Malang and and office of the Ministry of education and culture sub Kedung Kandang + KPPA Negeri Malang + IKIP PGRI Malang.

History continues that Unfortunate Country KPAA eventually moved to Surabaya and IKIP PGRI can be expanded and a new building in the Klayatan sub district of Breadfruit Malang. Thus for sure and steady SMAN 5 Malang developed as SMAN 5 Malang now.

Improvements, developments, increased, continuous innovation on the increase both physical and nonphysical course of school board participation, the public school environment and school community itself to participate in the development of SMAN 5 Malang (later is SMUN 5 Malang).

In 1989 published the decision letter of the Minister of Finance of Indonesia No. S394/MK.03/1089 dated 12 April 1989 about building and land former foreign school about the list while the details of the data and the instructions of the completion of the building and the land the former foreign school, SMAN 5 Malang listed number 16 to Malang and also those decision letter further cemented the position of the SMAN 5 Malang to play a role in the world of education to advance the nation's children.

Judging from the number of students and classes then SMU 5 Negeri Malang including A type of school. This can be seen from the SK Dirjen

PDM No.529/C/Kep/1995 dated 31 December 1995 thereby SMU Negeri 5 is the one that have A type of school in Malang.

Based on SK Indonesian ministry of finance No. S-394. MKO3. 1989 so Drs. E. Wardjik as a Headmaster of SMAN 5 Malang authorized by Kanwil of the Ministry of education and culture east java Drs. Atlan to take care of the ownership of the land occupied by SMAN 5 Malang of the right to be the Government's property rights of Malang but its realization is still not yet.

Passing by selection of NEM, SMAN 5 Malang reach the high position, the equal of the first SMU there This can be proved by gaining achievements in extra activities as well as increased the by selection of lowest NEM in SMA level in Malang, more boast an increase in graduate students who get admission in College netted either through PMDK nor the selection throughout Indonesia.

During the 44 years of existence of SMAN 5 Malang, of course It has been several times experienced relay leadership to increase the quality of school, He respected the we mentioned:

1. Drs. Suroto (13/09/1965),
2. Moh. Iman (1966-19/06/1969),
3. Drs. Soekotjo (20/06/1969-1982),
4. Drs. Abd. Kadir (1982[40 hari]),
5. Satiman (1982-1983),
6. oepono (1983-1988),
7. Drs. S. Subianto(1988-1993),

8. Drs. Wagijo HS (1993-1995),
9. Drs. H. Wardjik (1995-1997),
10. Roesalia S. BA (1997-1998),
11. Drs. Soepardi (1998-2001),
12. Drs. H. Suprijanto (2001-2002),
13. Drs. A. Bambang (2002),
14. Dra. Hj. Rr. Dwi Retno UN., M.P.d (2009)
15. Drs. Supriyono, M. Si. (2009 – 2012)
16. Budi Prasetyo Utomo, M.Pd (2012 – 2015)
17. Anis Isrofin, M.Pd (2015 – sekarang)
18. Drs. Amat. M. M.Pd

3. Vision and Mission of School

a. Vision

SUPERIOR IN IMTAQ, QUALITY, CULTURAL ENVIRONMENT
AND ABLE TO COMPETE IN GLOBALIZATION ERA

b. Mission

- 1) Increasing the faith and devotion to God, also cultural values a source of wisdom in the act.
- 2) Implementing the national curriculum is kurikulum 2013.
- 3) Implementing semester credit system (SKS).
- 4) Increasing academic achievement by developing scientific approach through active learning, creative, effective, and fun for student and teacher so it can improve the potential of student optimally.
- 5) Increasing potential, creation and innovation in learning

- 6) Increasing achievements of non-academic by personal development coaching that can develop student's talent optimally
- 7) Utilizing facilities and infrastructure optimally to achieve Standard of National Education (SNP)
- 8) Increasing professional teacher's quality and staff according demands on required.
- 9) Partnership with sectorial institutions, cross-sectorial, regional, national, and international in the development education program based on the culture of nation, environmentally conscious and follows the development of science and technology.
- 10) Increasing the culture of equality and spirit of excellence so being able to compete in globalization era.
- 11) Increasing environmental attitude through effective and sustainable learning.

B. Description of Research Variable

In the description of variable stage then the data obtained is summarized by the form of the working table to facilitate calculations in the analysis covariance and also to get the number of squares and averages, for more details can be seen the table below:

Table 4.1: Table Quadratic of Test.

	Conventional Learning Model	Eco-pedagogical Learning Model	Total

Total X	1239.5	984.5	2224
Total Y	1589.5	1988	3577.5
Total X²	63372	43025.75	106397.75
Total Y²	98806.25	158066.5	256872.75
Total XY	74890	74876.5	149.766.5

Table 4.2: Table Quadratic of Attitude

	Conventional Learning Model	Eco-pedagogy Based Learning	Total
Total X	748	690	1438
Total Y	756	801	1557
Total X²	21124	18666	39790
Total Y²	21520	25011	46531
Total XY	20962	20997	41959

1. Description of Predictor (A): Learning Model

Learning model is an independent variable that formed by nominal or categorical data, this variable being a predictor variable of covariance analysis to know the result of eco-literate (ecological intelligence) between pretreatment and post treatment in control and experiment class is because of treatment that had been given or because of they have that competencies of pre-existence. The table below shows the details for the variable

Table 4.3: Table of Learning Model

Learning Model

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Control class	27	50.9	50.9	50.9
	Experiment class	26	49.1	49.1	100.0
	Total	53	100.0	100.0	

The table above is table of learning model, and from that table can be seen that learning model has 2 categories, first category is control class that using Conventional Learning Model amounted from 27 students and second category is Experiment class that using Eco-pedagogy Based Learning Model amounted by 26 students.

2. Description of Covariance (X) : Pre-Existence

Pre-Existence of student's eco-literate is the variable of covariance in this study. the reason why researcher using this kind of thing as the covariant is because SMAN 5 Malang was implemented vision and mission that support in environmental education which is same objectives with eco-pedagogy. And also SMAN 5 Malang already presented the school Adiwiyata Kencana from 2008 and still continuing. So researcher thinks that to avoid the mixing of data that was obtained, because of eco-literate of student before implementation learning model and after doing implementation of learning model is different influence.

The distribution of empirical scores for Variable of covariance by controlling pre-existence have the lowest score of 12 and the highest score of 68. The mean score of 41,66. For more details can be seen in the table below:

Table 4.4: Mean, median, mode, range, minimum and maximum score of Pre-Existence (X)

Statistics		
Pre test		
N	Valid	53
	Missing	0
Mean		41.66
Median		43.00
Mode		43
Range		56
Minimum		12
Maximum		68

Table above shows about statistical descriptions of variable X, that is Pre-existence in cognitive aspect in the control and experiment class. Based on the table, so the distribution on the result of Pre-existence in cognitive aspect in the control and experiment class can see at the table below:

Table 4.5: Distribution of Pre Existence (Pretest)

Pre test					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12	4	7.5	7.5	7.5
	18	3	5.7	5.7	13.2
	25	5	9.4	9.4	22.6
	31	3	5.7	5.7	28.3
	37	7	13.2	13.2	41.5
	43	11	20.8	20.8	62.3
	50	6	11.3	11.3	73.6

56	6	11.3	11.3	84.9
62	4	7.5	7.5	92.5
68	4	7.5	7.5	100.0
Total	53	100.0	100.0	

Table above shows about statistical descriptions of variable X, that is Pre-existence in cognitive aspect in the control and experiment class (Pretest). Based on that statistic table, students that have the lowest score is 12 with the frequency of 4 students (7,5%), while the highest score obtained is 68 with the frequency of 4 students (7,5%).

3. Description of Criterion (Y): Eco-Literate (Ecological Intelligence)

The distribution of empirical scores for variable of Criterion that is Eco-Literate (Ecological Intelligence) in cognitive aspect through test spread between the lowest score of 31 and the highest score of 100. The mean of the data is 67.33. for more details can be seen in the table below:

Table 4.6: mean, median, mode, stde of mean, std deviation, range, minimum and maximum score of posttest (Ecological Intelligence)

Post test		
N	Valid	53
	Missing	0
Mean		67.33
Std. Error of Mean		2.356
Median		68.00
Mode		75
Std. Deviation		17.155
Range		69
Minimum		31
Maximum		100

Table 4.7: Distribution of Frequencies and Percentage of posttest (Ecological Intelligence)

Post test					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid 31	1	1.9	1.9	1.9	
37.5	1	1.9	1.9	3.8	
43	3	5.7	5.7	9.4	
43.5	5	9.4	9.4	18.9	
50	1	1.9	1.9	20.8	
56	7	13.2	13.2	34.0	
62	2	3.8	3.8	37.7	
62.5	3	5.7	5.7	43.4	
68	4	7.5	7.5	50.9	
68.5	2	3.8	3.8	54.7	
75	8	15.1	15.1	69.8	
81	5	9.4	9.4	79.2	
81.5	1	1.9	1.9	81.1	
87	5	9.4	9.4	90.6	
87.5	1	1.9	1.9	92.5	
94	3	5.7	5.7	98.1	
100	1	1.9	1.9	100.0	
Total	53	100.0	100.0		

Based on the table above shows that the lowest score is 31 with the frequency of 1 student (1,9%), while the highest score is 100 with the same frequency as before is 1 student (1,9%)

4. The Result of Data Analysis

a) The Classical Assumption Test

This study using classical assumption test in the form of Normality test, Linearity test, and Homogeneity Test.

1) Normality Test

The goal of Normality is to test whether the regression model, both the dependent variable and independent variable, both of them which have normal distribution or not. Good regression model is a regression model that has a normal or nearly normal distribution.⁵⁴ This research uses Kolmogorov-smirnov technique by SPSS version 16.0 for windows. According the Kolmogorov-Smirnov test, the data are normally categorized if the significance value is more than 0,05 and abnormal if the significance value is less than 0,05. For the detail analysis can be seen in table below:

Table 4.8: The Result of Normality Test in Experiment Class

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Score Pretest Experiment Class	.142	26	.192	.949	26	.225
Score Posttest Experiment Class	.164	26	.070	.906	26	.022

a. Lilliefors Significance Correction

Table above shows about The result of Normality test in cognitive aspect of experiment class. Based on table above can be seen

⁵⁴ Imam ghozali *Aplikasi Analisis Multivariat dengan IBM SPSS 25*. (Semarang: badan penerbit Undip, 2018) Pg: 161

that significance on pretest (X) is 0.192 and Posttest (Y) is 0.070 is greater than 0.05. so the conclusion of this data is normal.

Table 4.9: The Result of Normality Test in Control Class

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Score Pretest Control Class	.158	27	.081	.950	27	.217
Score Posttest Control Class	.134	27	.200*	.969	27	.563

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Table above shows about the result of Normality test in cognitive aspect of control class. Based on table above can be seen that significance on pretest (X) is 0.081 and Posttest (Y) is 0.200 is greater than 0.05. So the conclusion of this data is normal.

Table 4.10: The Result of Normality Questionnaire in Experiment Class

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
pre questionnaire experiment	.170	26	.052	.946	26	.183
post questionnaire experiment	.136	26	.200*	.971	26	.640

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Table above shows about the result of Normality test of affective aspect in experiment class. Based on table above can be seen that

significance on pretest (X) is 0.052 and Posttest (Y) is 0.200 is greater than 0.05. So the conclusion of this data is distribution normal.

And the result of normality test in experiment class shows below:

Table 4.11: The Result of Normality Questionnaire in Control Class

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pre questionnaire control	.162	27	.068	.946	27	.168
post questionnaire control	.141	27	.179	.946	27	.168

a. Lilliefors Significance Correction

Table above shows about the result of Normality test of affective aspect in control class. Based on table above can be seen that significance on pretest (X) is 0.068 and Posttest (Y) is 0.179 is greater than 0.05. So the conclusion of this data is distribution normal.

Table 4.12: The Result of Normality Test Of Psychometric in Experiment Class

One-Sample Kolmogorov-Smirnov Test

		Pre_Treat	Post_Treat
N		26	26
Normal Parameters ^a	Mean	9.0099	9.2447
	Std. Deviation	.46363	.34317
Most Extreme Differences	Absolute	.187	.231
	Positive	.187	.168
	Negative	-.175	-.231
Kolmogorov-Smirnov Z		.951	1.179
Asymp. Sig. (2-tailed)		.326	.124
Monte Carlo Sig. (2-tailed)	Sig.	.288 ^c	.107 ^c
	99% Confidence Lower Bound	.276	.099

	Interval	Upper Bound	.299	.115
a. Test distribution is Normal.				

--	--

c. Based on 10000 sampled tables with starting seed 2000000.

The result of K-S statistic test for Pretreatment of creativity get score 0.187 with the probability $0.175 > 0.05$ and compared with Kolmogorov table is $0.175 < 0.259$ its mean that distribution of the data is normal. And for Post treatment of creativity get score 0.231 > 0.05 and $0.231 < 0.259$ its mean that distribution of the data is normal. So distribution of the data in experiment class of psychometric (creativity) aspect is normal.

Table 4.13: The Result of Normality Test of Psychometric in Control Class

One-Sample Kolmogorov-Smirnov Test

			Pre treatcon	Pos ttreatcon
N			27	27
Normal Parameters ^a	Mean		8.4704	8.5950
	Std. Deviation		.32761	.36272
Most Extreme Differences	Absolute		.217	.180
	Positive		.217	.180
	Negative		-.148	-.131
Kolmogorov-Smirnov Z			1.127	.935
Asymp. Sig. (2-tailed)			.157	.346
Monte Carlo Sig. (2-tailed)	Sig.		.141 ^c	.310 ^c
	99% Confidence Interval	Lower Bound	.132	.298
		Upper Bound	.150	.321

a. Test distribution is Normal.				
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c. Based on 10000 sampled tables with starting seed 926214481.

The result of K-S statistic test for Pretreatment of creativity get score 0.187 with the probability $0.217 > 0.05$ and compared with Kolmogorov table is $0.217 < 0.254$ its mean that distribution of the data is normal. And for Post treatment of creativity get score 0.180 > 0.05 and $0.180 < 0.259$ its mean that distribution of the data is normal. So distribution of the data in control class of psychometric (creativity) aspect is normal.

2) Linearity Test

This test is used to see if the specifications of the models used are correct or not. Is the function that used in an empirical study should preferably be linear, quadratic or cubic.⁵⁵ In this research researcher analyzing data by using application of data analysis is SPSS 16 for windows. As follows:

Table 4.14: The Result of Linearity Test in Control Class.
ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Score Pretest Control Class *	Between Groups	(Combined)	3408.769	11	309.888	1.490	.233
Score Posttest Control Class		Linearity	79.169	1	79.169	.381	.547
		Deviation from Linearity	3329.599	10	332.960	1.601	.199
	Within Groups		3119.750	15	207.983		
	Total		6528.519	26			

⁵⁵ Imam Ghozali. *Op.Cit.*, Pg: 167.

Table above shows about the result of Linearity test in cognitive aspect of experiment class. Based on table above can be seen that Std of linearity (1.601) is greater than 0.05. So the conclusion of the data is have the linear correlation significantly between pre-existence (Variable X) and Eco-literate (Variable Y) in cognitive aspect of control class.

Table 4.15: The Result of Linearity Test in Experiment Class

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Score Pretest Experiment Class * Score Posttest Experiment Class	Between (Combined) Groups	2639.013	7	377.002	2.147	.091
	Linearity	34.463	1	34.463	.196	.663
	Deviation from Linearity	2604.549	6	434.092	2.472	.064
	Within Groups	3161.333	18	175.630		
	Total	5800.346	25			

Table above shows about the result of Linearity test in cognitive aspect of experiment class. Based on table above can be seen that Std of linearity (0.064) is greater than 0.05. So the conclusion of the data is have the linear correlation significantly between pre-existence (Variable X) and Eco-literate (Variable Y) in cognitive aspect of Experiment class.

Table 4.16: The Result of Linearity Test of Questionnaire in Experiment Class**ANOVA Table**

			Sum of Squares	df	Mean Square	F	Sig.
post questionnaire experiment *	Between Groups	(Combined)	62.018	10	6.202	1.226	.349
		Linearity	.000	1	.000	.000	.995
pre questionnaire experiment		Deviation from Linearity	62.018	9	6.891	1.362	.287
	Within Groups		75.867	15	5.058		
	Total		137.885	25			

Table above shows about the result of Linearity test in affective aspect of experiment class. Based on table above can be seen that Std of linearity (0.287) is greater than 0.05. So the conclusion of the data is have the linear correlation significantly between pre-existence (Variable X) and Eco-literate (Variable Y) in affective aspect of experiment class. And the result of linearity test in control class shows below:

Table 4.17: The Result of Linearity Test of Questionnaire in Control Class**ANOVA Table**

			Sum of Squares	df	Mean Square	F	Sig.
post questionnaire control * pre questionnaire control	Between Groups	(Combined)	32.810	7	4.687	.501	.822
		Linearity	2.708	1	2.708	.289	.597
		Deviation from Linearity	30.101	6	5.017	.536	.774
	Within Groups		177.857	19	9.361		
	Total		210.667	26			

Table above shows about the result of Linearity test in affective aspect of control class. Based on table above can be seen that Std of linearity (0.774) is greater than 0.05. So the conclusion of the data is have the linear correlation significantly between pre-existence (Variable X) and Eco-literate (Variable Y) in affective aspect of control class.

Table 4.18: The Result of Linearity Test of Psychometric in Control Class

			Correlations	
kat_prel			Pre Treat of creativity in control	Post Treat of creativity in control
1	Pre Treat of creativity in control	Pearson Correlation Sig. (2-tailed) N	1 16	.632** 16
	Post Treat of creativity in control	Pearson Correlation Sig. (2-tailed) N	.632** .009 16	1 16
2	Pre Treat of creativity in control	Pearson Correlation Sig. (2-tailed) N	1 11	.672* .024 11
	Post Treat of creativity in control	Pearson Correlation Sig. (2-tailed) N	.672 .024 11	1 11

a. Cannot be computed because at least one of the variables is constant.

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table above shows about verification of linearity test with quadratic model on psychometric aspect in control class with the

detail is the output is distinguished with Kat_PreI (pre-treatment). With Kat_preI 1 is (low group) with the quantity is 14 student have $r= 0.632$ with $(P<0.01)$ and Kat_preI 2 is (high group with the quantity is 11 students have $r=0.672$ and $(P>0.01)$.

Table 4.19: The Result of Linearity Test of Psychometric in Experiment Class

			Correlations	
kat_preJ			Pre Treat of creativity in experiment	Post Treat of creativity in experiment
1	Pre Treat of creativity in experiment	Pearson Correlation	1	.877**
		Sig. (2-tailed)		.000
		N	14	14
	Post Treat of creativity in experiment	Pearson Correlation	.877**	1
		Sig. (2-tailed)	.000	
		N	14	14
2	Pre Treat of creativity in experiment	Pearson Correlation	1	.666*
		Sig. (2-tailed)		.018
		N	12	12
	Post Treat of creativity in experiment	Pearson Correlation	.666*	1
		Sig. (2-tailed)	.018	
		N	12	12

a. Cannot be computed because at least one of the variables is constant.

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table above shows about verification of linearity test with quadratic model on psychometric aspect in experiment class with the detail is the output is distinguished with Kat_PreJ (pre-treatment).

With Kat_preJ 1 is (low group) with the quantity is 14 student have $r = 0.877$ with ($P < 0.01$) and $Kat_pre J$ 2 is (high group with the quantity is 12 students have $r = 0.666$ and ($P > 0.01$).

3) Homogeneity Test

In this study using Levene Test with One Way ANOVA to test the homogeneity of data by testing technique of Kolmogorov-Smirnov. as for the formula whose hypotheses are:

H_0 : Variance score experiment group and control group is not same.

H_a : Variance score experiment group and control group is same.

Table 4.20: The Result of Homogeneity of Test
Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Pre test	.017	1	51	.898
Post test	.049	1	51	.825

Table above shows about the result of Homogeneity test in cognitive aspect of experiment and control class. Based on table above can be seen that score of lavene test (0.017) is lower than 0.05 and the significant of pretest is greater than 0.05. So the data of pretest is homogeny, and score of lavene test (0.049) is lower than 0.05 and the significant of posttest is greater than 0.05. So the data of posttest is homogeny for control and experiment class.

Table 4.21: The Result of Homogeneity Test of Questionnaire Instrument

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
pre questionnaire	1.217	1	51	.275
post questionnaire	1.683	1	51	.200

Table above shows about the result of Homogeneity test in affective aspect of experiment and control class. Based on table above can be seen that the significant of pre experiment (0.275) is greater than 0.05. So the data of pre-experiment is homogeneity for control and experiment class, and the significant of post experiment (0.200) is greater than 0.05. So the data of post experiment is homogeneity for control and experiment class.

Table 4.22: The Result of Homogeneity Test of Creativity Aspect**Test of Homogeneity of Variances**

	Levene Statistic	df1	df2	Sig.
Pre Treat of Creativity	3.057	1	51	.086
Post Treat of Creativity	.073	1	51	.788

Table above shows about the result of Homogeneity test in psychometric aspect of experiment and control class. Based on table above can be seen that the significant of pre experiment (0.086) is greater than 0.05, so the data of pre-experiment is homogeneity for control and experiment class. And the significant of post experiment

(0.788) is greater than 0.05. So the data of post experiment is homogeny for control and experiment class.

b) Hypothesis Test

Hypothesis test to understand the influence of implementation of conventional learning model and eco-pedagogy based learning model on eco-literate (ecological intelligence social students grade X in SMAN 5 Malang then made the following hypothesis:

H₀: There is no influence of implementation eco-pedagogy base learning model to eco-literate (Ecological Intelligence) of Social Student grade X SMAN 5 Malang by controlling pre-existing condition (In cognitive, psychometric and affective aspect)

H_a: There is a influence of implementation eco-pedagogy base learning model to eco-literate (Ecological Intelligence) of Social Student grade X SMAN 5 Malang by controlling pre-existing condition. (In cognitive, psychometric and affective aspect)

So test that uses are:

(1). Partial Test (T-Test)

Table 4.23: Partial Test of Post Test (Y)

Group Statistics					
	LM	N	Mean	Std. Deviation	Std. Error Mean
Post test	1	27	58.87	14.185	2.730
	2	26	76.12	15.662	3.072

Table above shows about the result of group statistic in cognitive aspect of control class (1) and experiment class (2). From the table above can be seen that mean of posttest score from control class (58.87) lower than experiment class (76.12). it so clear that the mean of experiment class have the different scores with control class, but see the output in independent sample test below:

Table 4.24: The Result of Independent Sample Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest	Equal variances assumed	.049	.825	4.204	51	.000	-17.245	4.102	-25.479	-9.011
	Equal variances not assumed			4.196	50.060	.000	-17.245	4.109	-25.499	-8.991

Table above shows about the result of Independent sample test of cognitive aspect in control class (1) and experiment class (2). From the table above can be seen that the assumption is equal variance assumed, so it means T score of the table (4.204) with the probability 0.000 (two-tailed) can be conclude that the mean of score is different significantly between experiment class and control class. And score of the experiment class is higher than control class.

Table 4.25: Partial test of Post Treatment of Creativity Aspect (Y)

Group Statistics

Learning Model		N	Mean	Std. Deviation	Std. Error Mean
Post Treat of Creativity	Control class	27	8.5950	.36272	.06981
	Experiment class	26	9.2447	.34317	.06730

Table above shows about the result of group statistic in Psychometric aspect of control class (1) and experiment class (2). From the table above can be seen that mean of post treatment score from control class (8.59) lower than experiment class (9.24). It so clear that the averages of experiment class have the different scores with control class, but see the output in independent sample test below:

Table 4.26: The Result of Independent Sample Test of Creativity Aspect

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Post Treat of Creativity	Equal variances assumed	.073	.788	-6.693	51	.000	-.64970	.09707	-.84457	-.45483
	Equal variances not assumed			-6.700	50.985	.000	-.64970	.09696	-.84437	-.45503

Table above shows about the result of Independent sample test of cognitive aspect in control class and experiment class. From the table above can be seen that the assumption is equal variance assumed, so it means T score of the table (6.693) with the probability 0.000 (two-tailed) can be conclude that the mean of score is different significantly between experiment class and control class. And score of the experiment class is higher than control class

(2) Simultaneous Test (F-Test)

F Test is a method to compare variance of two different sets of values. F test is applied on F distribution under null hypothesis. For calculating F test value, we first find the mean of two given observations and then calculate their variance.⁵⁶ F test value is expressed as the ratio of variances of two observations. The comparison between the variances of two sets of data can lead to many predictions.⁵⁷

F-test is applicable to compare between $F_{\text{statistic}}$ and F_{table} . If $F_{\text{statistic}} > F_{\text{table}}$, Model is significance. Model is significance when significance (%) $< \text{Alpha}$. So see the table of Descriptive Statistic below:

Table 4.27: Descriptive Statistic Post Test

⁵⁶ Sudjana. *Op.Cit.*,Pg : 260

⁵⁷ F Test Methods. (<https://formulas.tutorvista.com> Accessed 20-12-2018 at: 22.13 WIB)

Descriptive Statistics

Dependent Variable:Posttest

Learning Model	Mean	Std. Deviation	N
control class	58.87	14.185	27
experiment class	76.12	15.662	26
Total	67.33	17.155	53

Table above shows about descriptive statistic of dependent variable, that is posttest of cognitive aspect in control class (1) and experiment class (2). And the data conclude that the mean of control class (58,87) is lower than experiment class (76.12). for the details can be seen in the table of result below:

Table 4.28: The Result of Test Between Subject Effects

Tests of Between-Subjects Effects

Dependent Variable:Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4125.083 ^a	2	2062.541	9.226	.000	.270
Intercept	24002.622	1	24002.622	107.362	.000	.682
Pretest	186.061	1	186.061	.832	.366	.016
LM	4117.169	1	4117.169	18.416	.000	.269
Error	11178.389	50	223.568			
Total	255571.250	53				
Corrected Total	15303.472	52				

a. R Squared = .270 (Adjusted R Squared = .240)

Table above shows about the result of Test between subject effects of dependent variable, that is posttest of cognitive aspect in control class (1) and experiment class (2). The conclusion from the table above is:

The Result Hypothesis Test of cognitive aspect are:

- Hypothesis of Research

H_0 : There is no influence of implementation eco-pedagogy base learning model to eco-literate (Ecological Intelligence) in cognitive aspect of social student grade X SMAN 5 Malang by controlling pre-existing condition.

H_a : There is a influence of implementation eco-pedagogy base learning model to eco-literate (Ecological Intelligence) in cognitive aspect of social student grade X SMAN 5 Malang by controlling pre-existing condition.

- Signification = 5%
- Testing criteria: if $F_{\text{statistic}} > F_{\text{table}}$ then H_0 rejected; $P < 0.05$ then H_0 rejected.
- The Result of Statistical Test
 $F_{\text{statistic}} = 18.416 > F_{\text{table}} = 4.03$ then H_0 Rejected
 $\text{Sig.} = 0.000 < 0.05$ then H_0 Rejected
- Interpretation

There is a positive influence of implementation eco-pedagogy base learning model to eco-literate (Ecological Intelligence) in cognitive aspect of social student of grade X SMAN 5 Malang by controlling pre-existing condition.

Table 4.29: Descriptive Statistics of Psychometric Aspect

Descriptive Statistics

Dependent Variable: Post Treat of Creativity

Learning Model	Mean	Std. Deviation	N
Control class	8.5950	.36272	27
Experiment class	9.2447	.34317	26
Total	8.9137	.47950	53

Table above shows about descriptive statistic of dependent variable, that is posttest of psychometric aspect in control class and experiment class. And the data conclude that the mean of control class (8.59) is lower than experiment class (9.24). For the details can be seen in the table of result below:

Table 4.30: The Result of Test between Subject Effects

Tests of Between-Subjects Effects

Dependent Variable: Post Treat of Creativity

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	9.933 ^a	2	4.967	122.781	.000	.831
Intercept	.691	1	.691	17.089	.000	.255
Pre_psy	4.342	1	4.342	107.347	.000	.682
LM	.591	1	.591	14.612	.000	.226
Error	2.023	50	.040			
Total	4223.000	53				
Corrected Total	11.956	52				

a. R Squared = .831 (Adjusted R Squared = .824)

Table above shows about the result of Test between subject effects of dependent variable, that is post treatment of psychometric aspect in control class and experiment class. The conclusion from the table above is:

The Result Hypothesis Test of psychometric aspect are:

- Hypothesis of Research

H_0 : There is no influence of implementation eco-pedagogy base learning model and conventional learning model on eco-literate (Ecological Intelligence) in psychometric of Social Student grade X SMAN 5 Malang by controlling pre-existing condition.

H_a : There is an influence of implementation eco-pedagogy base learning model and conventional learning model on eco-literate (Ecological Intelligence) in psychometric aspect of Social Student grade X SMAN 5 Malang by controlling pre-existing condition.

- Signification = 5%
- Testing criteria: if $F_{\text{statistic}} > F_{\text{table}}$ then H_0 rejected; $P < 0.05$ then H_0 rejected.

- The Result of Statistical Test

$F_{\text{statistic}} = 14.612 > F_{\text{table}} = 4.03$ then H_0 Rejected

Sig. = 0.000 < 0.05 then H_0 Rejected

- Interpretation

There is an influence of implementation eco-pedagogy base learning model to eco-literate (Ecological Intelligence) in Psychometric Aspect of Social Student Grade X SMAN 5 Malang by controlling pre-existing condition. And its mean that H0 rejected and Ha accepted.

(3) Partial Test (Paired Sample T-Test)

Paired sample t-test was used to calculate the score of the student's eco-literate in the affective musty, which data is obtained by spreading the questionnaire. That was spreads in experiment and control class

Table 4.31: Paired Sample T-Test Statistic

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre questionnaire control	16.11	27	2.423	.466
	post questionnaire control	16.11	27	2.847	.548
Pair 2	pre questionnaire experiment	16.31	26	2.950	.579
	post questionnaire experiment	17.35	26	2.348	.461

Table 4.32: Paired Sample T-Test Statistic

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 pre questionnaire control - post questionnaire control	.000	3.942	.759	-1.559	1.559	.000	26	1.000
Pair 2 pre questionnaire experiment - post questionnaire experiment	-1.038	3.768	.739	-2.560	.484	-1.405	25	.172

Table above shows about the result of Paired Sample Test between pre experiment and post experiment in affective aspect, that is data of cognitive aspect in control class (Pair 1) and experiment class (Pair 2).

The conclusion from the table above is:

The Result Hypothesis Test of Affective aspect are:

- Hypothesis of Research

H_0 : There are no difference average scores of eco-literate (Ecological Intelligence) in affective aspect of Social Student of grade X SMAN 5 Malang before and after treatment.

H_a : There are difference average scores of eco-literate (Ecological Intelligence) in affective aspect of Social Student of grade X SMAN 5 Malang before and after treatment.

- Significance : 5%
- Testing criteria $-T_{\text{statistic}} < -T_{\text{table}}$ then H_0 Rejected; and $P < 0.05$ then H_0 Rejected. Also $T_{\text{statistic}} > T_{\text{table}}$ then H_0 accepted; and $P > 0.05$ then H_0 Accepted
- The Result of Statistic Test of Experiment Class

$T_{\text{statistic}} = -1.405 > T_{\text{table}} = -2.059$	then H_0 Accepted
Sig. = 0.172 > 0.05	then H_0 Accepted
- The Result of Statistic Test of Control Class

$T_{\text{statistic}} = 0.000 < T_{\text{table}} = 2.055$	then H_0 Accepted
Sig. = 1.000 > 0.05	then H_0 Accepted
- Interpretation

There are no difference average scores of eco-literate (Ecological Intelligence) in affective aspect of Social Student of grade X SMAN 5 Malang before and after treatment. But because of T statistic is have negative score in experiment class, its mean that average before treatment by implementing eco-pedagogy based

learning model is lower than average after treatment by implementing eco-pedagogy based learning model.



CHAPTER V

DISCUSSION

A. The Influence of the Implementation of Conventional Learning Model on Eco-Literate (Ecological Intelligence).

There are many purposes of education because education itself is a conscious effort and a plan to create a learning atmosphere so that learners actively develop their potential to have spiritual strength, Self-control, personality, intelligence, noble morality, and skills by himself, society, nation, and state. With regard to the statement, learning will also require the specific stages, tools and even components required to achieve that goal.

Education is also expected to have a role in the consciousness of the environment or place we live in. from this hope, the teacher can achieve that goal in various ways, one of them by implementing environmental learning. But it is not an easy thing, like using learning model as one way to achieve that goal.

There are various ways to achieve the learning objectives, including using the learning model. Because learning model is a particular pattern or step of learning applied in order to achieve the goals or competencies of learning outcomes which expected to be achieved effectively and efficiently. Similarly, according to Weil, learning model is a plan or pattern that can be used to form a

curriculum for long-term implementation plans, designing learning materials and guiding learning in the classroom or others.⁵⁸

It is a difficult thing to achieve environmental learning without forgetting competencies and learning objectives, like conventional learning model as one of learning instructions in learning process. That is one of the learning models that assumed can achieve the competencies had been set before. as explained in Qur'an Yusuf 'verse 2-3:

إِنَّا أَنْزَلْنَاهُ قُرْآنًا عَرَبِيًّا لَعَلَّكُمْ تَعْقِلُونَ ﴿٢﴾ نَحْنُ نَقُصُّ عَلَيْكَ أَحْسَنَ الْقَصَصِ بِمَا أَوْحَيْنَا إِلَيْكَ هَذَا الْقُرْآنَ وَإِنْ كُنْتَ مِنْ قَبْلِهِ لَمِنَ الْغَافِلِينَ

Its means: Indeed, We have sent it down as an Arabic Qur'an that you might understand (2). We relate to you, [O Muhammad], the best of stories in what We have revealed to you of this Qur'an although you were, before it, among the unaware (3).

The ayah above explains that Allah has lowered the Qur'an using Arabic to the Prophet Muhammad SAW. And the Prophet conveyed to his companions with stories and lectures. The lecture method (preaching methods) is still the dominant teaching method, especially in traditional schools. And it can be relate that conventional learning models especially formed by preaching method is one of the considerable learning instructions to achieve the purposes and competencies of learning.

⁵⁸ Rusman. *Model-model pembelajaran: mengembangkan profesionalisme guru*. (Jakarta: Rajawali Pers. 2011) Pg: 133.

The result of research about the influence of the implementation conventional learning model by controlling the initial ability (Pre-Existence) in cognitive aspect using SPSS 16.0 shows that there are influence of implementation conventional learning model on eco-literate (Ecological Intelligence) in cognitive aspect by controlling pre-existing condition but not as much as implementing eco-pedagogy based learning model. This is still not to be said that the application of the learning model necessarily affect the students' eco-literate, because it should still consider the early students' ability or it called Pre-existence of eco-literate.

In affective aspect, there are no difference average scores of eco-literate (Ecological Intelligence) in affective aspect because of implementing conventional learning model, but because of T statistic is have 0.000 score in control class, its mean that average before treatment by implementing conventional learning model is same with average after treatment by implementing conventional learning model. Opposite with psychometric aspect that there are influences of implementation conventional learning model on eco-literate (Ecological Intelligence) in psychometric aspect by controlling pre-existing condition but not as much as implementing eco-pedagogy based learning model.

The reason why researcher choose conventional learning model and focus on preaching method in control class is because the result of first observation in

the class room. teacher using conventional learning model as form of preaching learning methods in the class room and just focus on teacher center approach. As the theory of Prof. Winarno Surakhmad M.Ed in his book titled “Pendidikan Nasional, Strategi dan Tragedi” the statement says that preaching method is explanation and narrative orally by the teacher of the class, while the student to listen carefully, and to record the underlying by the teacher.⁵⁹

Above statement explain that by conventional and traditional learning process is one of the method of learning process that also have the objective of purpose to achieve competency that have been set. And also Before researcher decide to choose conventional learning model, researcher also having interview with teacher of subject about what learning model that usually used when teacher teach the subject in the class, and teacher says that she always using conventional learning model to teach in grade ten, because the subject still have so many material and lesson to teach, so to avoid unfinished material, teacher still use conventional learning model with focused on preaching methods.

From the reason that explained above, researcher decides to use the conventional learning model with formed by preaching model as comparator learning model in control class. Actually, there no one theory that related between conventional learning model and eco-literate (ecological intelligence). But as long as learning process all of them are still same on the purpose, there are

⁵⁹ Winarno Surakhmad. *Pendidikan Nasional, Strategi dan Tragedi*. (Jakarta: Kompas, 2009). Pg: 6

develop their potential to have spiritual strength, Self-control, personality, intelligence, noble morality, and skills by himself, society, nation, and state. It has the same meaning with increase and be aware with the environment around you by developing self-control, personality intelligence and so on.

While the school implements the concept of environmental culture and sustainable learning, but teacher still using conventional learning model to make sure that never be unfinished material in grade ten of social student in subject of geography. There is still has the differences between implementing conventional learning model or not to eco-literate of students. Meanwhile the implementation of conventional learning model is not having too much effect on Eco-literate but still provide a considerable influence on students' eco-literate in cognitive and psychometric aspect, but there is no effect on affective aspect. Thus it can be conclude that the implementation of conventional learning model have influence on eco-literate (ecological intelligence) of social students grade X SMAN 5 Malang in control class.

B. The Influence of the Implementation of Eco-Pedagogy Based Learning Model on Eco-Literate (Ecological Intelligence).

In education have many purposes, because education itself is a conscious effort and a plan to create a learning atmosphere so that learners actively develop their potential to have spiritual strength, Self-control, personality, intelligence, noble morality, and skills by himself, society, nation, and state. With regard to

the statement, learning will also require the specific stages, tools and even components required to achieve that goal.

Educational objectives certainly not only focused on the development of knowledge, education also can be related by develop of attitude where they lived in, and live with the community and how it should behave in the surrounding. Because environmental issues are still continuing and education have the important role in its handling process, so that with education expected environmental awareness can be improved.

Palmer (1998) stated that competence or ecological intelligence includes aspects of knowledge, understanding, and skills which also include competencies in terms of environmental participation. Hines, ecology expert, identifies four main elements that must exist in ecological intelligence:

- a. Knowledge of environmental issues.
- b. Knowledge of specific action strategies to be set on environmental issues.
- c. Ability to act on environmental issues.
- d. Have quality in addressing and good personality attitude.⁶⁰

It also explained by Prof. Nana supriatna in his book that Eco-literate or ecological intelligence is an understanding of hidden ecological impacts and

⁶⁰ Hana Yunansah & Yusuf tri Herlambang, “Pendidikan berbasis Ekopedagogik dalam Menumbuhkan Kesadaran Ekologis dan Mengembangkan Karakter Siswa Sekolah Dasar”, (Jurnal Pendidikan Dasar, Bandung: Universitas Pendidikan Indonesia, 2017) Pg: 32

solutions to solve them. Ecological intelligence is built through the understanding that the nature they live must be maintained to keep the energy to support them and others.⁶¹

In terms of techniques and sociological aspects, eco-literate not only meant by the influence of human beings against other human beings, but also to the environmental system, as explained in the journal *Green & Praxis* that the functional or technical, Eco-literacy is Largery congruent with what is often referred to in contemporary educational literature as “environmental literacy”. It involves goals of learning to understand basic scientific ecology, geology, biology and other scientific insights of the degree that they are relevant to social life.

Environment education is a hegemonic form of educational discourse with eco-pedagogy that has been created to alleviating our mounting global ecological crisis. It was intended “to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually

⁶¹ Nana, S. *Ecopedagogy Membangun kecerdasan ekologis dalam pembelajaran IPS*. (Bandung: Rosdakarya, 2016) Pg: 24.

and collectively toward solutions of current problems and the prevention of new ones”.⁶²

Eventually in the learning process teachers will conduct the instructional activities to transfer the knowledge and value to students. One of the instructional tools that usually used by teachers is lesson plan to achieve the goals or competencies of learning outcomes. In the Lesson Plan of course there are several stages of learning which is collectively referred to as the learning model.

According to Weil, learning model is a plan or pattern that can be used to form a curriculum for long-term implementation plans, designing learning materials and guiding learning in the classroom or others.⁶³ So teachers can develop the pattern of learning process by developing learning models.

In this study researchers combine the concept of the eco pedagogy in its model of learning, because it is considered to have an influence on the ecological consciousness of students, where Eco-pedagogy is a movement intellectuals desire to make a systematic statement about the interrelationship between humanity and the earth and formulate a mission for education to universally

⁶² Hellen kopnina & Andreea cocis. *Environmental Education: Reflecting on Application of Environmental Attitudes Measuring Scale in Higher Education Students*. Journal education and sciences, Vol 7 Issue 3. 2017.

⁶³ Rusman. *Model-model pembelajaran: mengembangkan profesinalisme guru*. (Jakarta: Rajawali Pers. 2011) Pg: 133.

integrate an ecological ethic.⁶⁴ As explained in journal of education and practice that Eco-pedagogy is an approach to an education of the earth and its citizens, as pointed earlier, eco-pedagogy is discourse, a movement, and an approach to education that has emerged from leftist educators.⁶⁵

In terms of the concept of eco-pedagogy is the integration of education and ecology as well as how humans should live alongside the natural surroundings, as well as the explanation that because eco-pedagogy is an approach to an education of the earth and its citizens. Similar to those listed on International Journal of Sustainability in Higher Education Where it talks about EfS or known as Education for Sustainability, which is one of the environmental education in Asia, the alignment of Confucian ideology, or other local schools of philosophy advocating the harmony of humans and nature, with the landscape design for EfS or even the Education for Sustainability programs could be an effective approach to promote a pro-environmental attitude.⁶⁶

Eco pedagogy as form of critical theory of education can work at meta-level to offer dialectical critique of environmental education and education for

⁶⁴ Richard Khan. *From Education for sustainable development to ecopedagogy: capitalism or sustaining life?*. Journal: Green theory& Praxis the journal of ecopedagogy. Vol.4 No.1 July 2008: Pg 8

⁶⁵ Muraina Olugbenga Omiyefa. Exploring Eco-pedagogy for the Attainment of Education for all in Nigeria”, *Jurnal of education and practice*, Vol 6. No. 6, 2015. www.iiste.org. Pg:41

⁶⁶ Chi Chiu Hheang, dkk. Education for sustainability using a campus eco-garden as a learning environment. *International Journal of Sustainability in Higher Education Vol. 18 No. 2*, Emerald Publishing Limited, 2017. Pg:256

sustainable development as hegemony form of educational discourse, it have been created by state agencies that seek to appear to be developing pedagogy relevant to alleviating our mounting global ecological crisis.⁶⁷ So eco-pedagogy seek to militate for cultural Eco literacies that can produce multiculturally-relevant knowledge of how diverse cultures differ in their ways of relating to and understanding nature's order, and how they may learn to manifest cultural action for ecologies of freedom.

In Nigeria, implementation of eco-pedagogy is to achieving the Education for All Nigeria due to the direct impact of education on child and reproductive health, its mean that eco-pedagogy within Nigerian educational system should facilitate learning environment where educators and educands, teachers and learners embrace and welcome the challenge and benefit of diversity. With eco-pedagogy, educators must welcome all students. Their welcome and care should be the basis for ensuring sustainability and Education for All (EfA). Consequently, there is the need to re-educate “planetary citizens” to care for all lives. Thus call for an exportation of eco-pedagogy as an approach towards achieving Education for All (EfA) in Nigeria.⁶⁸

⁶⁷ Richard Khan. *From Education for sustainable development to ecopedagogy: capitalism or sustaining life?*. Journal: Green theory & Praxis the journal of ecopedagogy. Vol.4 No.1 July 2008: Pg 9

⁶⁸ Muraina Olugbenga Omiyefa. *Exploring Eco-pedagogy for the Attainment of Education for all in Nigeria*”, Jurnal of education and practice, Vol 6. No. 6, 2015. www.iiste.org. Pg: 43.

It is bit different with Hongkong, that implementing eco-garden as the concept of eco-pedagogy. The eco-garden aims to achieve the goal “nature and I as one” so that the harmony of nature can be pursued not only in environmental aspects but also among people. The communication of this philosophy to the students and the strengthening of their appreciation through educational activities in the eco-garden is crucial to establish pro-environmental attitudes through eco-garden-based learning. These not only enhance student understanding of the eco-garden but also arouse reflection on and resonance with the appreciation of nature, which may in turn influence affective learning outcomes.⁶⁹

The explanation above said that teachers are required to be able to create learning instruction that is able to plan the learning process that can incorporate the concept of environmental awareness, but does not eliminate the learning competencies that has been specified. As explained in qur'an surah Ar-Rum 'verse 41-42:

ظَهَرَ الْفَسَادُ فِي الْبَرِّ وَالْبَحْرِ بِمَا كَسَبَتْ أَيْدِي النَّاسِ لِيُذِيقَهُمْ بَعْضَ الَّذِي عَمِلُوا لَعَلَّهُمْ يَرْجِعُونَ
 قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ كَانَ عَاقِبَةُ الَّذِينَ مِنْ قَبْلُ ۚ كَانُوا أَكْثَرُهُمْ مُشْرِكِينَ

It means: “Corruption has appeared throughout the land and sea by [reason of] what the hands of people have earned so He may let them taste part of [the consequence of] what they have done that perhaps they will return [to righteousness](41). Say, [O Muhammad], "Travel through the land and observe

⁶⁹ Chi Chiu Hheang, dkk. *Education for sustainability using a campus eco-garden as a learning environment*. International Journal of Sustainability in Higher Education Vol. 18 No. 2, Emerald Publishing Limited, 2017. Pg: 258.

how was the end of those before. Most of them were associators [of others with Allah](42).⁷⁰

The Importance of preserving nature or environment set out in Qur'an Ar-Rum 'verse 41-42 which explain That Allah SWT created the universe and all its content is to be utilized by man for the welfare of his life and prosperity. Mankind was appointed as the Caliph on Earth who was being ayed to preserve nature not to be damaged. People are allowed to dig up the riches of nature, process them, and utilize them as a provision of worship to God and have charity. But in fact, because human beings have greedy, (excessive) nature so that the excavation of nature is uncontrollable which affects natural disasters, such as landslides, floods, nature becomes barren, drought, nature becomes arid, and air Contaminated and others. The destruction of the nature will also affect the human self.

SMAN 5 Malang while in the vision and mission of them is listed that SMAN 5 Malang is schools with environmental culture and increased environmentally attitude effectively and sustainably. In accordance with the research title that seeks the influence of the implementation of an eco-pedagogy based learning model with variable control of the initial ability (Pre-Existence) in aspects of knowledge, attitudes and also the creativity of students.⁷¹

⁷⁰ <https://quran.com/30/41-42> accessed on 13 Mei 2019 at: 09.16 WIB

⁷¹ sman5malang.sch.id/. accessed at 30-04-2019.

In implementation, treatment of eco-pedagogy in the SMAN 5 Malang was conducted with the process of implementing learning model integrated with the concept of eco pedagogy. It means of how the learning model is designed in accordance with the values of eco-pedagogy and was in validation of some experts.

There are several important points to watch carefully when doing treatment or application of eco-pedagogy based learning model at SMAN 5 Malang, which is one of this school has implemented the concept of environmental culture school or commonly referred to as Adiwiyata. Therefore, it should take the data retrieval and processing in a very cautious so that no data miscommunication occurs.

The result of research about the influence of the implementation eco-pedagogy based learning model by controlling the initial ability (Pre-Existence) in cognitive aspect using SPSS 16.0 shows that there are influence of implementation eco-pedagogy base learning model on eco-literate (Ecological Intelligence) in cognitive aspect by controlling pre-existing condition.

In affective aspect, there are no difference average scores of eco-literate (Ecological Intelligence) in affective aspect because of implementing eco-pedagogy based learning model, but because of T statistic is have negative score in experiment class, its mean that average before treatment by implementing eco-pedagogy based learning model is lower than average after treatment by

implementing eco-pedagogy based learning model. So, the average after treatment by implementing eco-pedagogy based learning model is greater than before treatment. In Psychometric aspect there are influences of implementation eco-pedagogy base learning model on eco-literate (Ecological Intelligence) in psychometric aspect by controlling pre-existing condition.

This can be conclude that there are influence of the implementation eco-pedagogy based learning model on eco-literate (ecological intelligence) as theory explained by Daniel Goleman in his book titled “ecological intelligence: How knowing the hidden impacts of what we buy can change everything” the statement says ecological intelligence allows us to comprehend systems in all their complexity, as well as the interplay between the natural and man-made worlds. But that understanding demands avast store of knowledge, one so huge that no single brain can store it all. Each one of us needs the help of others to navigate the complexities of ecological intelligence. We need to collaborate.⁷²

The above statement explain that people can understand the complexities and the system of Eco literate, but still need other people that we can call them teacher in this case to help each other or students to navigate ecological intelligence, by collaborate each other in learning process teacher can using learning model as instruction of learning to increase the ecological intelligence of students.

⁷² Daniel Goleman. *Ecological Intelligence: How knowing the hidden impacts of what we buy can change everything*. (New York: Broadway Books, 2009) Pg: 104

The latest research In a S2 Thesis of N.K.D Fani entitled: “Implementasi Pembelajaran Sejarah Berbasis Ecopedagogi Untuk Meningkatkan Keterampilan Pengambilan Keputusan Yang Ramah Lingkungan : Penelitian Tindakan Kelas di SMA Kartika XIX-2”, This research was motivated by the inability of the students at Kartika XIX-2 Bandung in making eco-friendly decision. This is because of the lack of the students’ ecological intelligence. the result of this research that the learning activity at the first cycle has improved the students’ knowledge about the value of Eco-friendliness (eco-literate) based on the result of the given task, while on the second cycle ,which is based on the result of the interview and observation, it is seen that the students already have empathy towards the value of Eco-friendliness and on the third cycle, it can be seen that the students are able to act according to the value of Eco-friendliness from the given questionnaire.⁷³

As just described by Prof. Nana suparna in his book titled “Eco-pedagogy Membangun kecerdasan ekologis dalam pembelajaran IPS”, he states that ecological intelligence expressed by Daniel goleman put aspects of intellectual knowledge or intelligence is fundamental of ecological intelligence.⁷⁴ And nana

⁷³ N.K.D, Fani. *Implementasi Pembelajaran Sejarah Berbasis Ecopedagogi Untuk Meningkatkan Keterampilan Pengambilan Keputusan Yang Ramah Lingkungan : Penelitian Tindakan Kelas di SMA Kartika XIX-2*. S2 thesis, Universitas Pendidikan Indonesia. 2016.

⁷⁴ Nana, S. *Ecopedagogy Membangun kecerdasan ekologis dalam pembelajaran IPS*. (Bandung: Rosdakarya, 2016) Pg: 90

also says that to achieve ecological intelligence needed the eco-pedagogy as one approach of learning.⁷⁵

So based on the theory above, It can be known if eco-pedagogy based learning is one way that can be used to improve ecological intelligence of students. One of them with a combined with a model of learning so that it becomes an Eco-pedagogy based Learning Model to enhance the ecological intelligence of students.

Eco-pedagogy is fitting pedagogy for these times of because paradigmatic reconstruction, fitting to a culture of sustainability and peace, and, therefore, adequate for the Earth Charter process. and mention the following: educate to think globally; educate feelings; teach about the Earth's identity as essential to the human condition; shape the planetary conscience; educate for understanding; and educate for simplicity, care, and peacefulness. In the midst of that, we consider the Earth Charter not only a code for planetary ethics – it is also a call for action.⁷⁶

Eco-pedagogy as an art education because encourages people to develop the capacity to feel, intuit, imagine, create, relate and express themselves. In this way we move from object to subject, able to participate in articulating and

⁷⁵ *Ibid.*, Pg: 79.

⁷⁶ Angela Antunes. *Eco-pedagogy as the Appropriate Pedagogy to the Earth Charter Process*. A thematic essay which speaks to Principle 14 on incorporating the values of the Earth Charter into education

creating the world we want. This implies that the multiple languages/intelligences of theatre, music, visual art, photography, dance, etc. are fundamental to engage as tools of expression and creation in the educational project.

The intended result of these programmes was social change towards a more environmentally sustainable society, assuming that social and economic sustainability is dependent on environmental integrity. At the time, environment education was found to be best suited for this aim as it enables radical and disruptive change.⁷⁷

According to the results of the study, the application of eco-pedagogy concept to the learning of ecological awareness of students can run well and smoothly despite the slight problems but still in the fair and tolerable stages. Application of Eco Pedagogy-based learning model with Lesson Plan that has been validated by the expert, so that it can run optimally and proven by the average difference in class score applied by the learning model with the concept of eco-pedagogy, different from the class that do not apply Eco pedagogy learning model.

While the school implementing the concept of environmental culture and sustainable learning, but there still has the differences between implementing

⁷⁷ Hellen kopnina & Andreea cocis. *Environmental Education: Reflecting on Application of Environmental Attitudes Measuring Scale in Higher Education Students*. Journal education and sciences, Vol 7 Issue 3. 2017.

eco-pedagogy based learning or not. Meanwhile eco-pedagogy based learning model also provide a considerable influence on students eco-literate. Thus it can be conclude that the implementation of eco-pedagogy based learning model have a positive influence on eco-literate (ecological intelligence) of social students grade X SMAN 5 Malang.



CHAPTER VI

CLOSING

A. Conclusion

Based on the data analysis, it can be concluded that implementation Eco-pedagogy Based Learning Model and Conventional Learning Model has influence to Eco-literate (Ecological Intelligence). It can be described further, as the following:

1. Data revealed that over all, implementation of Eco-pedagogy based learning led to higher if compared to Conventional learning model on eco-literate in cognitive and psychometric aspect, but there was no difference in average scores of affective aspect. it is proven by the value of $F_{\text{statistic}} = 18.416$ that is greater than $F_{\text{table}} = 4.03$ and significance value $(0.00) < (0.05)$ with the average scores of control class that using conventional learning model ($M = 58.87$; $SD = 14.18$) is lower than experiment class that using eco-pedagogy based learning model ($M = 76.12$; $SD = 15.66$) in cognitive aspect, also the value of $F_{\text{statistic}} = 14.612$ that is greater than $F_{\text{table}} = 4.03$ and significance value $(0.00) < (0.05)$ with the average scores of control class ($M = 8.59$); is lower than experiment class ($M = 9.24$) in psychometric aspect. In affective class is there was no difference in average score in eco-literate, but because of T statistic of Experiment class have negative score (-1.405) and greater than T table (-

2.059) its mean that the average score of experiment class is difference between before and after treatment by implementing eco-pedagogy based learning model. It means that there was influence of implementation of eco-pedagogy based learning and conventional learning model on eco-literate of social student grade X SMAN 5 Malang.

2. From data analysis, it is known that there was a difference in eco-literate (ecological intelligence) in terms of implementation of Eco-pedagogy base learning model and implementation of conventional learning model by controlling pre-existing condition in cognitive and psychometric aspect. And the reason why researcher chose pre-Existing on student's eco-literate is because SMAN 5 Malang was implemented vision and mission that support in environmental education which is same objectives with eco-pedagogy. And also SMAN 5 Malang already presented the school Adiwiyata Kencana from 2008 and still continuing. So researcher thinks that to avoid the mixing of data that was obtained, because of eco-literate of student before implementation learning model and after doing implementation of learning model is different influence. It is proven by the significance value of Eco-pedagogy based learning model and Conventional learning model is ($F=18.416$; $P<0.01$) with the effectively contributions from implementing a learning model on eco-literate is 26.9% in cognitive aspect, Pre-existing condition of ecological intelligence as a covariance proven influence on eco-literate of ($F=0.832$;

$P < 0.01$). And the significance value of Eco-pedagogy based learning model and Conventional learning model is ($F=14.612$; $P < 0.01$) with the effectively contributions from implementing a learning model on eco-literate is 22.6% in psychometric aspect, Pre-existing condition of ecological intelligence as a covariance proven influence on eco-literate in psychometric aspect of ($F=107.347$; $P < 0.01$) with 68.2%. this mean that in cognitive aspect influence of Pre-existing condition on ecological intelligence is lower than the influence of implementation of learning model, but in psychometric aspect influence of Pre-existing condition (68.2%) on ecological intelligence led to higher than influence of implementation learning model (22.6%).

B. Suggestion

Based on the results of the research and conclusion above, it can be given suggestions as follows:

1. For the next research

Gives information that eco-pedagogy based learning need to improve and developed in good ways to maximizing the implementations of this concept of pedagogy to realize the real objectives of eco-pedagogy concept. Also with this thesis it is expected to add the references for further research. And able to analyze again, so that perfect knowledge to be better.

2. For Teachers

Teachers are the first person who interact with students and have the big impact on the success of their students. Therefore, teacher can improve and develop the instructional tools of learning. So as students can improve their abilities in various skills.

3. For Students

From the result of the research implementation of eco-pedagogy based learning on eco-literate of social students, therefore students should pay more attention, which are students should be using sustainable product for they life, for future and sustainable life.

Bibliography

- Agung, I Gusti Ngurah. 2014. *Manajemen Penyajian Analisis Data Sederhana untuk skripsi, Tesis, dan Desertasi yang Bermutu*. Jakarta: Raja grafindo.
- Angela Antunes. *Eco-pedagogy as the Appropriate Pedagogy to the Earth Charter Process*. A thematic essay which speaks to Principle 14 on incorporating the values of the Earth Charter into education
- Cahya Putriana. 2019. <https://www.idntimes.com/travel/destination/putriana-cahya/10-kota-tercemar-1>. Accessed at 28-05-2019.
- Darmawan Deni. 2014. *Metode Penelitian Kuantitatif*. Bandung: Rosdakarya.
- Freire, P. 2008. *Pendidikan Kaum Tertindas*. Jakarta: Pustaka LP3ES Indonesia.
- Ghozali Imam. 2018. *Aplikasi Analisis Multivariat dengan IBM SPSS 25*. Semarang: badan penerbit Undip.
- Goleman Daniel. 2009. *Ecological Intelligence: How knowing the hidden impacts of what we buy can change everything*. New York: Broadway Books.
- Hheang Chi Chiu, dkk. 2017. Education for sustainability using a campus eco-garden as a learning environment. *International Journal of Sustainability in Higher Education Vol. 18 No. 2*, Emerald Publishing Limited.
- Hidayat, R. 2013. *Pedagogi Kritis: Sejarah, Perkembangan dan Pemikiran*. Jakarta: Rajawali Pers.
- Jumanta H. 2014. *Model dan Metode Pembelajaran Kreatif dan Berkarakter*. Bogor: Ghalia Indonesia.
- Khan, R. 2008. "From Education for Sustainable Development to Ecopedagogy: Sustaining Capitalism or Sustaining Life?" Dalam *Green theory & Praxis: the Journal of Ecopedagogy. Volume 4, No 1* 2008.


- Kopnina Hellen & Cocis Andreea. 2017. Environmental Education: Reflecting on Application of Environmental Attitudes Measuring Scale in Higher Education Students. *Journal education and sciences, Vol 7 Issue 3*.
- Noor Juliansyah. 2016. Metodologi Penelitian skripsi, thesis, desertasi dan karya ilmiah. Jakarta: Prenada Media.
- N.K.D. Fani. 2016. *Implementasi Pembelajaran Sejarah Berbasis Ekopedagogi untuk meningkatkan keterampilan pengambilan keputusan yang ramah lingkungan*. Penelitian Tindakan Kelas di SMA Kartika XIX-2 S2 Thesis. Universitas Pendidikan Indonesia.
- Omiyefa Muraina Olugbenga. 2015. Exploring Ecopedagogy for the Attainment of Education for all in Nigeria”. *Jurnal of education and practice*, www.iiste.org.
- Rulli I & Poppy, Y. 2014. *Metodologi penelitian Kuantitatif, kualitatif, dan campuran untuk manajemen, pembangunan, dan pendidikan*. Bandung: Refika Aditama.
- Rusman. 2011. *Model-model pembelajaran: mengembangkan profesionalisme guru*. Jakarta: Rajawali Pers.
- Sudjana. 2003. *Teknik Analisis Regresi Dan Korelasi Bagi para Peneliti*. Bandung: Tarsito.
- Sugianto. 2010. *Model-model pembelajaran inovatif*. Surakarta: Yuma Pressindo.
- Supriatna, N. 2016. *Ecopedagogy (Membangun kecerdasan ekologis dalam pembelajaran IPS)*. Bandung: Rosdakarya.
- Surakhmad Winarno. 2009. *Pendidikan Nasional, Strategi dan Tragedi*. Jakarta: Kompas.
- Suharsaputra Uhar. 2014. *Metode Penelitian Kuantitatif, kualitatif, dan tindakan*. Bandung: Refika Aditama.

- Yunansah H. & Herlambang Y. 2017. "Pendidikan berbasis Ekopedagogik dalam Menumbuhkan Kesadaran Ekologis dan Mengembangkan Karakter Siswa Sekolah Dasar". *Jurnal Pendidikan Dasar*, Bandung: Universitas Pendidikan Indonesia.
- Wicaknono, BS. <https://sains.kompas.com/>. Paus Mati di Wakatobi, Bukti Nyata Indonesia Darurat Sampah Plastik. Diakses tgl: 27-05-2019.
- Wismabrata M. <https://sains.kompas.com/read/2018/04/23/190600123/krisis-sampah-plastik-ancam-indonesia-seberapa-parahkah-kondisinya>. Diakses tgl: 29-08-2018.
- <https://www.cnnindonesia.com/gaya-hidup/20180425101643-282-293362/riset-24-persen-sampah-di-indonesia-masih-tak-terkelola>. Diakses tgl: 29-08-2018.
- <https://www.cnnindonesia.com/gaya-hidup/20180307151351-269-281146/menyelam-bersama-sampah-plastik-di-nusa-penida>. di akses tgl 27-05-2019.
- <http://www.karyatulisku.com/2016/04/ccontoh-proposal-penelitian-kuantitatif.html>. Diakses tgl: 29-08-2018.
- <https://nicofergiyono.blogspot.com/2013/11/ccontoh-proposal-penelitian-kuantitatif.html>. Diakses pada tgl 30-08-2018.
- Fadillah, A. (<http://anihwidia.blogspot.co.id/2015/01/cotoh-proposal-penelitian-pendidikan-23.html> diakses tanggal 23 maret 2017.
- <https://formulas.tutorvista.com/math/f-test-formula.html>
- <https://sustainabledevelopment.un.org/sdgs>. diakses tgl 07-12-2018
- https://www.academia.edu/6942550/Pembelajaran_Konvensional
- <https://en.wikipedia.org>. Accessed 17-1-2019
- <https://quran.com/30/41-42> accessed on 13 Mei 2019 at: 09.16 WIB
- sman5malang.sch.id/. Accessed at 30-04-2019.



APENDIXES LIST

Appendix 1. Letter of Research Permission from CABDIN


PEMERINTAH PROVINSI JAWA TIMUR
DINAS PENDIDIKAN
CABANG DINAS PENDIDIKAN WILAYAH MALANG-BATU
(KOTA MALANG DAN KOTA BATU)
JL. Anjasmoro No. 40 Telp/Fax.0341-353155 Kode Pos : 65112
MALANG

Malang, 18 Maret 2019

Nomor : 042.5/1074/101.6.10/2019
Sifat : Biasa
Lampiran : -
Perihal : Rekomendasi Penelitian

Kepada Yth.
Sdr. Kepala SMA Negeri 5 Malang
di
Malang


Memperhatikan surat dari Universitas Islam Negeri Maulana Malik Ibrahim Malang (UMM) Fakultas Ilmu Tarbiyah dan Keguruan Kementerian Agama Republik Indonesia Nomor : 683/Un.03.1/TL.00.1/03/2019 tanggal 13 Maret 2019 tentang Permohonan Ijin Penelitian di SMA Negeri 5 Malang, atas nama:

NO	NAMA	NIM	Judul
1	Nuroniatul Khusnia	15130148	The Influence of the Implementation Ecopedagogy Base Learning Model to Ecoliterate (Ecological Intelligence) of Social Student Grade X SMAN 5 Malang

Dengan ini Kepala Cabang Dinas Pendidikan Wilayah Kota Malang Dan Kota Batu memberi ijin / rekomendasi untuk mengadakan Penelitian pada Bulan Maret s.d April 2019 di Sekolah Bapak/Ibu sepanjang tidak mengganggu proses Kegiatan Belajar Mengajar.

Atas perhatian dan kerjasamanya di sampaikan terima kasih.

An. KEPALA CABANG DINAS PENDIDIKAN
WILAYAH MALANG - BATU
(KOTA MALANG - KOTA BATU)
KABUPATEN MALANG
DINAS PENDIDIKAN SMA dan PK-PLK


Drs. SLAMET RIADI, M.Pd
NIP. 19620412 198803 1 014

Appendix 2. Letter of Research Permission from University

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

Nomor : 529 /Un.03.1/TL.00.1/03/2019
Sifat : Penting
Lampiran : -
Hal : Izin Penelitian

05 Maret 2019

Kepada
Yth. Kepala SMAN 5 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 : Nuroniatul Khusnia
NIM : 15130148
Jurusan : Pendidikan Ilmu Pengetahuan Sosial (PIPS)
Semester - Tahun Akademik : Genap - 2018/2019
Judul Skripsi : **The Influence of the Implementation Ecopedagogy Base Learning Model and Conventional Learning Model to Ecoliterate (Ecological Intelligence) of Social Student Grade X SMAN 5 Malang**

Lama Penelitian : Maret 2019 sampai dengan Mei 2019
(3 bulan)

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

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

Wassalamu'alaikum Wr. Wb.


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

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

Appendix 3. Application Letter Becomes a Validator

**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: fitk@uinmalang.ac.id

Nomor : 2938/Un. 3.1/PP.03.1/03/2019
Lampiran : -
Perihal : Permohonan Menjadi Validator
12 Maret 2019

Kepada
Yth. Bapak/Ibu.....
di -
Tempat

Assalamualaikum wr. wb.

Sehubungan dengan proses penyusunan skripsi mahasiswa berikut:

Nama : Nuroniatul Khusnia
NIM : 15130148
Program Studi : Pendidikan Ilmu Pengetahuan Sosial
Judul Skripsi : The Influence of the implementation of ecopedagogy base learning model and conventional learning model to ecoliterate ((Ecopedagogical Intelligence) of social students Grade X SMAN 5 Malang.
Dosen Pembimbing : Nurlaeli Fitriah, M.Pd

maka dimohon Bapak/Ibu berkenan menjadi validator skripsi tersebut. Adapun segala hal berkaitan dengan apresiasi terhadap kegiatan validasi sebagaimana dimaksud sepenuhnya menjadi tanggung jawab mahasiswa bersangkutan.

Demikian Permohonan ini disampaikan, atas perkenan dan kerjasamanya yang baik disampaikan terima kasih.

Wassalamu'alaikum wr. wb


Dekan
Dekan Bid. Akademik
Muhammad Walid, M.A.
97308232000031002

Appendix 4. Validation Sheet of Ecology Expert

LEMBAR VALIDASI AHLI EKOLOGI

**KETERKAITAN *CORE COMPETENCE ECOLITERACY*, SKKD, DAN
INDIKATOR PENCAPAIAN KOMPETENSI PENGETAHUAN, SIKAP, DAN
KETERAMPILAN PESERTA DIDIK DALAM MATERI “DINAMIKA
LITHOSFER DAN DAMPAKNYA TERHADAP KEHIDUPAN”**

KOMPETENSI INTI	SUBKOMPETENSI	INDIKATOR KEBERHASILAN PENELITIAN
Aspek pengetahuan	<ol style="list-style-type: none"> 1. Memahami isu dan permasalahan lingkungan dari prespektif keseimbangan dan kelestarian ekologis 2. Memahami prinsip-prinsip ekologi 3. Berpikir kritis, memecahkan masalah secara kreatif dan menerapkan pengetahuan untuk situasi baru 4. Menilai dampak atau efek tindakan manusia dan menerapkan teknologi terhadap lingkungan 5. Memperhitungkan konsekuensi jangka panjang dalam pengambilan sebuah keputusan dan memperhitungkan konsekuensi jangka panjang dari suatu keputusan 	<ul style="list-style-type: none"> • Peserta didik mendeskripsikan kaitan antara keadaan lithosfer dengan pentingnya melindungi lingkungan melalui penggunaan produk reusable, hemat energy, penghematan bbm, dan aktifitas peduli lingkungan lainnya. • Peserta didik dapat mengidentifikasi permasalahan yang terjadi pada lapisan lithosfer akibat perilaku manusia. • Peserta didik dapat mengidentifikasi budaya masyarakat terhadap peduli lingkungan sekitar melalui pemahaman materi tenaga eksogen dan pemanfaatan tanah • Peserta didik dapat mendeskripsikan manfaat dari perilaku penggunaan produk reusable, hemat energy, penghematan bbm, dan perilaku peduli lingkungan lainnya sebagai upaya

		<p>pelestarian lingkungan</p> <ul style="list-style-type: none"> • Peserta didik dapat menganalisis dampak keberlanjutan perilaku penggunaan produk reusable, hemat energy, penghematan bbm, dan perilaku peduli lingkungan lainnya terhadap lingkungan. • Peserta didik dapat mengidentifikasi kecerdasan ekologis terhadap lingkungan hidup sekitarnya dalam kehidupan sehari-hari dikaitkan prinsip-prinsip ekologi (interaksi, keberagaman, berkesinambungan, berketergantungan, dan harmonis)
Aspek Sikap	<ol style="list-style-type: none"> 1. Memberikan perhatian, empati dan rasa hormat terhadap sesama dan makhluk hidup lainnya 2. Menghargai perbedaan latar belakang, motivasi, niat dalam berinteraksi sesuai dengan prespektif saling menghargai terhadap nilai kerjasama 3. Berkomitmen untuk kesamaan, keadilan, inklusivitas, dan menghormati semua orang 	<ul style="list-style-type: none"> • Peserta didik mempunyai sikap peduli akan kelestarian makhluk hidup di lingkungan • Peserta didik memiliki sikap peduli terhadap lingkungan hidup dengan kemauan menggunakan produk reusable, hemat energy, penghematan bbm, dan perilaku peduli lingkungan lainnya untuk melestarikan lingkungan • Peserta didik bersikap tegas kepada sesama manusia yang mempunyai perbedaan persepsi dan tindakan dalam proses melestarikan lingkungan.
Aspek keterampilan	<ol style="list-style-type: none"> 1. Membuat dan menggunakan alat-alat, benda, dan dan 	<ul style="list-style-type: none"> • Peserta didik menciptakan sesuatu dengan menggunakan

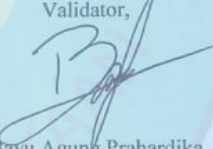
producer yang dibutuhkan oleh masyarakat yang berkelanjutan

2. Menerapkan dalam tindakan praktis dan efektif dalam menerapkan pemahaman yang peduli terhadap keseimbangan ekologis
3. Menilai dan memanfaatkan energy dan sumber daya sesuai kegunaannya

bahan ramah lingkungan atau bahan daur ulang dengan disertai pesan peduli lingkungan

- Peserta didik mengikuti (Follow) akun sosial media yang bertema peduli lingkungan, dan mampu menganalisis permasalahan lingkungan terupdate yang didapat dari akun tersebut.
- Peserta didik mampu mengkomunikasikan dan mensosialisasikan pesan darurat lingkungan diakibatkan kurang kepedulian dari masyarakat terhadap lingkungan yang didapat dari akun social media.

Validator,



(Bayu Agung Prahardika, M.Si)

NIP. 19900807201802011231

Appendix 5. Validation Sheet of Lesson Plan Expert

LEMBAR VALIDASI
Rencana Pelaksanaan Pembelajaran (RPP)
Pembelajaran Geografi dengan Model Pembelajaran Berbasis Ekopedagogi

Mata Pelajaran : Geografi Kelas X SMA
Materi Bahasan : Dinamika Litosfer dan Dampaknya terhadap kehidupan
Sub Pokok Bahasan : - Pengaruh Proses eksogen terhadap kehidupan
- Proses pembentukan tanah dan pemanfaatannya

Kami berharap kesediaan ibu Validator untuk mengisi lembar validasi RPP yang dikembangkan dengan model pembelajaran berbasis ekopedagogi. RPP tersebut digunakan dalam pembelajaran dengan materi Pengaruh Proses eksogen terhadap kehidupan dan proses pembentukan tanah dan pemanfaatannya untuk siswa kelas X SMA semester genap. Hal ini bertujuan untuk mendapatkan RPP dengan kriteria Valid.

Petunjuk:

1. Penilaian RPP ditinjau dari beberapa aspek, beri tanda checklist (√) pada kolom skala penilaian sesuai dengan penilaian yang ibu berikan.
Keterangan skala penilaian:
1 : Tidak baik
2 : Kurang baik
3 : Cukup baik
4 : Baik
5 : Sangat baik
2. Untuk Penilaian RPP secara umum, beri checklist (√) pada kotak disamping kriteria kesimpulan penilaian sesuai dengan penilaian yang ibu berikan.
Kriteria kesimpulan penilaian:
TR : dapat digunakan tanpa revisi
RK : dapat digunakan dengan revisi kecil
RB : dapat digunakan dengan revisi besar

PK : belum dapat digunakan dan masih perlu konsultasi

3. Bila menurut ibu validator RPP ini perlu adanya revisi, mohon ditulis pada bagian komentar dan saran guna perbaikan RPP ini.

Penilaian Ditinjau dari Beberapa Aspek

No.	Aspek yang Dinilai	Skala Penilaian				
		1	2	3	4	5
Format						
1.	Kelengkapan RPP (memuat komponen-komponen RPP, yaitu identitas, tujuan pembelajaran, materi, metode, kegiatan pembelajaran, sumber belajar, dan penilaian)			✓		
2.	Penulisan RPP (Penomoran, jenis dan ukuran huruf)		✓			
Isi						
3.	Kesesuaian indicator pembelajaran dengan kompetensi dasar.			✓		
4.	Kesesuaian prasyarat dengan materi yang akan diajarkan		✓			
5.	Kesesuaian kegiatan pembelajaran dengan tahapan model pembelajaran ekopedagogi		✓			
6.	Langkah-langkah pembelajaran dijabarkan dengan jelas.	✓				
7.	Kesesuaian perkiraan alokasi waktu dengan kegiatan yang dilakukan.	✓				
Bahasa						
8.	Penggunaan bahasa sesuai dengan kaidah bahasa Indonesia yang baik dan benar		✓			
9.	Bahasa yang digunakan singkat, jelas, dan tidak menimbulkan pengertian ganda.	✓				

Penilaian Umum:

Kesimpulan penilaian secara umum

Rencana pelaksanaan pembelajaran (RPP) ini:

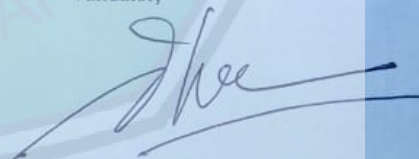
- TR, yang berarti "dapat digunakan tanpa revisi"
- RK, yang berarti "dapat digunakan dengan revisi kecil"
- RB, yang berarti "dapat digunakan dengan revisi besar"
- PK, yang berarti "belum dapat digunakan dan masih perlu konsultasi"

Komentar dan saran:

- 1) Kegiatan Pembelajaran tidak sesuai dg Tujuan Pembelajaran
- 2) Langkah² pembelajaran kurang jelas
- 3) Kegiatan / Proses pembelajaran kurang mengenai dg Konsep ekopedagogi
- 4) Bahasa yg dipergunakan menimbulkan pengertian ganda
- 5) Alokasi waktu kurang sesuai

Malang, 19 Maret 2019

Validator,



(DIAH AMBARUMI, M.Pd)

Appendix 6. Validation Sheet of Subject and Evaluation Expert

LEMBAR VALIDASI UNTUK AHLI MATERI

Komponen : RPP (Materi)

Sasaran : Siswa

Peneliti : Nurniatul Khusnia

Judul Penelitian : The influence of the implementation of ecopedagogy based learning model and conventional learning model to eco-literate (ecological intelligence) of social students of Grade X SMAN 5 Malang.

A. TUJUAN

Lembar validasi ini bertujuan untuk mengetahui pendapat Bapak tentang kevalidan materi tentang tenaga eksogen dan pembentukan serta pemanfaatan tanah.

B. PETUNJUK PENILAIAN

1. Mohon kesediaan Bapak untuk memberikan penilaian terhadap draf materi tentang tenaga eksogen dan pembentukan serta pemanfaatan tanah yang ditambahkan dengan nilai-nilai ekologi dengan meliputi aspek-aspek yang diberikan.
2. Mohon diberikan tanda *checklist* (√) pada skala penilaian yang dianggap sesuai. Rentang skala penilaian adalah 1, 2, 3, 4 dan 5 dengan kriteria bahwa semakin besar bilangan yang dirujuk, maka semakin baik/ sesuai dengan aspek yang disebutkan.
3. Mohon Bapak memberikan saran revisi/ komentar pada tempat yang telah disediakan.
4. Peneliti mengucapkan terimakasih atas kesediaan Bapak untuk mengisi lembar validasi ini. Masukan yang Bapak berikan menjadi bahan perbaikan berikutnya.
5. Keterangan skala penilaian:
1 = tidak relevan/ tidak baik,
2 = kurang relevan/ kurang baik,
3 = cukup relevan/ cukup baik,

4 = relevan/ baik,

5 = sangat relevan/ sangat baik

C. Tabel Penilaian Materi

No.	Aspek Penilaian	Deskriptor	Skala Nilai				
			1	2	3	4	5
1.	Relevansi	Materi relevan dengan kompetensi yang harus dikuasai siswa					✓
		Konsep ekologi yang ditambahkan dalam materi relevan dengan kompetensi yang harus dikuasai				✓	
		Kelengkapan materi sesuai dengan tingkat perkembangan siswa				✓	
		Materi cukup memenuhi tuntutan kurikulum					✓
		Ilustrasi bahan & media sesuai dengan tingkat perkembangan siswa			✓		
		Ilustrasi bahan & media yang fungsional cukup			✓		
2.	Keakuratan	Materi yang disajikan sesuai dengan kebenaran keilmuan					✓
		Materi yang disajikan sesuai perkembangan mutakhir				✓	
		Materi yang disajikan sesuai dengan kehidupan dan permasalahan sehari-hari					✓
		Pengemasan materi dalam bahan dan media sesuai dengan pendekatan keilmuan yang bersangkutan (pendekatan saintifik)					✓
3.	Kelengkapan Sajian	Menyajikan kompetensi yang harus dikuasai siswa					✓
4.	Konsep Dasar Materi	Kesesuaian konsep Fungsi					✓
		Kesesuaian konsep pelestarian lingkungan				✓	
5.	Kesesuaian sajian dengan tuntutan pembelajaran yang terpusat pada siswa	Mendorong rasa keingintahuan siswa					✓
		Mendorong terjadinya interaksi siswa					✓
		Mendorong siswa membangun pengetahuannya sendiri				✓	
		Mendorong siswa belajar secara kelompok					✓

D. Saran perbaikan dan kesimpulan:

No.	Jenis Kesimpulan	Saran Perbaikan
1.	Penulisan	tata bahasa, penulisan kalimat, tanda baca, besar-kecil perlu diperhatikan
2.	materi Ekologi	Perlu dijelaskan/dijelaskan prinsip ekologi dan materi yg diajarkan
3.	lapisan tanah	Diberi gambar ttg lapisan tanah/ profil tanah
4.	keuntungan tanah	Perlu ditambahkan konsep pelestarian lingkungan pada materi kegunaan tanah.

E. Kesimpulan

Sumber belajar ini dinyatakan:

1. Layak digunakan atau uji coba dilapangan tanpa revisi
- ② Layak digunakan atau uji coba dilapangan sesuai dengan revisi dan saran
3. Belum layak digunakan atau uji coba dilapangan

*mohon dilingkari pada nomor yang sesuai dengan kesimpulan bapak

Malang, Maret 2019

Ahli Materi

Saiful Amin, S.Pd.

NIP.198709222015031005

Appendix 7. Lesson Plan of Control Class

RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

Sekolah	: SMAN 5 MALANG
Mata Pelajaran	: Geografi
Kelas/ Semester	: X I/2
Materi Pokok	: Dinamika Litosfer dan Dampaknya terhadap kehidupan
Alokasi Waktu	: 2 Pertemuan (2x45 Menit)

A. Kompetensi Inti

- KI-1: Menghargai dan menghayati agama yang dianutnya.
- KI-2: Menunjukkan perilaku jujur, disiplin, tanggung jawab, peduli (toleransi, Gotong Royong, kerjasama, toleran, damai), Bertanggung jawab, responsive, dan pro-aktif dalam berinteraksi secara efektif sesuai dengan perkembangan anak di lingkungan, keluarga, sekolah, masyarakat dan lingkungan alam sekitar, bangsa, Negara, kawasan regional, dan kawasan internasional.
- KI-3: Memahami, menerapkan, dan menganalisis pengetahuan factual, konseptual, procedural, dan metakognitif berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya, dan humaniora dengan wawasan kemanusiaan, kebangsaan, kenegaraan, dan peradaban terkait penyebab fenomena dan kejadian, serta menerapkan pengetahuan procedural pada bidang kajian yang spesifik sesuai dengan bakat dan minatnya untuk memecahkan masalah.
- KI-4: Mengolah, menalar dan menyaji dalam ranah konkret dan ranah abstrak terkait dengan pengembangan diri yang dipelajarinya disekolah secara mandiri, bertindak secara efektif dan kreatif, serta mampu menggunakan metode sesuai kaidah keilmuan.

B. Kompetensi Dasar dan Indikator Pencapaian Kompetensi

Kompetensi Dasar	Indikator Pencapaian Kompetensi
3.1. Menganalisis dinamika atmosfer dan dampaknya terhadap kehidupan	1. Menguraikan konsep tenaga eksogen 2. Mengidentifikasi jenis-jenis tenaga eksogen 3. Mengidentifikasi pengertian tanah 4. Menguraikan proses pembentukan dan lapisan tanah 5. Mengidentifikasi proses pemanfaatan tanah
4.1. Menyajikan proses dinamika atmosfer menggunakan peta, bagan, gambar, tabel, grafik, video, dan/atau animasi	1. Mengkomunikasikan pemahaman konsep dari tenaga eksogen dan pembentukan tanah.

C. Tujuan Pembelajaran

Setelah mengikuti serangkaian kegiatan pembelajaran peserta didik diharapkan dapat:

Pertemuan ke-1

1. Peserta didik menguraikan konsep tenaga eksogen
2. Peserta didik mengidentifikasi jenis-jenis tenaga eksogen.
3. Peserta didik mendefinisikan pengaruh proses eksogen terhadap kehidupan

Pertemuan ke-2

1. Peserta didik mengidentifikasi pengertian tanah
2. Peserta didik menguraikan proses pembentukan tanah
3. Peserta didik mengidentifikasi lapisan-lapisan tanah
4. Peserta didik mengidentifikasi proses pemanfaatan tanah

D. Materi Pembelajaran

1. Materi Reguler

a) Pengaruh Proses eksogen terhadap kehidupan

- Pengertian tenaga eksogen
- Jenis-jenis tenaga eksogen

b) Proses pembentukan tanah dan pemanfaatannya

- Pengertian tanah
- Proses pembentukan tanah dan factor yang mempengaruhinya
- Pemanfaatan tanah

2. Materi Pengayaan

- Panduan mengenal batuan bekuan dengan pengarang P. Budisantoso
- Klasifikasi tanah: dasar teori bagi peneliti tanah dan pelaksana pertanian di Indonesia pengarang Isa Darmawijaya.

E. Metode Pembelajaran

1. Pendekatan : Scientific
2. Strategi Pembelajaran : Conventional Learning Model
3. Metode Pembelajaran : Ceramah, tanya jawab, dan penugasan.

F. Sumber Belajar

1. Media belajar : Papan tulis, Smartphone, internet
2. Bahan Ajar : Buku teks Geografi peminatan ilmu-ilmu sosial SMA/ MA/ SMK kelas X

G. Kegiatan Pembelajaran

Kegiatan	Deskripsi Kegiatan	Alokasi Waktu
Pertemuan 1		
Pendahuluan	<ol style="list-style-type: none"> 1. Peserta didik merespon salam tanda mensyukuri anugerah Tuhan dan saling mendoakan. 2. Peserta didik mendengarkan dan menyimak absensi sebagai dikap disiplin 3. Peserta didik mendengar motivasi belajar secara 	20 Menit

	<p>kontekstual sesuai manfaat dan aplikasi materi ajar dalam kehidupan sehari-hari yang disesuaikan dengan karakteristik dan jenjang peserta didik;</p> <p>4. Peserta didik mendengarkan tujuan pembelajaran atau kompetensi dasar yang akan dicapai; dan</p> <p>5. Penyebaran angket dan pre-test.</p> <p>6. Peserta didik menerima informasi tentang hal-hal yang akan dipelajari, metode dan media, langkah pembelajaran dan penilaian pembelajaran..</p>	
Inti	<p>1. Memberi stimulus</p> <p>a. literasi</p> <ul style="list-style-type: none"> • Guru menjelaskan pembelajaran didepan kelas • peserta didik meresume hasil pengamatan dan bacaan yang ditulis oleh guru didepan kelas <p>2. Identifikasi masalah</p> <p>a. berpikir kritis</p> <ul style="list-style-type: none"> • peserta didik mengidentifikasi pertanyaan yang berkaitan dengan kegiatan yang akan dilakukan. <p>3. Mengumpulkan informasi</p> <p>a. kolaborasi</p> <ul style="list-style-type: none"> • peserta didik berkelompok dengan teman sebangku untuk mendiskusikan tugas yang dibagi oleh guru, yaitu mencari dan mengumpulkan data dan informasi berkaitan dengan aktivitas tenaga eksogen <p>4. Mengolah informasi</p> <p>a. berpikir kritis dan kreatif inovatif</p> <ul style="list-style-type: none"> • peserta didik mendiskusikan tentang data yang telah dikumpulkan • peserta didik mengklasifikasi dan mengolah data yang telah diperoleh • peserta didik menuliskan hasil pembahasan dan diskusi kelompok pada lembaran buku tugas. 	60 Menit

	<p>5. Menverifikasi dan menyimpulkan data</p> <p>a. Mengkomunikasikan</p> <ul style="list-style-type: none"> • secara bergilir setiap kelompok dipersilahkan mengemukakan/ mempresentasikan hasil diskusi didepan kelas. • Kelompok lain diberi kesempatan untuk memberi tanggapan. 	
Penutup	<ol style="list-style-type: none"> 1. Peserta didik bersama Guru melakukan refleksi untuk mengevaluasi seluruh rangkaian aktivitas pembelajaran dan hasil-hasil yang diperoleh untuk selanjutnya secara bersama menemukan manfaat dari konsep peduli lingkungan secara langsung maupun tidak langsung dari hasil pembelajaran yang telah dilaksanakan; 2. Melakukan kegiatan tindak lanjut dalam bentuk pemberian tugas (membuat sesuatu dengan pesan darurat peduli lingkungan, boleh berupa produk 3D atau 2D) 3. Menginformasikan rencana kegiatan pembelajaran untuk pertemuan selanjutnya. 	10 Menit

Kegiatan	Deskripsi Kegiatan	Alokasi Waktu
Pertemuan 2		
Pendahuluan	<ol style="list-style-type: none"> 1. Peserta didik merespon salam tanda mensyukuri anugerah Tuhan dan saling mendoakan. 2. Peserta didik mendengarkan dan menyimak absensi sebagai sikap disiplin 3. Peserta didik mendengar motivasi belajar secara kontekstual sesuai manfaat dan aplikasi materi ajar dalam kehidupan sehari-hari, serta disesuaikan dengan karakteristik dan jenjang peserta didik; 4. Peserta didik mendengarkan tujuan pembelajaran atau 	10 Menit

	<p>kompetensi dasar yang akan dicapai; dan</p> <p>5. Peserta didik menerima informasi tentang hal-hal yang akan dipelajari, metode dan media, langkah pembelajaran dan penilaian pembelajaran.</p>	
Inti	<p>1. Memberi stimulus</p> <p>a. literasi</p> <ul style="list-style-type: none"> peserta didik menyimak guru yang menjelaskan pembelajaran didepan kelas dengan seksama peserta didik menulis resume dari hasil pengamatan dan bacaan yang telah ditulis oleh guru didepan kelas <p>2. Identifikasi masalah</p> <p>a. berpikir kritis</p> <ul style="list-style-type: none"> peserta didik diberikan kesempatan untuk mengidentifikasi sebanyak mungkin pertanyaan yang berkaitan dengan materi yang dijelaskan oleh guru. <p>3. Mengumpulkan informasi</p> <p>a. kolaborasi</p> <ul style="list-style-type: none"> peserta didik yang telah terbagi kelompok pada pertemuan sebelumnya, yaitu mencari dan mengumpulkan data dan informasi berkaitan dengan proses pembentukan atau pemanfaatan tanah <p>4. Mengolah informasi</p> <p>a. berpikir kritis dan kreatif inovatif</p> <ul style="list-style-type: none"> peserta didik mendiskusikan tentang data yang telah dikumpulkan peserta didik mengklasifikasi dan mengolah data yang telah diperoleh peserta didik menuliskan hasil pembahasan dan diskusi kelompok pada lembaran buku tugas. <p>5. Menverifikasi dan menyimpulkan data</p> <p>b. Mengkomunikasikan</p> <ul style="list-style-type: none"> Secara bergilir setiap kelompok dipersilahkan mengemukakan/ mempresentasikan hasil diskusi. 	60 Menit

	<ul style="list-style-type: none"> Kelompok lain diberi kesempatan untuk memberi tanggapan. 	
Penutup	<ol style="list-style-type: none"> Peserta didik bersama Guru melakukan refleksi untuk mengevaluasi seluruh rangkaian aktivitas pembelajaran dan hasil-hasil yang diperoleh untuk selanjutnya secara bersama menemukan manfaat dari konsep peduli lingkungan secara langsung maupun tidak langsung dari hasil pembelajaran yang telah dilaksanakan; Menginformasikan rencana kegiatan pembelajaran untuk pertemuan selanjutnya. 	10 Menit

H. Penilaian

No.	Kompetensi yang diukur	Teknik	Bentuk instrumen	Nama instrumen
1.	Sikap	Observasi dan kuesioner	Journal	Lembar Observasi dan lembar kuesioner
2.	Pengetahuan	Tes	Tes tulis Uraian	Soal tertulis (Pre-test dan Post-test)
3.	Keterampilan	Produk	Rubrik Penilaian	Penilaian produk

I. Pembelajaran Pengayaan

1. Program Pengayaan

Program pengayaan dilakukan dengan meringkas buku-buku referensi yang relevan:

- Panduan mengenal batuan beku dengan pengarang P. Budisantoso

- Klasifikasi tanah: dasar teori bagi peneliti tanah dan pelaksana pertanian di Indonesia pengarang Isa Darmawijaya.



Appendix 8. Lesson Plan of Experiment Class

RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

Sekolah	: SMAN 5 MALANG
Mata Pelajaran	: Geografi
Kelas/ Semester	: X J/ 2
Materi Pokok	: Dinamika Litosfer dan Dampaknya terhadap kehidupan
Alokasi Waktu	: 2 Pertemuan (2x45 Menit)

A. Kompetensi Inti

- KI-1: Menghargai dan menghayati agama yang dianutnya.
- KI-2: Menunjukkan perilaku jujur, disiplin, tanggung jawab, peduli (toleransi, Gotong Royong, kerjasama, toleran, damai), Bertanggung jawab, responsive, dan pro-aktif dalam berinteraksi secara efektif sesuai dengan perkembangan anak di lingkungan, keluarga, sekolah, masyarakat dan lingkungan alam sekitar, bangsa, Negara, kawasan regional, dan kawasan internasional.
- KI-3: Memahami, menerapkan, dan menganalisis pengetahuan factual, konseptual, procedural, dan metakognitif berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya, dan humaniora dengan wawasan kemanusiaan, kebangsaan, kenegaraan, dan peradaban terkait penyebab fenomena dan kejadian, serta menerapkan pengetahuan procedural pada bidang kajian yang spesifik sesuai dengan bakat dan minatnya untuk memecahkan masalah.

- KI-4: Mengolah, menalar dan menyaji dalam ranah konkret dan ranah abstrak terkait dengan pengembangan diri yang dipelajarinya disekolah secara mandiri, bertindak secara efektif dan kreatif, serta mampu menggunakan metode sesuai kaidah keilmuan.

B. Kompetensi Dasar dan Indikator Pencapaian Kompetensi

Kompetensi Dasar	Indikator Pencapaian Kompetensi
3.1. Menganalisis dinamika lithosfer dan dampaknya terhadap kehidupan	6. Menguraikan pengertian tenaga eksogen 7. Mengidentifikasi jenis-jenis tenaga eksogen 8. Mengidentifikasi pengertian tanah 9. Menguraikan proses pembentukan dan lapisan tanah 10. Mengidentifikasi proses pemanfaatan tanah 11. Mendeskripsikan kaitan antara keadaan lithosfer dengan pentingnya melindungi lingkungan melalui penggunaan produk reusable, hemat energy, penghematan bbm, dan aktifitas peduli lingkungan lainnya. 12. Mengidentifikasi permasalahan yang terjadi pada lapisan lithosfer akibat perilaku manusia. 13. Mengidentifikasi budaya masyarakat terhadap peduli lingkungan sekitar melalui pemahaman materi tenaga eksogen dan pemanfaatan tanah 14. Mendeskripsikan manfaat dari perilaku penggunaan produk reusable, hemat energy, penghematan bbm, dan perilaku

	<p>peduli lingkungan lainnya sebagai upaya pelestarian lingkungan</p> <p>15. Menganalisis dampak keberlanjutan perilaku penggunaan produk reusable, hemat energy, penghematan bbm, dan perilaku peduli lingkungan lainnya terhadap lingkungan.</p> <p>16. Mengidentifikasi kecerdasan ekologis terhadap lingkungan hidup sekitarnya dalam kehidupan sehari-hari dikaitkan prinsip-prinsip ekologi</p>
<p>4.1. Menyajikan proses dinamika litosfer dengan menggunakan peta, bagan, gambar, tabel, grafik, video, dan/atau animasi</p>	<p>1. Peserta didik menciptakan sesuatu dengan menggunakan bahan ramah lingkungan atau bahan daur ulang dengan disertai pesan peduli lingkungan.</p> <p>2. Peserta didik mengkomunikasikan pemahaman konsep dari tenaga eksogen dan pembentukan tanah.</p>

C. Tujuan Pembelajaran

Setelah mengikuti serangkaian kegiatan pembelajaran peserta didik diharapkan dapat:

Pertemuan ke-1

4. Peserta didik menguraikan konsep tenaga eksogen
5. Peserta didik mengidentifikasi jenis-jenis tenaga eksogen.
6. Peserta didik mendefinisikan pengaruh proses eksogen terhadap kehidupan
7. Mendeskripsikan kaitan antara proses eksogen dengan pentingnya kepedulian terhadap lingkungan
8. Menyajikan produk berupa Pamflet atau poster

Pertemuan ke-2

5. Peserta didik mengidentifikasi pengertian tanah
6. Peserta didik menguraikan proses pembentukan tanah
7. Peserta didik mengidentifikasi lapisan-lapisan tanah

8. Peserta didik mengidentifikasi proses pemanfaatan tanah melalui konsep ekopedagogi

D. Materi Pembelajaran

1. Materi Reguler

a) Pengaruh Proses eksogen terhadap kehidupan

- Pengertian tenaga eksogen
- Jenis-jenis tenaga eksogen
- Pengaruh tenaga eksogen terhadap kehidupan

b) Proses pembentukan tanah dan pemanfaatannya

- Pengertian tanah
- Proses pembentukan tanah dan faktor yang mempengaruhinya
- Pemanfaatan tanah

2. Materi Pengayaan

- Panduan mengenal batuan bekuan dengan pengarang P. Budisantoso
- Klasifikasi tanah: dasar teori bagi peneliti tanah dan pelaksana pertanian di Indonesia pengarang Isa Darmawijaya.

E. Metode Pembelajaran

1. Pendekatan : *Scientific*
2. Strategi Pembelajaran : *Ecopedagogy base learning*
3. Metode Pembelajaran : Ceramah Plus, Karya Kunjung, Diskusi, Penugasan

F. Sumber Belajar

1. Media belajar : Smartphone, lingkungan sekitar kelas, dan Internet
2. Bahan Ajar : Buku teks Geografi peminatan ilmu-ilmu sosial SMA/ MA/ SMK kelas X

G. Kegiatan Pembelajaran

Kegiatan	Deskripsi Kegiatan	Alokasi Waktu
Pertemuan 1		
Pendahuluan	<ol style="list-style-type: none"> 1. Peserta didik merespon salam tanda bersyukur anugerah Tuhan dan saling mendoakan. 2. Peserta didik mendengarkan dan menyimak absensi sebagai dikap disiplin 3. Peserta didik mendengar motivasi belajar secara kontekstual sesuai manfaat dan aplikasi materi ajar dalam kehidupan sehari-hari, serta disesuaikan dengan karakteristik dan jenjang peserta didik; 4. Peserta didik mendengarkan tujuan pembelajaran atau kompetensi dasar yang akan dicapai; dan 5. Penyebaran angket dan pre-test. 6. Peserta didik menerima informasi tentang hal-hal yang akan dipelajari, metode dan media, langkah pembelajaran dan penilaian pembelajaran. 	20 Menit
Inti	<ol style="list-style-type: none"> 1. Memberi stimulus <ol style="list-style-type: none"> b. Berpikir kritis <ul style="list-style-type: none"> • Peserta didik menyimak guru memberi sedikit informasi mengenai prinsip dari ekologi (interaksi, keberagaman, berkesinambungan, ketergantungan, dan harmonis) sebagai penanaman karakter peduli lingkungan siswa c. Literasi <ul style="list-style-type: none"> • Guru memberi intruksi kegiatan selanjutnya • Peserta didik meresume hasil pengamatan dan bacaan yang ditulis guru didepan kelas 	60 Menit

	<p>2. Identifikasi masalah</p> <p>b. Berpikir kritis</p> <ul style="list-style-type: none"> • Peserta didik mengidentifikasi pertanyaan yang berkaitan dengan tugas/ kegiatan yang akan dilakukan. <p>3. Mengumpulkan informasi</p> <p>b. Kolaborasi</p> <ul style="list-style-type: none"> • Peserta didik dibagi kelompok setiap 4 anak • Peserta didik mencari informasi di internet dan melakukan observasi di luar kelas berkaitan dengan tenaga eksogen dan lingkungan hidup berupa <ul style="list-style-type: none"> - pengertian dan konsep tenaga eksogen - Jenis jenis tenaga eksogen - Pengaruh tenaga eksogen terhadap kehidupan - Kaitan antara tenaga eksogen dengan pentingnya peduli lingkungan <p>4. Mengolah informasi</p> <p>b. Berpikir kritis dan Kreatif inovatif</p> <ul style="list-style-type: none"> • Peserta didik mendiskusikan tentang data yang telah dikumpulkan • Peserta didik mengklasifikasi dan mengolah data yang telah diperoleh • Peserta didik menuliskan hasil diskusi kelompok pada lembar kerja yang telah disediakan dalam bentuk deskripsi laporan. <p>5. Menverifikasi dan menyimpulkan data</p> <p>b. Mengkomunikasikan</p> <ul style="list-style-type: none"> • Kelompok dipersilahkan mengemukakan/ mempresentasikan hasil diskusi melalui metode karya kunjung dengan ketentuan 2 anggota dari masing masing kelompok stay ditempat dan 2 anggota lainnya 	
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	<p>presentasi ke kelompok lain dengan membawa deskripsi laporan yang telah dibuat.</p> <ul style="list-style-type: none"> • Kelompok lain diberi kesempatan untuk memberi tanggapan dan memberi penilaian. 	
Penutup	<ol style="list-style-type: none"> 1. Peserta didik bersama Guru melakukan refleksi untuk mengevaluasi seluruh rangkaian aktivitas pembelajaran dan hasil-hasil yang diperoleh untuk selanjutnya secara bersama menemukan manfaat dari konsep peduli lingkungan secara langsung maupun tidak langsung dari hasil pembelajaran yang telah dilaksanakan; 2. Melakukan kegiatan tindak lanjut dalam bentuk pemberian tugas (membuat produk dengan pesan darurat peduli lingkungan dan berasal dari bahan daur ulang) 3. Menginformasikan rencana kegiatan pembelajaran untuk pertemuan selanjutnya. 	10 Menit

Kegiatan	Deskripsi Kegiatan	Alokasi Waktu
Pertemuan 2		
Pendahuluan	<ol style="list-style-type: none"> 1. Peserta didik menjawab salam tanda mensyukuri anugerah Tuhan dan saling mendoakan. 2. Peserta didik mendengarkan dan menyimak absensi sebagai sikap disiplin 3. Peserta didik mendengar motivasi belajar secara kontekstual sesuai manfaat dan aplikasi materi ajar dalam kehidupan sehari-hari, serta disesuaikan dengan karakteristik dan jenjang peserta didik. 	10 Menit

	<p>4. peserta didik mengumpulkan tugas yang telah diberikan pada minggu sebelumnya</p> <p>5. Peserta didik mendengarkan tujuan pembelajaran atau kompetensi dasar yang akan dicapai; dan</p> <p>6. Peserta didik menerima informasi tentang hal-hal yang akan dipelajari, metode dan media, langkah pembelajaran dan penilaian pembelajaran.</p>	
Inti	<p>1. Memberi stimulus</p> <ul style="list-style-type: none"> • Peserta didik menonton video yang relevan dengan materi proses pembentukan dan pemanfaatan tanah dengan konsep ekopedagogi <p>b. Literasi</p> <ul style="list-style-type: none"> • Guru menjelaskan materi didepan kelas secara singkat tentang <ul style="list-style-type: none"> - pengertian tanah - proses dan factor pembentukan - lapisan tanah - pemanfaatan tanah • Peserta didik meresume penjelasan yang telah ditulis oleh guru didepan kelas <p>2. Identifikasi masalah</p> <p>a. Berpikir kritis</p> <ul style="list-style-type: none"> • Peserta didik dipersilahkan bertanya tentang materi yang telah dijelaskan. <p>3. Mengumpulkan informasi</p> <p>a. Kolaborasi</p> <ul style="list-style-type: none"> • Peserta didik mencari akun sosial media yang berkonsep peduli lingkungan hidup sesuai kelompok pada pertemuan sebelumnya. 	70 Menit

	<ul style="list-style-type: none"> • Peserta didik yang mempunyai akun sosial media mengikuti (Mem-follow) akun sosial media yang berhubungan dengan peduli lingkungan. • Peserta didik mengamati postingan yang berhubungan dengan materi pemanfaatan tanah. <p>4. Mengolah informasi</p> <p>a. Berpikir kritis dan Kreatif inovatif</p> <ul style="list-style-type: none"> • Peserta didik mencari informasi postingan tentang peduli lingkungan yang berkaitan dengan pemanfaatan tanah dan sejenisnya. • Peserta didik mengklasifikasi informasi yang telah diperoleh • Peserta didik menuliskan hasil diskusi kelompok pada buku tugas masing masing dalam bentuk deskripsi laporan. <p>5. Menverifikasi dan menyimpulkan data</p> <p>a. Mengkomunikasikan</p> <ul style="list-style-type: none"> • Masing masing kelompok mengemukakan/ mempresentasikan hasil diskusi didepan kelas. • Kelompok lain diberi kesempatan untuk memberi tanggapan. 	
Penutup	<ol style="list-style-type: none"> 1. Peserta didik bersama Guru melakukan refleksi untuk mengevaluasi seluruh rangkaian aktivitas pembelajaran dan hasil-hasil yang diperoleh untuk selanjutnya secara bersama menemukan manfaat dari konsep peduli lingkungan secara langsung maupun tidak langsung dari hasil pembelajaran yang telah dilaksanakan; 2. Menginformasikan rencana kegiatan pembelajaran untuk pertemuan selanjutnya. 	10 Menit

H. Penilaian

No.	Kompetensi yang diukur	Teknik	Bentuk instrument	Nama instrument
1.	Sikap	Observasi dan kuesioner	Dokumentasi awal dan kuesioner	Foto dan lembar kuesioner
2.	Pengetahuan	Tes	Tes tulis Uraian	Soal tertulis (Pre-test dan Post-test)
3.	Keterampilan	Produk dan performance	Rubrik Penilaian	Penilaian produk dan performance

I. Pembelajaran Pengayaan

1. Program Pengayaan

Program pengayaan dilakukan dengan meringkas buku-buku referensi yang relevan.:

- Panduan mengenal batuan bekuan dengan pengarang P. Budisantoso
- Klasifikasi tanah: dasar teori bagi peneliti tanah dan pelaksana pertanian di Indonesia pengarang Isa Darmawijaya.

	dan anorganik)				
4.	Saya saya membawa minum dengan menggunakan botol minum isi ulang kesekolah				
5.	Saya sarapan sebelum berangkat sekolah				
6.	Saya menggunakan sapu tangan				
7.	Saat saya berbelanja, Saya membawa kantong belanja (<i>reusable</i>) sendiri dari rumah				
8.	Saya menggunakan kendaraan umum untuk bepergian				
9.	Saya menutup keran air saat air di bak mandi sudah penuh				
10.	Saya menegur orang yang membuang sampah sembarangan				
11.	Saya menyiram tanaman yang ada disekitar rumah saya				

Appendix 10. Research Instrument of Cognitive Aspect

Penilaian Aspek Pengetahuan

Teknik Penilaian : Tes (Pre-test dan Post-test)

Instrumen Penilaian : Soal Uraian

KISI-KISI Soal Uraian

Nama Sekolah : SMAN 5 Malang

Kelas/Semester : X J/ 2

Mata Pelajaran : Geografi

Tahun Pelajaran : 2018/ 2019

Kompetensi Dasar	Materi	Indikator	No. Soal
3.1. Menganalisis dinamika Lithosfer dan dampaknya terhadap kehidupan 4.1. Menyajikan proses dinamika litosfer dengan menggunakan peta, bagan, gambar, tabel, grafik, video, dan/atau animasi	- Pengaruh Proses eksogen terhadap kehidupan - Proses pembentukan tanah dan pemanfaatannya	1. Mendefinisikan tenaga eksogen	1
		2. Menguraikan konsep tenaga eksogen	3
		3. Mengidentifikasi jenis-jenis dan pengaruh tenaga eksogen terhadap kehidupan	2
		4. Menjelaskan pengertian tanah	4
		5. Menguraikan dinamika lihosfer dan kehidupan	6,7
		6. Mengidentifikasi proses pemanfaatan tanah	5, 6, 8

Soal :

Petunjuk: Jawablah dengan singkat dan benar!

1. Jelaskan secara singkat apa yang dimaksud dengan tenaga eksogen!
2. Sebutkan jenis-jenis tenaga eksogen!
3. Jelaskan dengan menggunakan bahasamu sendiri keterkaitan antara tenaga eksogen dengan pentingnya melestarikan lingkungan! (Satu jenis tenaga eksogen saja)!
4. Jelaskan pengertian tanah!

5. Jelaskan perilaku prinsip peduli lingkungan beserta contohnya dalam kehidupan sehari-hari yang berhubungan dengan pemanfaatan tanah (salah satu)!
 - a. Interaksi
 - b. Keberagaman
 - c. Keberlanjutan
 - d. Ketergantungan
 - e. Harmonis
6. Bagaimanakah pendapatmu tentang relawan peduli lingkungan dan gerakan yang mendukung kelestarian alam? Perlukah untuk dilakukan atau tidak? Jelaskan alasanmu dan hubungkan dengan materi yang diajarkan sebelumnya!
7. Diskripsikan dampak dari kegiatan berikut ini terhadap pelestarian alam, khususnya dinamika lithosfer dan makhluk hidup. (pilih salah satu)
 - a. Penggunaan produk reusable (anti plastic sekali pakai)
 - b. Hemat energy
 - c. Penghematan BBM
 - d. Membuang sampah pada tempatnya
8. Bagaimanakah seharusnya proses memanfaatkan dan melestarikan tanah yang baik dan benar menurutmu?, Jelaskan secara singkat saja

Pedoman Penskoran

Nomor Soal	Kunci Jawaban	Skor
1	Tenaga eksogen adalah tenaga atau gaya yang berasal dari luar bumi yang menyebabkan perubahan pada permukaan bumi	12,5
2	Jenis jenis dari tenaga eksogen adalah 1) Pelapukan 2) Erosi 3) Sedimentasi 4) Mass wasting 5) Ekstra terensial	12,5
3	1) Pelapukan Pelapukan terjadi disebabkan beberapa macam hal, diantaranya ada yang disebabkan oleh suhu udara siang malam dan titik kelembaban, dan ini bisa dipengaruhi oleh akibat global warming sehingga dapat mempengaruhi iklim dan suhu udara disekelilingnya. 2) Erosi Erosi mempunyai beberapa jenis diantaranya ada erosi yang disebabkan oleh air hujan atau air sungai. Air hujan akan menggerus permukaan tanah pada lereng yang landai akibat tidak adanya akar tumbuhan yang menahan sehingga sering menyebabkan longsor 3) Sedimentasi Sedimentasi biasanya tidak hanya menadi penumpukan bahan pelapukan, tetapi juga sampah yang terbawa oleh air atau angin, sehingga dapat menyempatkan tempat aliran dan menyebabkan banjir	12,5
4	<ul style="list-style-type: none">• tanah adalah campuran bagian-bagian batuan dengan material serta bahan organik yang merupakan sisa kehidupan yang timbul pada permukaan bumi akibat erosi dan pelapukan karena proses waktu.• Tanah adalah campuran bahan padat berupa partikel kecil air dan udara yang mengandung hara dan dapat menumbuhkan tumbuhan• Tanah adalah bagian dari permukaan bumi yang ditandai	12,5

	<p>doleh lapisan yang sejajar dengan permukaan sebagai hasil modifikasi oleh proses-proses fisika, kimia maupun biologi yang bekerja dibawah macam-macam dan pada periode tertentu.</p> <ul style="list-style-type: none"> • Tanah adalah benda alami yang terdapat dipermukaan bumi yang tersusun dari bahan mineral sebagai hasil pelapukan batuan dan organic yang merupakan medium pertumbuhan tanaman dengan sifat tertentu • Tanah adalah salah satu sistem bumi yang bersama dengan sistem bumi lainnya, yaitu air alami dan atmosfer menjadi inti fungsi, perubahan, dan kemandirian ekosistem. 	
5.	<p>a. Interaksi (interaksi yang dilakukan oleh manusia seharusnya juga tetap mempertimbangkan makhluk hidup lainnya sehingga tidak mengganggu satu sama lain)</p> <p>b. Keberagaman (keanekaragaman atau diversity juga merupakan keanekaragaman diatas permukaan bumi ini, karena tidak hanya ada manusia, melainkan juga ada tumbuhan yang perlu hidup dan hewan yang butuh hidup perlu berkembang biak)</p> <p>c. Keberlanjutan (Sustainability adalah keberlanjutan kehidupan yang lama dan terus menerus dengan menerapkan konsep ramah lingkungan, keseimbangan dan menghargai hubungan simbiosis antara manusia dan ekologi serta siklus alam)</p> <p>d. Ketergantungan (manusia dan makhluk hidup lainnya juga mempunyai sifat saling ketergantungan, sehingga tidak dianjurkan untuk saling merusak satu sama lainnya)</p> <p>e. Harmonis (harmoni yang dimaksudkan adalah tuhan menciptakan semesta dengan sangat sempurna dan saling menunjang satu sama lain sehingga alangkah baiknya jika manusia tetap menghormati keserasian tersebut dengan tidak merusak satu sama lain)</p>	12,5
6.	<p>Tindakan peduli lingkungan yang dilakukan oleh relawan tentu perlu dilakukan untuk mengatasi kerusakan lingkungan yang terlalu berlebihan, misalnya relawan peduli plastic waste yang saling mengingatkan yang lain melalui beberapa kegiatan</p>	12,5
7.	<p>a. Penggunaan produk reusable (anti plastic sekali pakai)</p> <p>Penggunaan produk reusable misalnya penggunaan botol minum isi ulang atau menggunakan saputangan dari pada tissue dapat mengurangi sampah dan menghindari pencemaran tanah sehingga dapat memanfaatkan tanah dengan baik</p>	12,5

	<p>b. Hemat energy</p> <p>salah satu cara hemat energy adalah dengan tidak terlalu sering menggunakan alat elektronik pada kesehari-harian sehingga tidak menghabiskan terlalu banyak energy, karena sebagian besar energy didapat dari listrik berbahan Batu bara sehingga dapat mengurangi penggunaan batu bara yang semakin sedikit</p> <p>c. Penghematan BBM</p> <p>penghematan BBM dapat berupa menaiki kendaraan umum saat berangkat dan pulang dari sekolah merupakan salah satu sikap peduli lingkungan.</p> <p>d. Membuang sampah pada tempatnya</p> <p>membuang sampah pada tempatnya dan memilah sampah yang bisa didaur ulang adalah salah satu cara peduli lingkungan yang paling mudah namun sulit terealisasikan, hal ini mampu mengurangi tingkat sampah yang berada di aliran sungai yang menyebabkan sedimentasi dan banjir disekitaran sungai</p>	
8.	Pemanfaatan tanah yang baik dan benar adalah dengan tidak membuang sampah sembarangan yang bisa saja mengganggu tanah, menanam tanah dengan tumbuhan yang sesuai, menjaga ekosistem dari tanah itu sendiri.	12,5
Jumlah		100

Appendix 11. Research Instrument of Psychometric Aspect (Presentation)

(Praktek Mempresentasikan)

Penilaian Keterampilan

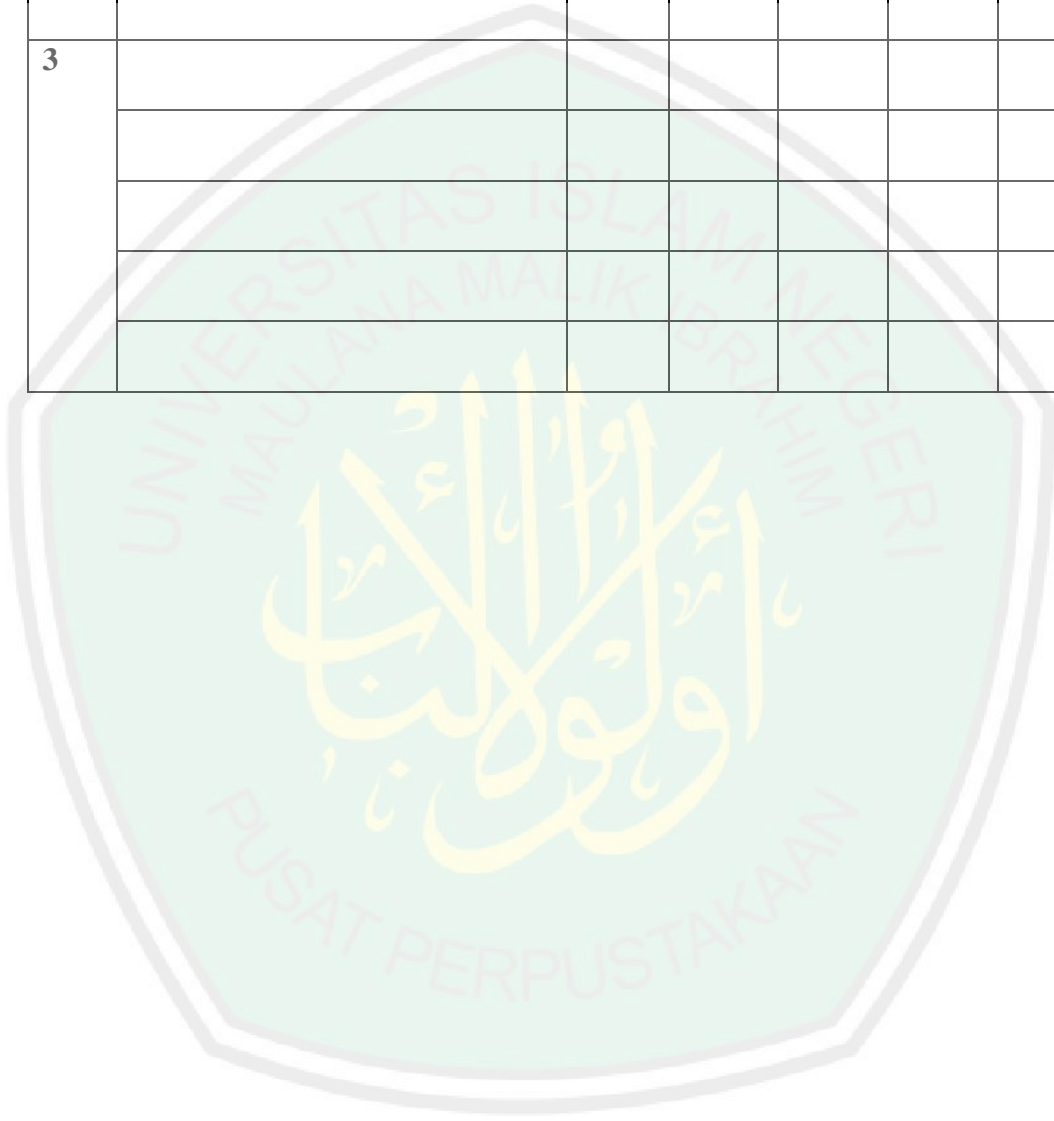
- a. Teknik Penilaian : Praktik (Performance)
- b. Bentuk Penilaian : Pengamatan
- c. Instrumen Penilaian : Lembar Pengamatan
- d. Rubrik Penilaian

No.	Indikator	Skor				
		1	2	3	4	5
1	Persiapan peralatan	5	10	15	20	25
2	Penguasaan materi	5	10	15	20	25
3	Penguasaan/ kemampuan berbahasa	5	10	15	20	25
4	Performance/ penampilan	5	10	15	20	25

Rekap Penilaian

Kel	Nama Siswa	Skor				Jumlah
		I	II	III	IV	
1						
2						

3							



Appendix 13. Sample ResearchPresence of Experiment Class

No. Urut	NIS	NAMA	L/P	Agama	LM	Hari, Tanggal				
						1	2	3	4	5
1	16228	Abitta Marcella P. B.	P	Islam						
2	16237	Adinda Fayyaza S. P.	P	Islam						
3	16260	Alyvia Umi Hidayah	P	Islam						
4	16283	Asgar Widhasworo R.P.	L	Islam						
5	16302	Balqis Bintang Paramita	P	Islam						
6	16321	Daffa Husni Hibban	L	Islam						
7	16334	Dhea Balqis Arie Islami	P	Islam						
8	16347	Ella Noviana	P	Islam						
9	16348	Elliezer Abigail Ferri P.	P	Islam						
10	16351	Evin Reffida Buchari	P	Islam						
11	16371	Fiola Farah Tazia	P	Islam						
12	16392	Ira Ima Diyanti	P	Islam						
13	16411	Lailatul Zuqria	P	Islam						
14	16420	Madinatul Ilmil H.	P	Islam						

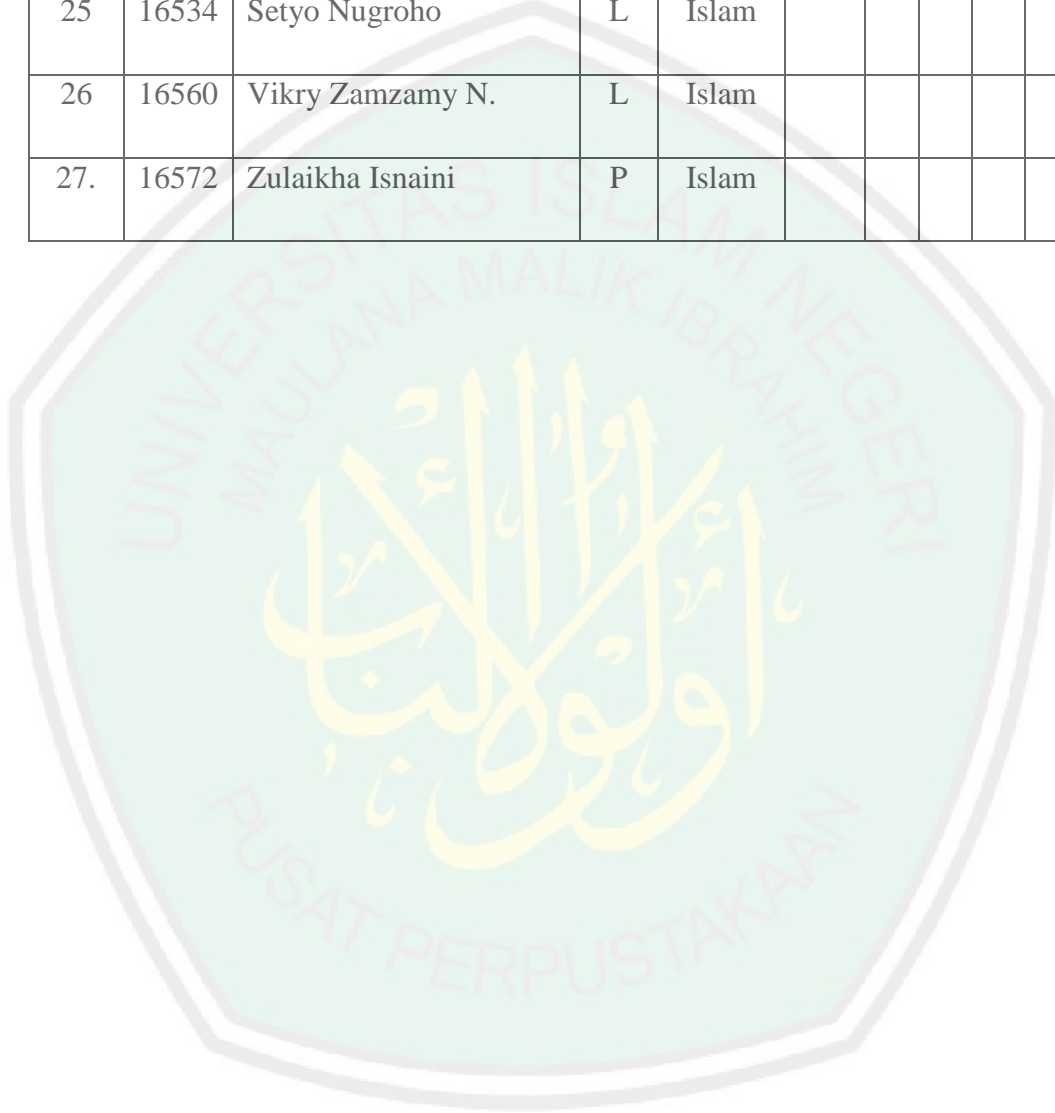
15	16427	Masita Dwina A.	P	Islam						
16	16441	Moch Dandi B.	L	Islam						
17	16460	Muhammad Syahrul A.	L	Islam						
18	16464	Muhammad Zidan A.	L	Islam						
19	16471	Nabila Sari Nurul I.	P	Islam						
20		Novicto	L	Islam						
21	16499	Rama Agung Saputra	L	Islam						
22	16509	Revalina Andriana R.	P	Islam						
23	16520	Rofi Naufal Suryawan	L	Islam						
24	16526	Sabita Azmi Wardani	P	Islam						
25	16538	Sofia Andriana	P	Islam						
26	16545	Tamalla Octabilla N.	P	Islam						

Presence of Control Class

No. Urut	NIS	NAMA	L/P	Agama	LM	Hari, Tanggal				
						1	2	3	4	5
1	16225	Abdil Pramana P.	L	Islam						
2	16265	Amelia Sylvani	P	Islam						
3	16287	Asyifa Dwi K.	P	Islam						

4	16322	Dannisa Asasabila A.	P	Islam						
5	16337	Dhewi Ngujiwat S.P	P	Islam						
6	16337	Dhimas Wahyu P	L	Islam						
7	16364	Farisya Rikza N.	P	Islam						
8	16367	Febriyan Dwi Putra	L	Islam						
9	16376	Friska Nur F.	P	Islam						
10	16377	Galuh Dwi Putra S.	P	Islam						
11	16391	Intan Nursafitri	P	Islam						
12	16397	Ivan Abdillah	L	Islam						
13	16398	Jasmine Sarah Nabila	P	Islam						
14	16412	Larasati Putri Hardani	P	Islam						
15	16415	Levia Cinta P.	P	Islam						
16	16433	Melia Putri Heryanto	P	Islam						
17	16439	Moch. Dimas M.	L	Islam						
18	16447	Muh. Alfian F.	L	Islam						
19	16452	Muh. Araya Ibrahim	L	Islam						
20	16467	Nabila Kinasih A.	P	Islam						
21	16469	Nabila Maulidya	P	Islam						
22	16287	Padantya Devin S.	L	Islam						

23	16492	Putri Diana	P	Islam						
24	16505	Renatha Theisa	P	Islam						
25	16534	Setyo Nugroho	L	Islam						
26	16560	Vikry Zamzamy N.	L	Islam						
27.	16572	Zulaikha Isnaini	P	Islam						



Appendix 14. The Result of Score (Test)

Conventional Learning Model		Eco-pedagogy Based Learning Model	
X	Y	X	Y
31	43,5	50	87,5
62,5	68,5	43,5	87,5
62,5	75	50	62,5
68,5	68,5	37,5	43,5
37,5	31	12,5	94
43,5	75	56	43,5
37,5	56	43,5	81,5
12,5	82	43,5	87,5
31	56	25	75
43,5	50	18,5	94
37,5	81,5	50	100
62	56	43,5	87,5
68,5	87,5	68,5	87,5
56	37,5	43,5	68,5
43,5	68	18,5	62,5
68	56	25	43,5
25	75	25	81,5
43,5	43,5	37,5	75

56	43,5	50	81,5
56	62,5	18,5	94
31	56	37,5	75
50	62,5	56	68,5
12,5	43,5	12,5	81,5
43,5	56	56	81,5
62,5	62,5	25	75
43,5	75	37,5	68,5
50	56		
Total = 1239,5	Total = 1589,5	Total = 984,5	Total = 1988

Appendix 15. Result of Instrument's Spread (Attitude)

The data pretest of control class

The data posttest of control class

No .	X 4	X 5	X 7	X 9	X1 0	X1 1	Su m X	No .	X 4	X 5	X 7	X 9	X1 0	X1 1	Su m X
1.	3	4	1	4	3	2	17	1.	4	3	1	4	3	3	18
2.	4	4	2	4	3	2	19	2.	4	2	1	3	3	2	15
3.	3	4	2	4	3	2	18	3.	3	2	1	4	2	2	14
4.	2	4	2	4	3	2	17	4.	4	4	2	4	3	2	19
5.	3	4	1	3	2	2	15	5.	3	3	1	4	2	2	15
6.	4	1	1	4	2	2	14	6.	1	1	1	2	2	3	10
7.	2	2	2	4	1	3	14	7.	4	1	2	4	2	1	14
8.	4	1	1	4	2	2	14	8.	4	4	2	4	3	3	20
9.	3	2	1	4	2	2	14	9.	4	4	2	4	1	3	18
10.	3	2	1	4	2	2	14	10.	3	4	2	2	2	2	15
11.	4	4	1	4	2	4	19	11.	4	2	1	4	3	2	16
12.	2	4	3	4	2	3	18	12.	3	3	1	3	2	3	15
13.	1	2	1	3	2	2	11	13.	4	4	2	4	3	3	20
14.	4	1	2	4	2	3	16	14.	4	2	2	4	3	2	17
15.	3	2	2	4	4	4	19	15.	4	4	1	4	2	2	17
16.	4	1	1	2	2	1	11	16.	1	4	1	4	1	1	12

17.	4	4	2	4	2	2	18	17.	4	4	3	4	2	3	20
18.	2	3	2	4	3	3	17	18.	3	1	1	3	2	2	12
19.	4	4	4	4	2	3	21	19.	1	2	1	4	2	1	11
20.	4	2	2	3	3	3	17	20.	2	2	1	4	2	2	13
21.	4	1	3	4	2	3	17	21.	4	3	2	4	2	3	18
22.	3	4	1	4	2	2	16	22.	4	3	1	4	2	3	17
23.	2	3	1	4	2	2	14	23.	4	4	3	4	2	3	20
24.	3	4	1	4	2	2	16	24.	2	4	3	4	2	3	18
25.	2	3	1	4	2	2	14	25.	3	4	1	4	2	2	16
26.	4	2	2	3	3	3	17	26.	4	3	2	4	2	3	18
27.	4	3	2	4	2	3	18	27.	4	1	3	4	2	3	17

The data pretest of experiment class

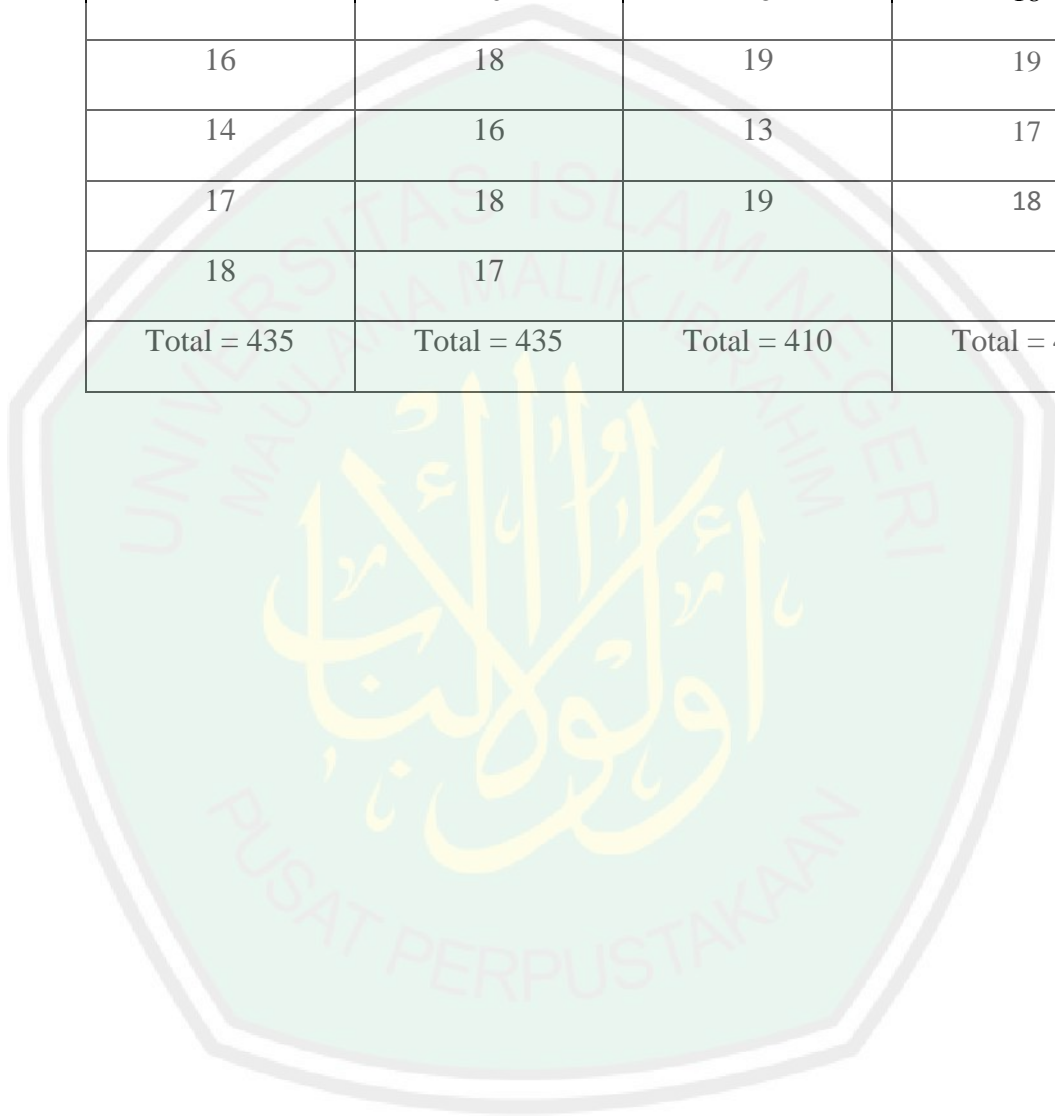
The data posttest of experiment class

No .	X ₄	X ₅	X ₇	X ₉	X ₁₀	X ₁₁	Su m X	No .	X ₄	X ₅	X ₇	X ₉	X ₁₀	X ₁₁	Su m X
1.	4	4	1	4	2	2	17	1.	4	4	2	3	3	3	19
2.	4	2	1	3	2	3	15	2.	2	4	2	3	2	2	15
3.	4	4	1	4	2	2	17	3.	4	1	3	4	3	3	18
4.	4	3	2	3	4	2	18	4.	3	4	1	4	2	2	16
5.	3	4	1	4	2	2	16	5.	3	3	3	4	3	3	19
6.	1	4	1	4	1	1	12	6.	3	4	3	4	3	3	20
7.	2	2	1	4	2	3	14	7.	4	2	1	3	2	1	13

8.	2	1	1	4	2	2	12	8.	4	3	2	4	2	2	17
9.	4	3	1	3	2	2	15	9.	3	4	4	4	4	4	23
10.	4	4	2	4	2	4	20	10.	2	3	2	4	3	3	17
11.	1	2	1	4	2	1	11	11.	4	1	2	4	3	3	17
12.	4	4	2	4	4	4	22	12.	4	1	3	4	4	4	20
13.	4	4	2	4	3	3	20	13.	1	2	2	4	2	2	13
14.	4	2	1	4	3	2	16	14.	2	4	2	4	2	2	16
15.	4	3	1	4	2	3	17	15.	2	3	1	4	2	2	14
16.	4	4	2	4	2	2	18	16.	4	3	2	4	2	2	17
17.	4	3	2	4	2	4	19	17.	4	4	1	4	4	4	21
18.	3	2	1	2	2	2	12	18.	4	4	1	4	2	2	17
19.	4	3	2	4	2	2	17	19.	2	4	1	4	3	3	17
20.	4	4	1	4	2	3	18	20.	2	4	2	3	3	2	16
21.	3	1	1	3	2	2	12	21.	4	2	2	4	3	4	19
22.	4	2	2	4	3	2	17	22.	4	2	1	3	2	3	15
23.	4	4	2	4	2	2	18	23.	3	4	1	4	2	4	18
24.	4	4	2	4	2	3	19	24.	4	4	1	4	2	4	19
25.	4	1	1	4	2	1	13	25.	3	2	2	3	3	4	17
26.	4	3	2	4	3	3	19	26.							18

Conventional Learning Model		Eco-pedagogy Based Learning Model	
X	Y	X	Y
17	18	17	19
19	15	15	15
18	14	17	18
17	19	18	16
15	15	16	19
14	10	12	20
14	14	14	13
14	20	12	17
14	18	15	23
14	15	20	17
19	16	11	17
18	15	22	20
11	20	20	13
16	17	16	16
19	17	17	14
11	12	18	17
18	20	19	21
17	12	12	17
21	11	17	17
17	13	18	16

17	18	12	19
16	17	17	15
14	20	18	18
16	18	19	19
14	16	13	17
17	18	19	18
18	17		
Total = 435	Total = 435	Total = 410	Total = 451



Appendix 16. The Result of Psychometric Aspect (Creativity)

Conventional Learning Model		Eco-pedagogy Based Learning Model	
X	Y	X	Y
70	76	80	84
70	80	80	84
70	68	80	84
70	70	80	84
70	78	70	76
65	70	70	76
65	65	70	76
65	68	70	76
65	68	80	92
65	68	80	92
65	68	80	92
65	68	85	88
75	76	85	88
75	76	85	88
75	68	85	88
75	78	95	92
75	75	95	92
80	88	95	92

80	80	90	88
80	78	90	88
80	90	90	88
80	80	90	88
80	78	70	76
70	70	70	76
70	72	70	76
70	72	70	76
70	70		
Total = 1940	Total =	Total = 2105	Total =

Appendix 17. Worktable Analysis Covariance of Cognitive Aspect (Test)

Conventional Learning Model					Eco-pedagogy based learning model				
X_1	Y_1	X_1^2	Y_1^2	X_1Y_1	X_2	Y_2	X_2^2	Y_2^2	X_2Y_2
31	43.5	961	1892.25	1348.5	50	87,5	2500	7656,25	4375
62.5	68.5	3906.25	4692.25	4281.25	43,5	87,5	1892,25	7656,25	3806,25
62.5	75	3906.25	5625	4687.5	50	62,5	2500	3906,25	3125
68.5	68.5	4692.25	4692.25	4692.25	37,5	43,5	1406,25	1892,25	1631,25
37.5	31	1406.25	961	1162.5	12,5	94	156,25	8836	1175
43.5	75	1892.25	5625	3262.5	56	43,5	3136	1892,25	2436
37.5	56	1406.25	3136	2100	43,5	81,5	1892,25	6642,25	3545,25
12.5	43.5	156.25	1892.25	543.75	43,5	87,5	1892,25	7656,25	3806,25
31	56	961	3136	1736	25	75	625	5625	1875
43.5	50	1892.25	2500	2175	18,5	94	342,25	8836	1739
37.5	81.5	1406.25	6642.25	3056.25	50	100	2500	10000	5000
62	56	3844	3136	3472	43,5	87,5	1892,25	7656,25	3806,25
68.5	87.5	4692.25	7656.25	5993.75	68,5	87,5	4692,25	7656,25	5993,75
56	37.5	3136	1406.25	2100	43,5	68,5	1892,25	4692,25	2979,75
43.5	68	1892.25	4624	2958	18,5	62,5	342,25	3906,25	1156,25
68	56	4624	3136	3808	25	43,5	625	1892,25	1087,5
25	75	625	5625	1875	25	81,5	625	6642,25	2037,5
43.5	43.5	1892.25	1892.25	1892.25	37,5	75	1406,25	5625	2812,5

56	43.5	3136	1892.25	2436	50	81,5	2500	6642,25	4075
56	62.5	3136	3906.25	3500	18,5	94	342,25	8836	1739
31	56	961	3136	1736	37,5	75	1406,25	5625	2812,5
50	62.5	2500	3906.25	3125	56	68,5	3136	4692,25	3836
12.5	43.5	156.25	1892.25	543.75	12,5	81,5	156.25	6642,25	1018,75
43.5	56	1892.25	3136	2436	56	81,5	3136	6642,25	4564
62.5	62.5	3906.25	3906.25	3906.25	25	75	625	5625	1875
43.5	75	1892.25	5625	3262.5	37,5	68,5	1406,25	4692,25	2568,75
50	56	2500	3136	2800					
Tot= 1239 .5	Tot = 158 9.5	Tot= 63372	Tot= 98806.25	Tot= 74890	Tot = 984. 5	Tot= 1988	Tot= 43025.7 5	Tot= 158066. 5	Tot= 74876.5

Appendix 18. Worktable Analysis Covariance of Affective Aspect (Attitude)

Conventional Learning Model					Eco-pedagogy based learning model				
X_1	Y_1	X_1^2	Y_1^2	X_1Y_1	X_2	Y_2	X_2^2	Y_2^2	X_2Y_2
17	18	289	324	306	17	19	289	361	323
19	15	361	225	304	15	15	225	225	252
18	14	324	196	252	17	18	289	324	306
17	19	289	361	323	18	16	324	256	288
15	15	225	225	225	16	19	256	361	304
14	10	196	100	140	12	20	144	400	240
14	14	196	196	196	14	13	196	169	182
14	20	196	400	280	12	17	144	289	204
14	18	196	324	252	15	23	225	529	345
14	15	196	225	210	20	17	400	289	340
19	16	361	256	304	11	17	121	289	187
18	15	324	225	270	22	20	484	400	440
11	20	121	400	220	20	13	400	169	260
16	17	256	289	272	16	16	256	256	256
19	17	361	289	323	17	14	289	196	238
11	12	121	144	132	18	17	324	289	306
18	20	324	400	360	19	21	361	441	380
17	12	289	144	204	12	17	144	289	204

21	11	441	121	231	17	17	289	289	289
17	13	289	169	221	18	16	324	256	288
17	18	289	324	306	12	19	144	361	228
16	17	256	289	272	17	15	289	225	255
14	20	169	400	280	18	18	324	324	324
16	18	256	324	288	19	19	361	361	361
14	16	169	256	224	13	17	169	289	221
17	18	289	324	306	19	18	361	324	342
18	17	324	289	306					
Tot= 435	Tot= 435	Tot= 7107	Tot= 7219	Tot= 7007	Tot= 410	Tot= 451	Tot= 7132	Tot= 7961	Tot= 7363

Appendix 19. Validity Test of Instruments Spread (Questionnaire)

Correlations

		Kovariabel sikap X1	Kovariabel sikap X2	Kovariabel sikap X3	Kovaria bel sikap X4	Kovaria bel sikap X5	Kovaria bel sikap X6	Kovariabel sikap X7	Kovaria bel sikap X8	Kovaria bel sikap X9	Kovaria bel sikap X10	Kovaria bel sikap X11	JmlKov10 .J2
Kovariabel sikap X1	Pearson Correlation	1	.079	.303	.113	.010	.081	.068	.195	.123	.073	-.088	.386
	Sig. (2-tailed)		.702	.132	.581	.962	.695	.740	.339	.549	.722	.669	.052
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X2	Pearson Correlation	.079	1	-.065	-.180	.341	.006	.278	-.429*	.472*	.040	.065	.377
	Sig. (2-tailed)	.702		.753	.380	.089	.975	.169	.029	.015	.847	.752	.058
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X3	Pearson Correlation	.303	-.065	1	.066	-.119	.149	-.249	.386	.072	.397*	.149	.377
	Sig. (2-tailed)	.132	.753		.748	.562	.467	.220	.051	.727	.045	.466	.058
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X4	Pearson Correlation	.113	-.180	.066	1	.406*	.347	.437*	.043	.173	.390*	.322	.616
	Sig. (2-tailed)					.000	.000	.000	.822	.173	.000	.000	.000
	N	26	26	26	26	26	26	26	26	26	26	26	26

	Sig. (2-tailed)	.581	.380	.748		.039	.082	.026	.836	.399	.049	.109	.004
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X5	Pearson Correlation	.010	.341	-.119	.406*	1	.270	.378	-.237	.459*	.012	.221	.609
	Sig. (2-tailed)	.962	.089	.562	.039		.183	.057	.243	.018	.954	.279	.001
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X6	Pearson Correlation	.081	.006	.149	.347	.270	1	.221	.087	-.119	.034	-.233	.348
	Sig. (2-tailed)	.695	.975	.467	.082	.183		.278	.674	.562	.870	.251	.081
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X7	Pearson Correlation	.068	.278	-.249	.437*	.378	.221	1	-.033	.337	.437*	.449*	.625
	Sig. (2-tailed)	.740	.169	.220	.026	.057	.278		.874	.092	.025	.021	.001
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X8	Pearson Correlation	.195	-.429*	.386	.043	-.237	.087	-.033	1	.018	.469*	-.243	.174
	Sig. (2-tailed)	.339	.029	.051	.836	.243	.674	.874		.932	.016	.233	.396
	N	26	26	26	26	26	26	26	26	26	26	26	26

Kovariabel sikap X9	Pearson Correlation	.123	.472*	.072	.173	.459*	-.119	.337	.018	1	.147	-.039	.504*
	Sig. (2-tailed)	.549	.015	.727	.399	.018	.562	.092	.932		.472	.850	.009
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X10	Pearson Correlation	.073	.040	.397*	.390*	.012	.034	.437*	.469*	.147	1	.402*	.619*
	Sig. (2-tailed)	.722	.847	.045	.049	.954	.870	.025	.016	.472		.042	.001
	N	26	26	26	26	26	26	26	26	26	26	26	26
Kovariabel sikap X11	Pearson Correlation	-.088	.065	.149	.322	.221	-.233	.449*	-.243	-.039	.402*	1	.413*
	Sig. (2-tailed)	.669	.752	.466	.109	.279	.251	.021	.233	.850	.042		.036
	N	26	26	26	26	26	26	26	26	26	26	26	26
JmlKov10.J2	Pearson Correlation	.386	.377	.377	.616**	.609**	.348	.625**	.174	.504**	.619**	.413*	
	Sig. (2-tailed)	.052	.058	.058	.001	.001	.081	.001	.396	.009	.001	.036	
	N	26	26	26	26	26	26	26	26	26	26	26	26

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix 20. Documentations



Picture 20.1 student in learning process



Picture 20.2 student singing national anthem



Picture 20.4 student watching video of Environmental crisis



Picture 20.5 Student doing assignment



Picture 20.6 product of students

Appendix 21. Evidence of Consultation sheet



KEMENTERIAN AGAMA

MAULANA MALIK IBRAHIM

STATE ISLAMIC UNIVERSITY MALANG

FACULTY OF TARBIYAH AND TEACHING TRAINING

Jl. Gajayana 50, Telp. 0341-552398, Fax. 0341-552398 Malang

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EVIDENCE OF CONSULTATION

Name : Nuroniatul Khusnia
NIM : 15130148
Department : Social Science Department
Thesis Title : The Influence of The Implementation Eco-pedagogy Based Learning Model and Conventional Learning Model toward Eco-Literate (Ecological Intelligence) of Social Student Grade X SMAN 5 Malang

No	Date of Consultation	Consultation Material	Signature
1	28-02-2019	Konsultasi Instrumen	
2	08-03-2019	Konsultasi Data	
3	18-03-2019	Bab 1-2	
4	08-04-2019	Bab 3	
5	28-04-2019	Revisi bab 3	
6	09-05-2019	Konsultasi Bab 4-5	
7	10-05-2019	Revisi bab 4-5 & bab 6	
8.	16-05-2019	ACE & Aethan	

Acknowledged by,

Head of Department,

Dr. Alfiana Yuli Efiyanti, M.A

NIP. 19710701 200604 2 001

Appendix 22. Certificate of Research by School



PEMERINTAH PROVINSI JAWA TIMUR
DINAS PENDIDIKAN
SEKOLAH MENENGAH ATAS NEGERI 5 KOTA MALANG
Tanimbar No. 24 Telp. (0341) 364580 Fax. (0341) 348498 Email : inbox@sman5malang.sch.id
MALANG

65117

SURAT KETERANGAN PENELITIAN .

Nomor: 070 / 0487/ 101.6.10.5 / 2019

Yang bertanda tangan di bawah ini :

Nama : **Drs. AMAT, M.M.Pd**
NIP : 19650725 199402 1 002
Jabatan : Kepala Sekolah
menerangkan bahwa :
Nama : **NURONIATUL KHUSNIA**
NIM : 15130148
Jenjang : S1
Program Studi : Pendidikan Ilmu Pengetahuan Sosial (PIPS)
Universitas : Universitas Islam Negeri Maulana Malik Ibrahim Malang

telah melakukan penelitian di SMA Negeri 5 Malang pada bulan April s.d Mei tahun 2019 dengan Judul "**The Influence of The Implementation of Eco-Pedagogy Based Learning Model and Conventional Learning Model on Eco-Literate (Ecological Intelligence) of Social Students Grade X SMAN 5 Malang**"

Demikian surat keterangan ini dibuat agar dipergunakan sebagaimana mestinya.

Malang, 21 Mei 2019
Kepala Sekolah

Drs. AMAT, M.M.Pd
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Appendix 23. Curriculum Vitae

CURRICULUM VITAE

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Education

No.	Institution	Year
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2.	SMP Negeri 1 Sukorejo	2009-2012
3.	SMA Ma'arif Sukorejo	2012-2015
4.	UIN Maulana Malik Ibrahim Malang	2015-2019