

LAPORAN AKHIR



EFEKTIVITAS BUKU PANDUAN ECOPARENTING UNTUK MENINGKATKAN LITERASI LINGKUNGAN ANAK USIA DINI

Oleh :

Khusniyati Masykuroh, M.Pd (NIDN 0325067607)
Nelis Nazziatus Sadiyah Q, M.Pd (NIDN 0302089201)
Zahrotun Nisa (NIM 2101035020)
Cici Sintia Dewi (NIM 2101035011)

**FAKULTAS KEGURUAN DAN ILMU PENDIDIKAN
PROGRAM STUDI PENDIDIKAN GURU PENDIDIKAN ANAK USIA DINI
UNIVERSITAS MUHAMMADIYAH PROF DR HAMKA
JAKARTA
TAHUN 2023**



UNIVERSITAS MUHAMMADIYAH PROF. DR. HAMKA
LEMBAGA PENELITIAN DAN PENGEMBANGAN

Jln. Tanah Merdeka, Pasar Rebo, Jakarta Timur
 Telp. 021-8416624, 87781809; Fax. 87781809

**SURAT PERJANJIAN KONTRAK KERJA PENELITIAN
 LEMBAGA PENELITIAN DAN PENGEMBANGAN
 UNIVERSITAS MUHAMMADIYAH PROF DR HAMKA**

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Bismillahirrahmanirrahim

Pada hari ini, Rabu, tanggal Satu, bulan November, Tahun Dua Ribu Dua Puluh Tiga, yang bertanda tangan di bawah ini **Dr. apt. Supandi M.Si.**, Ketua Lembaga Penelitian dan Pengembangan Universitas Muhammadiyah Prof. DR. HAMKA, selanjutnya disebut sebagai PIHAK PERTAMA; **Khusniyati Masykuroh M.Pd.**, selanjutnya disebut sebagai PIHAK KEDUA.

PIHAK PERTAMA dan PIHAK KEDUA sepakat untuk mengadakan Perjanjian Kontrak Kerja Penelitian yang didanai oleh RAPP Universitas Muhammadiyah Prof. DR. HAMKA

Pasal 1

PIHAK KEDUA akan melaksanakan kegiatan penelitian dengan judul : **EFEKTIVITAS BUKU PANDUAN ECOPARENTING UNTUK MENINGKATKAN LITERASI LINGKUNGAN ANAK USIA DINI** dengan luaran wajib dan luaran tambahan sesuai data usulan penelitian Batch 1 Tahun 2023/2024 melalui simakip.uhamka.ac.id.

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- (3) Luaran penelitian yang dimaksud wajib PUBLISH, maksimal 1 tahun sejak tanggal SPK.

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Berdasarkan kemampuan keuangan lembaga, PIHAK PERTAMA menyediakan dana sebesar Rp.6.000.000,- (Terbilang : *Enam Juta*) kepada PIHAK KEDUA untuk melaksanakan kegiatan tersebut dalam Pasal 1. Sumber biaya yang dimaksud berasal dari RAB pada Lembaga Penelitian dan Pengembangan Universitas Muhammadiyah Prof. DR. HAMKA Tahun Anggaran 2023/2024.

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Pembayaran dana tersebut dalam Pasal 4 akan dilakukan dalam 2 (dua) termin sebagai berikut;
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- (1) PIHAK KEDUA wajib melaksanakan kegiatan tersebut dalam Pasal 1 dalam waktu yang ditentukan dalam Pasal 3.
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- (4) PIHAK PERTAMA akan mendenda PIHAK KEDUA setiap hari keterlambatan penyerahan laporan hasil kegiatan sebesar 0,5 % (setengah persen) maksimal 20% (dua puluh persen) dari jumlah dana tersebut dalam Pasal 4.
- (5) Dana Penelitian dikenakan Pajak Penghasilan (PPH) dari keseluruhan dana yang diterima oleh PIHAK PERTAMA sebesar 5 % (lima persen).
- (6) PIHAK PERTAMA akan memberikan dana penelitian Termin II dalam pasal 5 ayat (2) maksimal 30 April 2024.

Jakarta, 1 November 2023

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Lembaga Penelitian dan Pengembangan
Universitas Muhammadiyah Prof. DR. HAMKA
Ketua,



Dr. apt. Supandi M.Si.

PIHAK KEDUA
Peneliti,



Khusniyati Masykuroh M.Pd



Mengetahui
Dekan II UHAMKA

Bandarsyah M.Pd.



LAPORAN PENELITIAN

UNIVERSITAS MUHAMMADIYAH PROF DR. HAMKA Tahun 2024

Judul : Efektivitas Buku Panduan Ecoparenting Untuk Meningkatkan Literasi Lingkungan Anak Usia Dini
 Ketua Peneliti : Khusniyati Masykuroh, M.Pd
 Skema Hibah : Penelitian Luaran Nasional
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Mengetahui,
 Ketua Program Studi

Khusniyati Masykuroh, M.Pd
 NIDN. 0325067607

Ketua Peneliti

Khusniyati Masykuroh, M.Pd.
 NIDN. 0325067607



Purnama Syae Purrohman, M.Pd, Ph.D
 NIDN.0307017404

Ketua Lemlitbang UHAMKA

Dr. apt. Supandi, M.Si
 NIDN.0307017404

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Laporan Akhir

Efektivitas Buku Panduan Ecoparenting Untuk Meningkatkan Literasi Lingkungan Anak Usia Dini

Latar Belakang (Background)

Aktivitas manusia dalam rangka meningkatkan kualitas hidup melalui pengetahuan dan teknologi membawa dampak pada masalah kerusakan lingkungan dan ketidakseimbangan ekosistem. Indonesia berada pada peringkat 40 dari 180 negara paling rentan bencana dengan indeks 10,39 [1]. Indonesia menduduki peringkat ketiga sebagai negara pencemar polusi udara tertinggi di dunia karena 85% emisi yang dihasilkan Indonesia bersumber dari penghancuran hutan dan konversi lahan [2]. Hal tersebut menunjukkan tata kelola lingkungan di Indonesia belum dilakukan secara optimal dan berakibat kerusakan lingkungan.

Perilaku ketidakepedulian lingkungan di Indonesia diukur melalui IPKLH yang menggambarkan bagaimana rumahtangga menggunakan energi, memakai transportasi pribadi, menghemat air, dan mengelola sampah keluarga. IPKLH keluarga di Indonesia tergolong tinggi pada dimensi pengelolaan sampah (0,72), penggunaan transportasi pribadi (0,71), dan penghematan air (0,44), dan pengelolaan energi (0,16) [3]. Tingginya IPKLH merupakan potret literasi lingkungan keluarga yang tidak baik dan beresiko mengancam kelestarian lingkungan di masa depan.

Kondisi literasi lingkungan keluarga yang tidak baik akan berpengaruh pada gaya pengasuhan (parenting). Masalah lingkungan menjadi tanggung jawab kolektif yang melibatkan setiap individu, keluarga, masyarakat dan bangsa [5]. Orangtua merupakan model yang mengarahkan pembelajaran anak menuju perilaku peduli lingkungan [4] Keterlibatan orangtua dalam dalam pendidikan, mendukung proses tumbuh kembang anak untuk memiliki karakter baik, dan mendukung dalam meningkatkan prestasinya [6]. Peran orangtua dalam pengasuhan (parenting) merupakan faktor penting dalam pembentukan karakter anak sejak usia dini karena keluarga adalah pihak terdekat dalam kehidupan anak.

Pendidikan lingkungan penting diajarkan sejak dini karena anak memiliki potensi besar mengembangkan keterampilan, nilai-nilai dan disposisi yang mendukung keberlanjutan, menciptakan landasan kepekaan, minat, dan perilaku lingkungan di masa depan [7]. Pendekatan pembelajaran anak usia dini harus sesuai dengan kebutuhan perkembangan dan minat setiap anak, serta mampu mengakomodir rasa

keingintahuan anak yang besar pada lingkungan sekitar [8].

Kepedulian lingkungan dipengaruhi oleh kepribadian dan sistem nilai dimana manusia hidup [10]. Rumah merupakan lingkungan sosial yang penting bagi anak-anak belajar dari orang tua mereka [11]. Peran keluarga dalam menanamkan kesadaran dan sikap peduli lingkungan sejak dini sangat penting karena keluarga adalah lingkungan terdekat dimana anak hidup. Model ekoliterasi berbasis keluarga diperlukan sebagai strategi untuk mengembangkan nilai budaya hidup hijau yang dapat dipraktikkan oleh semua lapisan masyarakat di berbagai karakteristik wilayah [12]. Peran orangtua dalam pengasuhan (parenting) di masa usia dini sangat besar karena orangtua menjadi model bagi anak dalam berperilaku dan menyelesaikan masalah lingkungan dalam kehidupan sehari-hari.

Literasi lingkungan merupakan kemampuan mengenali bahwa pilihan seseorang berdampak pada lingkungan, untuk mengidentifikasi solusi paling berkelanjutan untuk suatu masalah, dan untuk dapat bertindak dengan cara yang paling ramah lingkungan pada solusi tersebut [13]. Literasi lingkungan tidak hanya terkait dengan pengetahuan, nilai, dan emosi lingkungan umum saja, tetapi juga terkait erat dengan perilaku perlindungan terhadap lingkungan. Literasi lingkungan bukan hanya tentang pengetahuan saja, tapi juga tentang bagaimana menyampaikan pesan tentang pentingnya mendorong kepedulian dan memotivasi orang untuk mengambil tindakan melindungi lingkungan [14] [15][16] [17]. Literasi lingkungan merupakan kesatuan pengetahuan, sikap, dan perilaku seseorang terhadap lingkungan dan bagaimana dia memecahkan masalah lingkungan.

Individu yang berliterasi lingkungan memiliki pengetahuan dan keterampilan yang diperlukan untuk menganalisis masalah lingkungan, yang memungkinkan individu untuk berperilaku pro lingkungan dengan tujuan yang meningkatkan kesejahteraan individu lain, masyarakat, dan lingkungan global, dan mampu berpartisipasi dalam kehidupan masyarakat [18] [19]. Seseorang diketahui berliterasi lingkungan bila mempunyai pengetahuan yang baik pada lingkungan dan sumber daya yang ada di lingkungan, bersikap menghargai dan mempunyai kepekaan terhadap masalah lingkungan, serta berperilaku dengan berkontribusi pada perlindungan lingkungan dan memecahkan masalah lingkungan

Orangtua memiliki tanggungjawab yang signifikan dalam mendidik anak-anak untuk menjadi pribadi yang peduli lingkungan [26]. Orangtua yang mempunyai kepedulian tinggi pada lingkungan, diharapkan melakukan pengasuhan (parenting) peduli lingkungan untuk membentuk anak yang peduli dan mampu menjaga lingkungan di masa depan. Peran orangtua dalam pengasuhan (parenting) sangat penting dan mendasar dalam pembentukan sikap karena lembaga sosialisasi

pertama seorang anak dalam kehidupannya adalah keluarga [27]. Pemberdayaan orangtua menjadi agen literasi lingkungan merupakan implikasi penting untuk meningkatkan kesadaran anak terhadap masalah lingkungan dan bagaimana literasi lingkungan mempengaruhi sikap dan perilaku anak, serta mengembangkan pengetahuan keterampilan mereka [28].

Tujuan Riset (Objective)

Hasil-hasil penelitian tentang peran orangtua dalam meningkatkan literasi lingkungan anak usia dini baik masih sangat terbatas. Penelitian-penelitian terdahulu tentang peran orangtua dalam literasi lingkungan masih bersifat parsial dan bukan pada tahapan anak usia dini. Matthies meneliti bagaimana orang tua mempengaruhi anak-anak usia 8 sampai 10 tahun dalam penggunaan kembali kertas dan perilaku daur ulang [29]. Meeusen melihat komunikasi lingkungan langsung tentang polusi antara orang tua dan remaja berusia 15 tahun di Belanda [30]. Evans menemukan bahwa perilaku peduli lingkungan ibu secara marginal memprediksi perilaku anak mereka dengan sampel anak usia 6-18 tahun [31]. Grønhøj dan Thøgersen mengeksplorasi peran sosialisasi keluarga pada perilaku peduli lingkungan remaja usia 18-20 tahun pada tiga jenis perilaku saja yaitu membeli produk ramah lingkungan, menghemat energi, dan mendaur ulang [32]. Mendel menjelaskan dalam penelitiannya bahwa pelibatan anak usia sekolah dasar dalam tugas sekolah memerlukan partisipasi orangtua dalam pembelajaran di rumah dan anak berpotensi menjadi agen perubahan di keluarganya terkait masalah lingkungan dengan pengetahuan dan keterampilan literasi lingkungannya [33].

Orangtua berperan penting dalam meletakkan dasar kepedulian lingkungan sebagai aktor penting untuk mempromosikan kepekaan ekologis, pengetahuan, dan mampu melakukan tindakan sosial [34]. Karena masih terbatasnya penelitian tentang peran orangtua dalam menanamkan kepedulian lingkungan pada anak usia dini, oleh karena itu, peneliti telah melakukan penelitian sebelumnya tentang pengembangan model ecoparenting untuk meningkatkan literasi lingkungan anak usia dini yang menghasilkan model Konseptual, Model Prosedural, dan Model Fisikal. Pada usulan ini, peneliti akan melanjutkan dengan penelitian lanjutan dengan tujuan untuk melihat efektivitas model Ecoparenting dengan tujuan untuk melihat tingkat keberhasilan model dalam meningkatkan literasi lingkungan anak usia dini.

Metodologi (Method)

Metode atau cara untuk mencapai tujuan yang telah ditetapkan ditulis tidak melebihi 600 kata. Bagian ini dilengkapi dengan diagram alir penelitian yang menggambarkan apa yang sudah dilaksanakan dan yang akan dikerjakan selama

waktu yang diusulkan. Format diagram alir dapat berupa file JPG/PNG. Bagan penelitian harus dibuat secara utuh dengan penahapan yang jelas, mulai dari awal bagaimana proses dan luarannya, dan indikator capaian yang ditargetkan. Di bagian ini harus juga mengisi tugas masing-masing anggota pengusul sesuai tahapan penelitian yang diusulkan.

Kegiatan penelitian ini menggunakan pendekatan kuantitatif dengan melakukan uji efektivitas model Ecoparenting melalui rancangan eksperimental, yaitu desain penelitian yang membandingkan keadaan sebelum dan sesudah diberikan perlakuan [35] Implementasi model akan dilaksanakan di dua provinsi dengan melibatkan orangtua anak usia dini di lembaga PAUD yaitu di provinsi DKI Jakarta dan Jawa Barat.

Teknik pengambilan sampel menggunakan sistem purposive random sampling yang merupakan teknik pengambilan data dengan pertimbangan tertentu [35]. Pertimbangan pemilihan sampel lembaga PAUD di provinsi tersebut adalah : lembaga PAUD tersebut berada di tiga provinsi yang mempunyai Indeks Kualitas Lingkungan menurut data Badan Pusat Statistik kategori rendah dan sangat rendah di Indonesia, mempunyai organisasi perkumpulan orangtua murid, lembaga PAUD mempunyai akreditasi minimal B, dan kesediaan kepala sekolah, guru, dan orangtua untuk bekerjasama mendukung pelaksanaan penelitian ini.

Uji efektivitas dilakukan untuk melihat apakah ada peningkatan literasi lingkungan anak usia dini sebelum dan sesudah orangtua melakukan implementasi model Ecoparenting. Oleh karena itu, uji t digunakan sebagai penghitungan statistik untuk melihat apakah terdapat perbedaan signifikan literasi lingkungan anak sebelum dan sesudah orangtua melaksanakan model Ecoparenting.

Pengujian Hipotesis dilakukan untuk melihat ada tidaknya perbedaan rata-rata skor literasi lingkungan anak usia dini sebelum dan setelah implementasi model Ecoparenting, maka dilakukan pengujian hipotesis :

H₀ : tidak ada perbedaan signifikan tingkat literasi lingkungan anak usia dini sebelum dan sesudah implementasi Ecoparenting

H₁ : Terdapat perbedaan signifikan tingkat literasi lingkungan anak usia dini sebelum dan sesudah implementasi Ecoparenting

Hasil dan pembahasan

Maksimal 1000 kata

Uji efektivitas dilakukan melalui implementasi pengasuhan orangtua di tiga lembaga PAUD yang berada pada tiga provinsi di Indonesia, yaitu TK Islam Ruhama, Tangerang Selatan, Provinsi Banten; TK Islam Sabilina, Kota Bekasi, Provinsi Jawa Barat, dan Lab School PAUD Permata, Jakarta Timur, Provinsi DKI Jakarta. Tahap implementasi model untuk memperoleh data empiris kelayakan model pengembangan Ecoparenting untuk meningkatkan literasi lingkungan anak usia dini. Pada tahap ketiga dilakukan uji efektivitas model Ecoparenting dengan menggunakan rancangan eksperimental, yaitu desain penelitian yang membandingkan keadaan sebelum dan sesudah diberikan perlakuan [4]. Melalui desain eksperimen sesuai Bagan 1 hasil *pre-test* sebelum dilakukan intervensi menggunakan model Ecoparenting dibandingkan terhadap hasil *post-test* setelah intervensi.



Bagan 1. Desain Eksperimen (*Before – After*)

Uji t Test dilakukan dengan tujuan untuk mengetahui ada tidaknya pengaruh signifikan (perbedaan pretes dan postes) suatu intervensi [5]. Dan untuk mengetahui seberapa besar pengaruh atau sumbangan efektif suatu intervensi, maka dilakukan penghitungan *N-Gain Score*. Untuk menghitung *N-Gain Score* digunakan rumus [6]:

$$\text{Normal gain} = \frac{\text{Skor Postes} - \text{Skor Pretes}}{\text{Skor Ideal} - \text{Skor Postes}}$$

Hasil *Normal Gain Score* selanjutnya diinterpretasikan sesuai kriteria pada Tabel 13 [7]:

Tabel 13. Kriteria *N-Gain Score*

Score	Kriteria
< 40	Tidak Efekti
40 – 55	Kurang Efektif
45 – 75	Cukup Efektif
> 75	Efektif

Hipotesi dalam uji efektivitas ini adalah :

Ho = Hipotesis O, tidak terdapat perbedaan yang signifikan dalam meningkatkan literasi lingkungan anak usia sebelum dan setelah dilakukan intervensi.

Ha = Hipotesis kerja, terdapat perbedaan yang signifikan dalam meningkatkan literasi lingkungan anak usia sebelum dan setelah dilakukan intervensi.

1. Hasil Uji Efektivitas di TK Islam Ruhama

TK Islam Ruhama berlokasi di Jalan Tarumanegara No 67, Cireundeu, Kecamatan Ciputat Tim., Kota Tangerang Selatan, Banten. Peneliti melakukan sosialisasi panduan Ecoparenting kepada 13 orangtua yang memiliki anak usia 5-6 tahun untuk diimplementasikan dalam pengasuhan anak di rumah. Orangtua melakukan pengamatan, membuat dokumentasi dan catatan pada aktivitas bersama anak di rumah terkait dengan implementasi Ecoparenting.

Hasil uji efektivitas implementasi Ecoparenting yang dilakukan oleh 20 orangtua TK Islam Ruhama ditunjukkan pada Tabel 9 dan 10. Tabel 9 menunjukkan hasil t Test : *paired two sample for means* dan hipotesis 0 ditolak karena bernilai 0,00 lebih kecil dari signifikansi α 0,05. Artinya Pemberian intervensi ecoparenting berpengaruh signifikan terhadap peningkatan literasi lingkungan anak.

Tabel 9. Hasil t Test : *Paired Two Sample for Means*

	<i>Pretes</i>	<i>Postes</i>
Mean	12,65	26,00
Variance	0,77	1,05
Observations	20,00	20,00
Pearson Correlation	0,35	
Hypothesized Mean	-	
df	19,00	
t Stat	-	54,80
P(T<=t) one-tail		0,00
t Critical one-tail		1,73
P(T<=t) two-tail		0,00
t Critical two-tail		2,09

Tabel 10 menunjukkan hasil penghitungan N-Gain Score yaitu 0,81 artinya intervensi Ecoparenting di TK Islam Ruhama efektif dalam meningkatkan literasi lingkungan anak usia dini. Maka dapat disimpulkan bahwa terdapat perbedaan yang signifikan antara literasi lingkungan anak sebelum dan sesudah diberikan intervensi model Ecoparenting dan masuk dalam kriteria efektif.

Tabel 10. N-Gain Score (TK Islam Ruhama)

No Subjek	Pretes	Postes	Postest - Postes	S-ideal - Postest	N-Gain Score	% N-Gain Score
1	12	25	13	17	0,76	76,47
2	12	26	14	16	0,88	87,50
3	13	25	12	18	0,67	66,67
4	12	24	12	18	0,67	66,67
5	14	26	12	18	0,67	66,67
6	13	26	13	17	0,76	76,47
7	12	25	13	17	0,76	76,47
8	12	26	14	16	0,88	87,50
9	13	28	15	15	1,00	100,00
10	12	27	15	15	1,00	100,00
11	14	26	12	18	0,67	66,67
12	15	27	12	18	0,67	66,67
13	12	26	14	16	0,88	87,50
14	12	24	12	18	0,67	66,67
15	13	27	14	16	0,88	87,50
16	13	27	14	16	0,88	87,50
17	13	26	13	17	0,76	76,47
18	12	26	14	16	0,88	87,50
19	12	26	14	16	0,88	87,50
20	12	27	15	15	1,00	100,00
Average	12,65	26,00	13,35	16,65	0,81	80,92

2. Hasil Uji Efektivitas di TK Islam Sabilina

TK Islam Sabilina berlokasi di Jalan Cendana Blok RT 14-15, Jatisampurna, Kota Bekasi, Provinsi Jawa Barat. Peneliti melakukan

sosialisasi panduan Ecoparenting kepada 22 orangtua yang memiliki anak usia 5-6 tahun untuk diimplementasikan dalam pengasuhan anak di rumah. Orangtua melakukan pengamatan, membuat dokumentasi dan catatan pada aktivitas bersama anak di rumah terkait dengan implementasi Ecoparenting.

Hasil uji efektivitas implementasi Ecoparenting yang dilakukan pada 22 orangtua murid TK Islam Sabilina ditunjukkan pada Tabel 11 dan 12. Tabel 11 menunjukkan hasil t Test dan hipotesis 0 ditolak karena bernilai 0,00 lebih kecil dari signifikansi α 0,05. Artinya Pemberian intervensi ecoparenting berpengaruh signifikan terhadap peningkatan literasi lingkungan anak.

	<i>Pretes</i>	<i>Postes</i>
Mean	12,80	26,20
Variance	0,69	1,12
Observations	20,00	20,00
Pearson Correlation	-	0,31
Hypothesized Mean Difference	-	
df	19,00	
t Stat	-	39,03
P(T<=t) one-tail		0,00
t Critical one-tail		1,73
P(T<=t) two-tail		0,00
t Critical two-tail		2,09

Tabel 12 menunjukkan hasil penghitungan N-Gain Score yaitu 0,82 artinya intervensi Ecoparenting di TK Islam Sabilina efektif dalam meningkatkan literasi lingkungan anak usia dini. Maka dapat disimpulkan bahwa terdapat perbedaan yang signifikan antara literasi lingkungan anak sebelum dan sesudah diberikan intervensi model Ecoparenting dan masuk dalam kriteria cukup efektif.

Tabel 12. Hasil N-Gain Score (TK Islam Sabilina)

No Subjek	Pretes	Postes	Postest - Postes	S-ideal - Postest	N-Gain Score	% N-Gain Score
1	13	28	15	15	1,00	100,00
2	13	28	15	15	1,00	100,00
3	13	27	14	16	0,88	87,50
4	12	28	16	14	1,14	114,29
5	12	26	14	16	0,88	87,50
6	13	26	13	17	0,76	76,47
7	13	26	13	17	0,76	76,47
8	12	27	15	15	1,00	100,00
9	12	26	14	16	0,88	87,50
10	12	26	14	16	0,88	87,50
11	15	25	10	20	0,50	50,00
12	14	26	12	18	0,67	66,67
13	13	25	12	18	0,67	66,67
14	12	27	15	15	1,00	100,00
15	12	26	14	16	0,88	87,50
16	13	26	13	17	0,76	76,47
17	12	26	14	16	0,88	87,50
18	13	25	12	18	0,67	66,67
19	13	24	11	19	0,58	57,89
20	14	26				
21	12	26	14	16	0,88	87,50
22	14	25	11	19	0,58	57,89
Average	12,82	26,14	13,38	16,62	0,82	82,00

3. Hasil Uji Efektivitas di Lab School PAUD Permata

Lab School PAUD Permata berlokasi di Jalan Tanah Merdeka No 20, Pasar Rebo, Jakarta Timur. Peneliti melakukan sosialisasi panduan Ecoparenting kepada 13 orangtua yang memiliki anak usia 5-6 tahun untuk diimplementasikan dalam pengasuhan anak di rumah. Orangtua melakukan pengamatan, membuat dokumentasi dan catatan pada aktivitas bersama anak di rumah terkait dengan implementasi Ecoparenting.

Hasil uji efektivitas implementasi Ecoparenting yang dilakukan oleh 13 orangtua Lab School PAUD Permata ditunjukkan pada Tabel 9 dan 10. Tabel 13 menunjukkan hasil t Test dan hipotesis 0 ditolak karena bernilai 0,00 lebih kecil dari signifikansi α 0,05. Artinya Pemberian intervensi ecoparenting berpengaruh signifikan terhadap peningkatan literasi lingkungan anak.

Tabel 13. Hasil t Test Lab School PAUD Permata

	<i>Pretes</i>	<i>Postes</i>
Mean	13,54	25,77
Variance	0,94	1,03
Observations	13,00	13,00
Pearson Correlation	0,37	
Hypothesized Mean	-	
df	12,00	
t Stat	26,88	
P(T<=t) one-tail	0,00	
t Critical one-tail	1,78	
P(T<=t) two-tail	0,00	
t Critical two-tail	2,18	

Tabel 14 menunjukkan hasil penghitungan N-Gain Score yaitu 0,70 artinya intervensi Ecoparenting di Lab School PAUD Permata cukup efektif dalam meningkatkan literasi lingkungan anak usia dini. Maka dapat disimpulkan bahwa terdapat perbedaan yang signifikan antara literasi lingkungan anak sebelum dan sesudah diberikan intervensi model Ecoparenting dan masuk dalam kriteria cukup efektif.

Tabel 14. N-Gain Score (Lab School PAUD Permata)

No Subjek	Pretes	Postes	Postest - Postes	S-Ideal - Postest	N-Gain Score	% N=Gain Score
1	14	25	11	19	0,58	57,89
2	14	26	12	18	0,67	66,67
3	13	25	12	18	0,67	66,67
4	15	24	9	21	0,43	42,86
5	14	26	12	18	0,67	66,67
6	13	26	13	17	0,76	76,47
7	14	24	10	20	0,50	50,00
8	13	27	14	16	0,88	87,50
9	15	27	12	18	0,67	66,67
10	13	26	13	17	0,76	76,47
11	14	26	12	18	0,67	66,67
12	12	26	14	16	0,88	87,50
13	12	27	15	15	1,00	100,00
Average	13,54	25,77	12,23	17,77	0,70	70,16

Implementasi model Ecoparenting oleh orang tua murid di tiga lembaga PAUD menunjukkan hasil bahwa pengasuhan Ecoparenting yang dilakukan oleh orangtua pada anak berpengaruh secara signifikan dalam meningkatkan literasi lingkungan anak usia dini. Orangtua menjalankan berbagai perannya dengan baik, seperti berperan sebagai fasilitator melalui kolaborasi aktif dengan memberikan fasilitas pendidikan dan menciptakan lingkungan rumah yang mendukung keberhasilan akademik anak [8]. Orangtua juga berperan sebagai motivator dengan memberikan dukungan, perhatian, dan penghargaan dalam tumbuh kembang anak. Orangtua yang

memberikan motivasi mendukung pencapaian prestasi anak [9]. Orangtua menjadi teladan (model) untuk menanamkan nilai-nilai yang positif kepada anak, termasuk kepedulian terhadap lingkungan. Hal ini menunjukkan betapa penting peran orangtua dalam tumbuh kembang anak, khususnya dalam membentuk perilaku peduli lingkungan. Menurut teori *observational learning* dari Bandura, seseorang dapat meniru tingkah laku orang lain yang menjadi model dengan cara mengamati dan mengimitasinya [10]. Model Ecoparenting diharapkan menjadi model pengasuhan yang mendukung pembangunan berkelanjutan (*sustainability development*) dengan membangun literasi lingkungan sejak anak usia dini.

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Effectiveness Ecoparenting Handbook To Improve Literacy Early Childhood Environment

khusniyati.masykuroh@uhamka.ac.id, nelis.nazziatussadiyah@uhamka.ac.id

[Universitas Muhammadiyah Prof. DR. HAMKA](#)

Introduction

Activity man in frame increase quality life through knowledge and technology bring impact on the problem damage environment and imbalance ecosystem . Indonesia is ranked 40th out of 180 most vulnerable countries disaster with index 10.39 [1]. Indonesia occupied ranking third as a polluting country pollution air the highest in the world because 85% of the emissions produced by Indonesia are sourced from destruction forests and conversion land [2]. That matter demonstrate governance environment in Indonesia yet done optimally and with consequences damage environment . Behavior indifference environment in Indonesia is measured through IPKLH which describes How household use energy , wear transportation personal , save water, and manage rubbish family. Family IPKLH in Indonesia is classified as high on dimensions management waste (0.72), use transportation personal (0.71), and water saving (0.44), and management energy (0.16) [3]. The high IPKLH is portrait literacy environment families who don't good and risky threaten sustainability environment in the future .

Condition literacy environment families who don't Good will influence style _ parenting. Problem environment become not quite enough answer involving collective _ every individuals, families , communities and nations [5]. Parent is a guiding model learning child going to behavior care environment [4] Engagement parent in in education , supports the growth process flower child to have character kind and supportive in increase achievements [6]. The role of parents in parenting is _ factor important in formation character child since age early Because family is party nearest in life child. Environmental education important taught since early Because child own potency big develop supportive skills , values and dispositions _ sustainability , creating base sensitivity , interest , and behavior environment in the future [7]. Approach learning child age early must in accordance with need development and interests every children , as well capable accommodate curiosity _ children who grow up in the environment around [8].

Concern environment influenced by personality and system mark Where man life [10]. Home is environment important social _ for children Study from parents _ them [11]. Family role in embed awareness and attitude care environment since early is very important Because family is environment nearest Where child life . Ecoliteracy model based family required as a strategy for development mark culture life green that can be practiced by all layer communities in various regional characteristics [12]. The role of parents in care (parenting) in old age early is very big Because parent become a model for child in behave and resolve problem environment in life daily.

Literacy environment is ability recognize that choice somebody impact on the environment , to identify the most sustainable solution for a problems , and to be able to Act with the friendliest way environment on solutions [13]. Literacy environment No only related with knowledge , values , and emotions environment general only , but also related tightly with behavior protection to environment . Literacy environment No only about knowledge only , but also about How convey message about importance push caring and motivating people to take action protect environment [14] [15][16] [17]. Literacy environment is unity knowledge , attitudes , and behavior somebody to environment and how he solve problem environment .

Literate individuals _ environment own knowledge and skills required to analyze _ problem environment , which makes it possible individuals to behave pro-environmentally with enhancing goals _ well-being individual others , society , and the global environment , and are able participate in life society [18] [19]. Somebody is known literate environment when have Good knowledge of the environment and resources the forces that exist in the environment behave appreciate and have sensitivity to problem environment , as well behave with contribute to protection environment and solve problem Parental environment

own significant responsibility _ in educate children to be caring person _ environment [26]. Parents who have concern high on the environment , expected do caring parenting _ environment to form caring and capable child _ guard environment in the future . The role of parents in parenting is very important and basic in formation attitude Because institution socialization First a child in his life is family [27]. Empowerment parent become agent literacy environment is implications important to improve awareness child to problem environment and how literacy environment influence attitudes and behavior children , as well develop knowledge Skills they [28].

Methodology

Activity study This use approach quantitative with test the effectiveness of the Ecoparenting model through design experimental , that is design comparative research _ circumstances before and after given treatment [35] Implementation of the model will implemented in two provinces with involve parent child age early childhood education in PAUD institutions , namely in the provinces of DKI Jakarta and West Java.

Retrieval technique sample use purposive random sampling system which is technique data retrieval with consideration certain [35]. Consideration election sample PAUD institutions in the province the are : the PAUD institution was at three provinces that have Index Quality Environment according to data from the Central Statistics Agency category low and very low in Indonesia, have organization gathering parents of students, PAUD institutions have Minimum B accreditation , and willingness head schools , teachers and parents to work together support implementation research.

Test effectiveness done to see is There is enhancement literacy environment child age early before and after parent do implementation of the Ecoparenting model . Therefore _ Therefore , the t test is used as calculation statistics to see is there is difference significant literacy environment child before and after parents _ implement the Ecoparenting model .

Testing Hypothesis done to see There is or not difference in mean scores literacy environment child age early before and after implementation of the Ecoparenting model , then done testing hypothesis :

H0: no There is difference significant level literacy environment child age early before and after implementation Ecoparenting

H1: Yes difference significant level literacy environment child age early before and after implementation Ecoparenting

Discussion

The effectiveness test was carried out through the implementation of parental care in three PAUD institutions in three provinces in Indonesia, namely Ruhama Islamic Kindergarten, South Tangerang, Banten Province; Sabilina Islamic Kindergarten, Bekasi City, West Java Province, and Permata PAUD Lab School, East Jakarta, DKI Jakarta Province. The model implementation stage is to obtain empirical data on the feasibility of the Ecoparenting development model to increase environmental literacy in early childhood. In the third stage, the effectiveness of the Ecoparenting model was tested by using an experimental design, namely a research design that compares conditions before and after treatment is given [4] . Through an experimental design according to Chart 1 , the *pre-test* results before the intervention using the Ecoparenting model were compared to the *post-test results* after the intervention.



Chart 1. Experimental Design (*Before – After*)

The t test was carried out with the aim of determining whether there was a significant effect (difference between pretest and posttest) of an intervention [5]. And to find out how much influence or effective contribution an intervention has, the N-Gain Score is calculated. To calculate the N-Gain Score, the formula [6] is used

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$$\text{Normal gain} = \frac{\text{Skor Postes} - \text{Skor Pretes}}{\text{Skor Ideal} - \text{Skor Postes}}$$

The Normal Gain Score results are then interpreted according to the criteria in Table 13 [7]:

Table 13. N-Gain Score Criteria

Score	Criteria
< 40	Not Effective
40 – 55	Less effective
45 – 75	Effective enough
> 75	Effective

The hypothesis in this effectiveness test is:

H_0 = Hypothesis O, there is no significant difference in increasing the environmental literacy of children aged before and after the intervention.

Ha = Working hypothesis, there is a significant difference in increasing the environmental literacy of children aged before and after the intervention.

4. Effectiveness Test Results at Ruhama Islamic Kindergarten

Ruhama Islamic Kindergarten is located on Jalan Tarumanegara No. 67, Cireundeu , District Ciputat Team., South Tangerang City, Banten. Researchers socialized the Ecoparenting guide to 13 parents who have children aged 5-6 years to implement it in caring for their children at home. Parents make observations, make documentation and notes on activities with children at home related to the implementation of Ecoparenting.

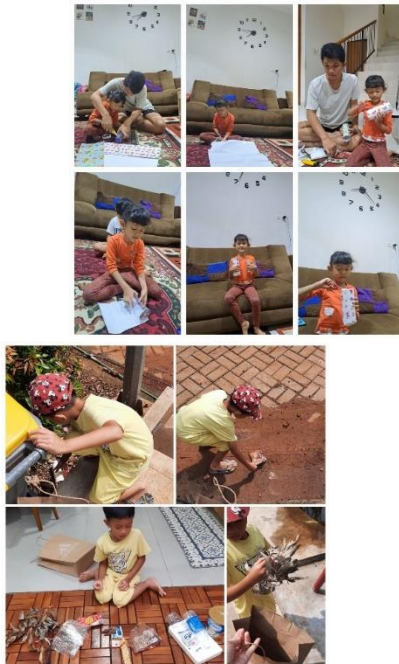


Figure 13.

Documentation of the implementation of parental Ecoparenting at the Ruhama Islamic Kindergarten

The results of the test on the effectiveness of the implementation of Ecoparenting carried out by 20 parents of the Ruhama Islamic Kindergarten are shown in Tables 9 and 10. Table 9 shows the results of the t test: *paired two samples for means* and hypothesis 0 is rejected because the value of 0.00 is smaller than the significance of α 0.05 . This means that providing ecoparenting interventions has a significant effect on increasing children's environmental literacy.

Table 9. Results of t Test: *Paired Two Samples for Means*

	<i>Pretes</i>	<i>Postes</i>
Mean	12,65	26,00
Variance	0,77	1,05
Observations	20,00	20,00
Pearson Correlation	0,35	
Hypothesized Mean	-	
df	19,00	
t Stat	-	54,80
P(T<=t) one-tail		0,00
t Critical one-tail		1,73
P(T<=t) two-tail		0,00
t Critical two-tail		2,09

Table 10 shows the results of calculating the N-Gain Score, namely 0.81, meaning that the Ecoparenting intervention at the Ruhama Islamic Kindergarten is effective in increasing the environmental literacy of early childhood. So it can be concluded that there is a significant difference between children's environmental literacy before and after being given the Ecoparenting model intervention and it falls within the effective criteria.

Table 10. N-Gain Score (TK Islam Ruhama)

No Subjek	Pretes	Postes	Postest - Postes	S-Ideal - Postest	N-Gain Score	% N=Gain Score
1	12	25	13	17	0,76	76,47
2	12	26	14	16	0,88	87,50
3	13	25	12	18	0,67	66,67
4	12	24	12	18	0,67	66,67
5	14	26	12	18	0,67	66,67
6	13	26	13	17	0,76	76,47
7	12	25	13	17	0,76	76,47
8	12	26	14	16	0,88	87,50
9	13	28	15	15	1,00	100,00
10	12	27	15	15	1,00	100,00
11	14	26	12	18	0,67	66,67
12	15	27	12	18	0,67	66,67
13	12	26	14	16	0,88	87,50
14	12	24	12	18	0,67	66,67
15	13	27	14	16	0,88	87,50
16	13	27	14	16	0,88	87,50
17	13	26	13	17	0,76	76,47
18	12	26	14	16	0,88	87,50
19	12	26	14	16	0,88	87,50
20	12	27	15	15	1,00	100,00
Average	12,65	26,00	13,35	16,65	0,81	80,92

5. Effectiveness Test Results at Sabilina Islamic Kindergarten

Sabilina Islamic Kindergarten is located at Jalan Cendana Blok RT 14-15, Jatisampurna, Bekasi City, West Java Province. Researchers socialized the Ecoparenting guide to 22 parents who have children aged 5-6 years to implement it in caring for their children at home. Parents make observations, make documentation and notes on activities with children at home related to the implementation of Ecoparenting.



Figure 14. Documentation of the implementation of parental Ecoparenting at the Ruhama Islamic Kindergarten

The results of the effectiveness test on the implementation of Ecoparenting carried out on 22 parents of Sabilina Islamic Kindergarten students are shown in Tables 11 and 12. Table 11 shows the results of the t test and hypothesis 0 is rejected because the value of 0.00 is smaller than the significance of α 0.05 . This means that providing ecoparenting interventions has a significant effect on increasing children's environmental literacy.

Table 11. Permata PAUD School Lab t Test Results

	<i>Pretes</i>	<i>Postes</i>
Mean	12,80	26,20
Variance	0,69	1,12
Observations	20,00	20,00
Pearson Correlation	- 0,31	
Hypothesized Mean Difference	-	
df	19,00	
t Stat	- 39,03	
P(T<=t) one-tail	0,00	
t Critical one-tail	1,73	
P(T<=t) two-tail	0,00	
t Critical two-tail	2,09	

Table 12 shows the results of calculating the N-Gain Score, namely 0.82, meaning that the Ecoparenting intervention at the Sabilina Islamic Kindergarten is effective in increasing the environmental literacy of early childhood. So it can be concluded that there is a significant difference between children's environmental literacy before and after being given the Ecoparenting model intervention and it falls within the criteria of being quite effective.

Table 12. N-Gain Score Results (TK Islam Sabilina)

No Subjek	Pretes	Postes	Postest - Postes	S-Ideal - Postest	N-Gain Score	% N=Gain Score
1	13	28	15	15	1,00	100,00
2	13	28	15	15	1,00	100,00
3	13	27	14	16	0,88	87,50
4	12	28	16	14	1,14	114,29
5	12	26	14	16	0,88	87,50
6	13	26	13	17	0,76	76,47
7	13	26	13	17	0,76	76,47
8	12	27	15	15	1,00	100,00
9	12	26	14	16	0,88	87,50
10	12	26	14	16	0,88	87,50
11	15	25	10	20	0,50	50,00
12	14	26	12	18	0,67	66,67
13	13	25	12	18	0,67	66,67
14	12	27	15	15	1,00	100,00
15	12	26	14	16	0,88	87,50
16	13	26	13	17	0,76	76,47
17	12	26	14	16	0,88	87,50
18	13	25	12	18	0,67	66,67
19	13	24	11	19	0,58	57,89
20	14	26				
21	12	26	14	16	0,88	87,50
22	14	25	11	19	0,58	57,89
Average	12,82	26,14	13,38	16,62	0,82	82,00

6. Effectiveness Test Results at the Permata PAUD Lab School

Permata PAUD Lab School is located on Jalan Tanah Merdeka No 20, Pasar Rebo, East Jakarta. Researchers socialized the Ecoparenting guide to 13 parents who have children aged 5-6 years to implement it in caring for their children at home. Parents make observations, make documentation and notes on activities with children at home related to the implementation of Ecoparenting.



Figure 15.

Documentation of the implementation of Ecoparenting for Lab School PAUD Permata parents

The results of the Ecoparenting implementation effectiveness test carried out by 13 Permata PAUD Lab School parents are shown in Tables 9 and 10. Table 13 shows the results of the t test and hypothesis 0 is rejected because the value of 0.00 is smaller than the significance of α 0.05 . This means that providing ecoparenting interventions has a significant effect on increasing children's environmental literacy.

Table 13. Permata PAUD School Lab t Test Results

	<i>Pretes</i>	<i>Postes</i>
Mean	13,54	25,77
Variance	0,94	1,03
Observations	13,00	13,00
Pearson Correlation	- 0,37	
Hypothesized Mean	-	
df	12,00	
t Stat	- 26,88	
P(T<=t) one-tail	0,00	
t Critical one-tail	1,78	
P(T<=t) two-tail	0,00	
t Critical two-tail	2,18	

Table 14 shows the results of calculating the N-Gain Score, which is 0.70, meaning that the Ecoparenting intervention at Lab School PAUD Permata is quite effective in increasing the environmental literacy of early childhood. So it can be concluded that there is a significant difference between children's environmental literacy before and after being given the Ecoparenting model intervention and it falls within the criteria of being quite effective.

Table 14. N-Gain Score (Lab School PAUD Permata)

No Subjek	Pretes	Postes	Postest - Postes	S-Ideal - Postest	N-Gain Score	% N-Gain Score
1	14	25	11	19	0,58	57,89
2	14	26	12	18	0,67	66,67
3	13	25	12	18	0,67	66,67
4	15	24	9	21	0,43	42,86
5	14	26	12	18	0,67	66,67
6	13	26	13	17	0,76	76,47
7	14	24	10	20	0,50	50,00
8	13	27	14	16	0,88	87,50
9	15	27	12	18	0,67	66,67
10	13	26	13	17	0,76	76,47
11	14	26	12	18	0,67	66,67
12	12	26	14	16	0,88	87,50
13	12	27	15	15	1,00	100,00
Average	13,54	25,77	12,23	17,77	0,70	70,16

The implementation of the Ecoparenting model by parents in three PAUD institutions shows that the Ecoparenting care carried out by parents for children has a significant effect in increasing environmental literacy in early childhood. Parent operate various his role with good , such as playing a role as a facilitator through active collaboration by providing educational facilities and creating a home environment that supports children's academic success [8] . Parents also act as motivators by providing support, attention and appreciation for children's growth and development. Parents who provide motivation support children's achievement [9] . Parents become role models for instilling positive values in children, including concern for the environment. This shows how important the role of parents is in children's growth and development, especially in shaping environmentally caring behavior. According to Bandura's *observational learning* theory , a person can imitate the behavior of other people who are models by observing and imitating them [10] . Ecoparenting Model expected be a supportive parenting model development sustainable (*sustainability development*) with build literacy environment since child age early .

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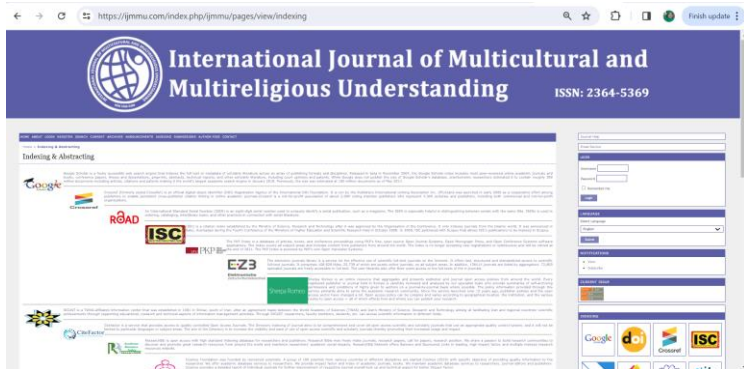
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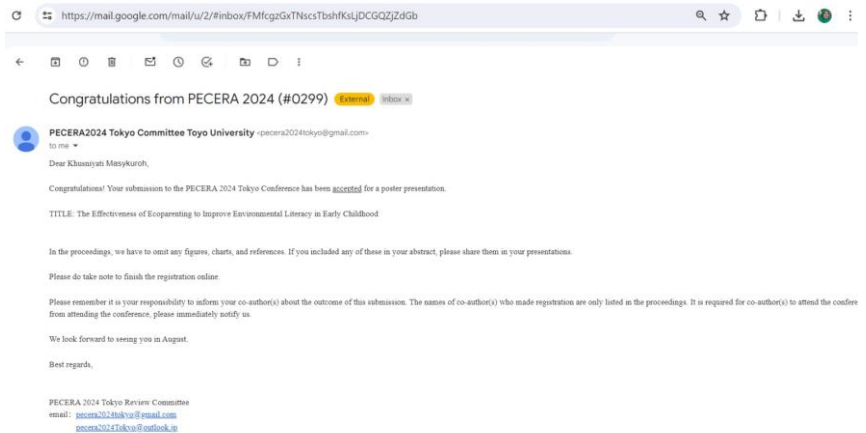
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