

Inception of Ecopsychology Elements as to Strengthen Spiritual Values among Teacher Trainees

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Abstract: This study assessed the impact of incepted ecopsychology elements on spiritual values among teacher trainees. A modified pretest - posttest was used to evaluate the effect of incepted ecopsychology elements in Environmental Education as a quantitative portion. Triangulation with embedded design was used as qualitative portion. Findings showed that there is a significant differences on spiritual values between experimental and control groups. Respondent from experimental groups believed they considered strengthen their spiritual values toward environment after participated in the class even though after four month the treatment activities. Findings from this study suggested the implementation of Environmental Education should incepted ecopsychology elements in order to strengthen spiritual values toward environment.

Key words: Ecopsychology • Environmental Education • Spiritual Values • Teacher Trainee • Psychotherapy

INTRODUCTION

Environmental Education (EE) has been implemented in Teacher Training Institute since 1998 as an avenue for enhancing teacher trainee's understanding of the issues and the commitment needed for action. However, past EE research has indicated that even if teachers have strong intention to teach or integrate EE, the actual behavior may not occur because of existing barriers [1]. Other researcher finding also indicated that even though teachers agree that EE is very important but still not reflected in their commitment into action [2-4]. Studies also keep revealing that Malaysian has not reached a certain desired level of commitments towards our environment even though after years of effort to try and integrated environmental education [5].

Some researchers stated that the violence we do to the 'natural world' results from our psychological and spiritual separation from nature [6-9]. That's why Palmer [10] stated that content in Environmental Education

should incorporate with aesthetic, spiritual, social, politic and economic dimensions alongside (not separate from) the purely scientific. Our ecological health is rooted by our psychological and spiritual health. We need to deeply feel that responsibility to take care of the environments are something like we take care of ourselves, our beloved family and siblings to secure divine pleasure and fulfilled responsibility given by God. For that purposes, this study assessed the impact of ecopsychology inception in EE on spiritual values among the trainees.

Figure 1 illustrates how the inception of ecopsychology elements in Environmental Education. In an effort to strengthen the spiritual values on the environment, ecopsychology focus on the development of intimacy in the relationship between humans and the environment through three key concepts. In the first concepts, the ecopsychology activities emphasize goals for each individual to feel again that through participation, involvement or using any kind of relationship with nature will result in an individual's return noting the existence of

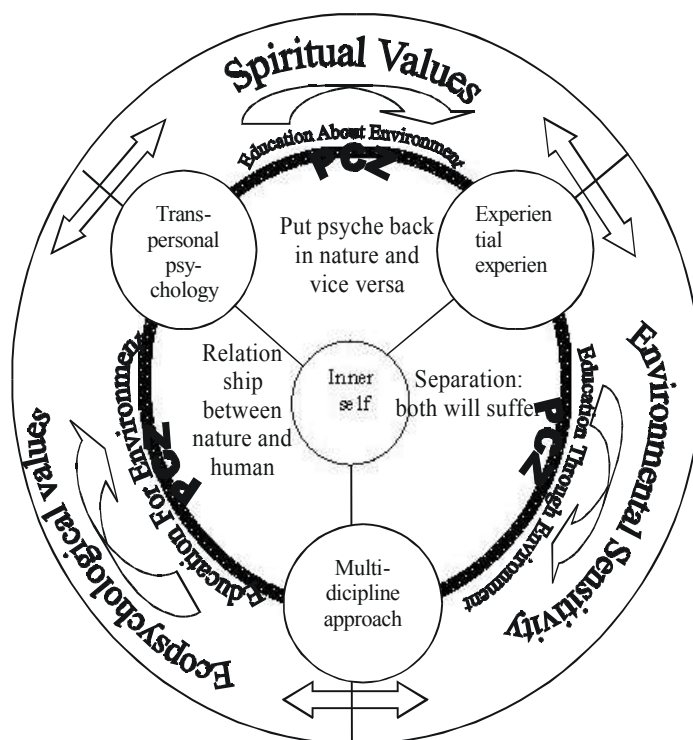


Fig. 1: Inception of ecopsychology element in Environmental Education

God and indirect recalls responsibility of maintaining the blessed God. An individual must go through the physic cleaning zone (PCZ) to strengthen the soul and inner self so completely that produce an environmentally responsible. Every individual must have strong spiritual values which relates to the environment with the opportunity to reach out to seek the blessing of God. In addition, each individual must have an intimate relationship with nature that considers the environment as a part of them and their families with a deep awareness. The individual must also have a strong belief that environmental and human interdependent. The activities selected in teaching and learning process are based on recent researchers such as Miranda [11]; Canty [7]; Macy and Brown [6]; Clinebell [12]; Roszak *et al.* [13]; and Roszak [14]. Content validity for the treatments was approved by Dr. John Davis (Naropa University) and Prof. Dr. David St. John (Detroit Mercy University). Both are experts in ecopsychology.

Research Objective

Research Objective for this Study Are:

- To determine spiritual values level between experimental and control groups before the inception of ecopsychology in EE.

- To determine spiritual values level between experimental and control groups after the inception of ecopsychology in EE.

Research Methodology: Both quantitative and qualitative method was used to evaluate the program but the priority still given to quantitative method. Qualitative data collection is used to support quantitative findings. Rogers *et al.* [15] and Sandelowski, [16] used quantitative and qualitative tools in their study. Figure 2 shows the mixed method used in this study. For quantitative portion, existed instruments are modified and used to evaluate trainee teacher's spiritual values considered as program outcome to capture ideas on how EE program with inception of ecopsychology elements influenced teacher trainees. A quasi-experimental design was used as quantitative tool in this study and triangulation with qualitative tools using modified embedded design.

Table 1 showed activities conducted in mixed method design. We used qualitative methods before the intervention, during the intervention and after the intervention. Qualitative data were collected from selected trainees before the intervention using structured interviews to elicit their understanding of the meaning spiritual values toward environments. During the intervention, the investigator also interviewed cleaners in

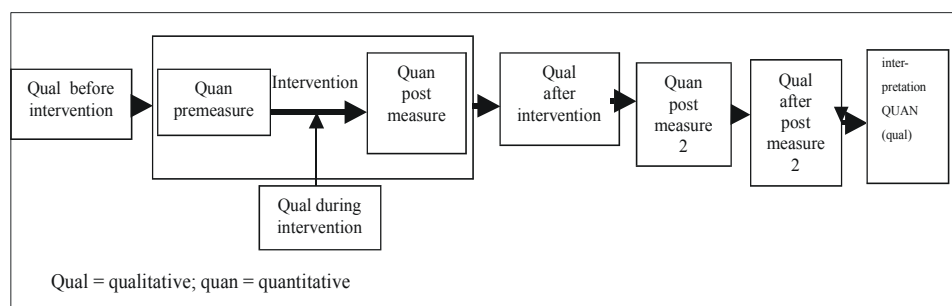


Fig. 2: Mixed Method Design

Source: adopted from Cresswell and Clark, 2007

Table 1: Activity in mixed method design

Qual before the intervention	Quan pre measure	Qual during intervention	Quan post measure	Qual after intervention	Quan post measure 2	Qual after post measure 2	Inter pretation QUAN (qual)
Interview 12 respondents from both groups (6 from each groups)	Pretest- using questionnaires (4 likert scales)	Interview cleaner in the college Observation in the college	Post test using questionnaires (4 likert scales)	Interview- 6 respondent from experimental groups. Interview cleaner workers in the college Personal notes	Post test 2 after 4 month the inter-vention (treatment activities) using questionnaires (4 likert scales)	Interview 6 respondent from experimental groups	Inter-pretation QUAN (qual) Qualitative finding to support quantitative findings

the college to get information about certain aspect considered as positive or negative action and attitudes toward environments among the trainees. Interviews and personal notes are used as qualitative portion after the intervention to elicit their understanding of the meaning of spiritual values toward environments beside to elicit their experience on ecopsychology activities in the treatments. Therefore, after the intervention, only informants from experimental groups are interviewed.

Six groups (N=115; Male=50; Female=65) in semester two at Batu Lintang Teacher Training Institute were chosen and divided into two groups (experimental and control groups) randomly. Three classes ($n=58$) received the inception of ecopsychology in activities in E.E classes and the other three classes ($n=57$) received the traditional activities in E.E classes. One hundred and fifteen respondents (115) involved in this research and based on Gpower, by using $d=.80$, power $(1-\beta)=0.95$ with significance value 0.05 (two tails), Gpower analysis for independent t test shows that 84 persons (42 person each groups) is enough sample for experimental research.

It is impossible for a researcher to interview the whole population but she can choose the respondents by fair selection. In this research, samples are chosen using homogeneous purposive sampling. Ary *et al.* (2002) [17] stated that homogeneous purposive sampling is suitable to choose almost similar respondent. Cresswell and Plano Clark (2007) [18] made recommendation that the contribution from the samples chosen to the knowledge or information needed is the most important thing while choosing samples. For the qualitative portion of this study, a total 12 individuals were interviewed for qualitative collecting data before the intervention from both groups but only 6 individual from experimental groups were interviewed after the intervention.

Spiritual Values Instrument: Spiritual values instrument used in this research is based on adaption by Faculty of Education Studies, University Putra Malaysia collaboration with Medicine Science University College, National High Education Research Institute, Cyberjaya (2008). Reliability test for pilot study is ($r=.86$) and factor

Table 2: Level and spiritual values score mean for experimental and control groups before the inception of ecopsychology

Variables	Experimental Groups		Control Groups	
	Mean (Level)	SD	Mean (Level)	SD
Spiritual values	59.62 (2.98)	4.69	58.11 (2.91)	3.74

N=115

Table 3: Independent sample *t* test for spiritual values between experimental and control groups

Variables (Group)	N	M	SD	<i>t</i> value	Sig. (<i>p</i> value) 2 tails	η^2
Experimental groups	58	59.62	4.69	1.916	.060	.03
Control group	57	58.11	3.74			

Levene's test to equal variances assumed: $F = 5.063$, $p = .060$ (spiritual values)Levene's test show that *p* values for equal variances assumed have been used by M: Mean, SP: standard deviation; Sig: significance

Table 4: Mean scores and level of spiritual values for experimental and control groups at pre test, first post test and post test after 4 month

Test	Experimental Groups n=55			Control Groups n=41		
	Mean	SD	Level	Mean	SD	Level
Pre test	59.81	4.69	2.99 (moderate)	57.98	3.88	2.90 (moderate)
First Post test	67.21	5.98	3.36 (high)	60.49	4.58	3.02 (high)
Post test after 4 month	67.56	5.56	3.37 (high)	59.51	3.93	2.98 (moderate)

N=96

analysis (KMO=.761; Barlett test=.000) indicated that the instrument is strong enough to be used and evaluate the objective of the study.

Finding

Objective 1: To Evaluate Level of Spiritual Values among Experimental and Control Groups Before the Inception of Ecopsychology: In order to answer the first question, level of spiritual values are divided into three category based on four likert scales, low level (1.00 - 2.00), moderate level (2.01 – 2.99) and high level (3.00 – 4.00). Table 2 presented that spiritual values for both groups are moderate before the inception of ecopsychology. Spiritual values mean scores for experimental groups ($M=59.62$, $SD=4.69$) and ($M=58.11$, $SD=3.74$) for control groups.

Independent sample *t* test are used to compare the differences of spiritual values between the two groups before the inception of ecopsychology. Result in table 4 reported that there is no significance differences on spiritual values between experimental ($M=59.62$, $SD=4.69$) and control groups ($M=58.15$, $SD=3.70$; t (108.44) =1.916, $p=.06$) before the inception of ecopsychology elements in Environmental Education. Even though experimental groups scores mean on

spiritual values is higher than control groups but the magnitude of the differences in the means was very small (eta squared =.03).

Qualitative data collection findings also indicated that all the respondents (from both groups) are not sure their relationship with natures. They have limited definition of relationship with natures (ecopsychological values) and defined relationship with natures as the function of natures to be serves resources to humans. They agreed that there is the right for natures and believed that human should fulfill the right so natures can serve a better quality and quantity for humans. They also limit the themes of agreeing that natures can increased spiritual values as 1) Natures provided a relaxation process; 2) Grateful because are given resources; 3) Awed with the greatest creation of the Super Force. All the respondent agreed that natures can increased their spiritual values but at the same time they denied that this guiding their action especially action connecting with conservation of natures in their daily life. For example, of 12 interviewed, 8 of the respondent said that their shopping habits or shopping decisions (especially regarding choosing environmental friendly products) are not guided by this believe.

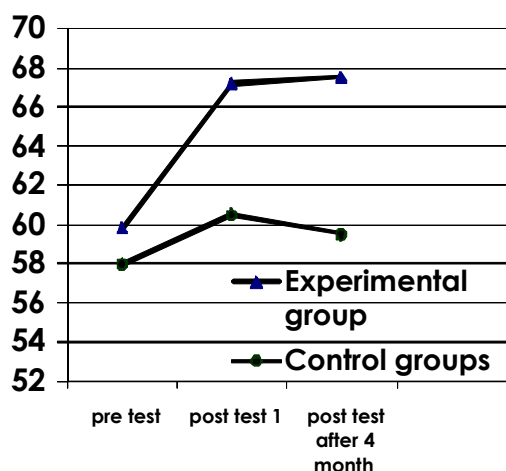


Fig. 3: Spiritual values score mean for pre test, post test after intervention and post test after 4 month between experimental and control groups

One of the Respondents Mentioned That:

"If something related with believing in God...of course we should follow the rules...but something we are not really sure connected the believe...it may be a bit hard. But someday, if we realize that the things are connected with our belief so I think we will think twice and try to follow the rules. It is because our limited knowledge...we need to be refresh to what we believe and what we have done in our life...it nature's right..." (Respondent 01, Interview 20 June 2008)

Research finding indicated that there is no significance difference between experimental and control groups before the inception of ecopsychology elements in Environmental Education.

Objective 2: to Evaluate Spiritual Values Level Between Experimental and Control Groups after the Inception of Ecopsychology: A one way repeated measures ANOVA are conducted to answer objective 2. Table 4 presented the level of spiritual values between experimental and control groups for pre test, post test after intervention and post test after 4 month. Research finding indicated that the levels of spiritual values for experimental groups are maintain at high level (3.37) after 4 month. The level also increased to high (3.36) after the inception of ecopsychology but moderate (2.99) for pre test. Research finding also indicated that the level of spiritual values for control groups also increased to high (3.02) after the inception of ecopsychology from moderate (2.90) at pre

test but the level decreased to moderate (2.98) after 4 month.

Result (Figure 3) also indicated that there is a significant effect for time with Wilks' Lambda=.32, $F(2.53) = 57.02$, $p < .000$ and large multivariate eta squared =.683 for experimental groups. Spiritual values scores mean showed slightly increased between time 1 (before the intervention) and time 2 (after the intervention) and maintain at time 3 (after 4 month). Even though the linear graph indicated that the spiritual values mean score increased compared to time 2 but result also presented that there is no significance difference between post test after intervention ($M=67.22$, $SD=5.56$) and post test after 4 month ($M=67.56$, $SD=5.98$; $t(54)=4.98$, $p=.64$ with no effect size ($\eta^2=.00$).

Result finding also indicated that there is a significant effect for time with Wilks' Lambda =.78, $F(2.39)=5.49$, $p=.008$ and multivariate eta squared =.220 for control groups. Finding presented that there is a significant effect for time especially between time 1 and time 2. Even though there is a significant effect for time for both groups but result finding (figure 3) also indicated that the spiritual values score mean for control groups is decreased after 4 month compared to experimental group. Even though figure 3 shows the linear graph decreased after 4 month but *paired sample t test* conducted presented that there is no significance differences spiritual values mean scores between time 1 ($M=59.51$, $SD=2.96$); $t(40)=1.10$, $p=.278$ with very small effect size ($\eta^2=.02$).

In describing the ways in which they believed their spiritual values increased, participant discussed exemplifying themes pertaining to an increased spiritual values such as, 1) Expanding definition of positive attitude toward environment, 2) More sensitive with natures – example they tried to say thank you to natures and God, always asking themselves to reflected into action for that thank you, 3) Feel guilty when making some decision regarding environment, for example while shopping. Certain action they have taken are, 1) taking less plastic bag while shopping, 2) bringing own bag while shopping, 3) less taking polystyrene to buy food but spent more time eating at the canteen with friends, 4) Read the label on purchase thing and feel guilty while choosing products in the market, 5) Using electricity and water economically, 6) Thinking and consider on environment in some decisions their made-automatically saying thank you while using water, electricity or during breathing process. One of the respondents described:

"Just like what I said before, it makes me conscious to do reflection on my daily action. Honestly, even though before this, I liked something clean but there is still a lot thing in my life that involving in environmental pollution. For example, while shopping, I choose the products based on my interest and price...I really don't care about the packages, I am not separating wet and dry waste...that's why I said I have increased or experienced ...right now, I always questioning what I am doing and always feel guilty while shopping, this makes me think twice to choose the products." (Respondent 02, interviewed on 25 October 2008).

One of the Personal Notes Described:

'For me, even though not 100% changed, but I tried to minimize using or buying non environmental friendly product such as polystrene, plastic, having proper waste disposal and separating wet and dried waste. EE class is interesting and motivated me be more responsiblity given by God especially responsiblity to take care natures as one of our daily action to secure divine pleasure' (Respondent 03, interviewed on 25 October 2008)

Most of the respondents described themes as continuously spiritual values such as; 1) Thankful to what have been given by Super Force; 2) Think twice while shopping as an effect of responsibility to take care natures; 3) Questioning daily action; 4) Felt human is dependent to natures. Other respondents described:

"The most important thing for me is that I always questioning my daily action whether I have contributed to environmental pollution. After joining the class, I tried to say thank you to water especially when I used it while bathing, shampooing and now I closed the water pipe while brushing my teeth, shampooing until now" (Respondent 04, interviewed on 27 April 2009).

Therefore, findings indicated that the respondents believing that their spiritual values have changed and they tried to transformed into action. Recent studies by [7,19,20] Cauty, 2007; Jagel, 2007; Bradley, 1998 supported the finding. Participants believed they experienced psychological change such as deeper relationship with spouse, family, friends, animals and other thing. Qualitative finding by [20] Bradley (1998) also indicated

positive psychological, physical and spiritual changes after Nature Based Psychotherapy treatment (one of ecopsychological treatment). Malachy Adam [21] also indicated that the respondent believed their experience and spiritual values through nature has been increased after participated in ecology programme. Therefore, we made conclusion the treatment has been increased spiritual values among the respondent.

CONCLUSION AND DISCUSSION

The results indicated that introduction of ecopsychology elements in EE did significantly promotes attitudes towards environment. The research finding indicated that the incepted of ecopsychology elements can slightly strengthen EE as part of crucial elements in promoting commitment to take positive actions on environments. The most important is to build inner self motivation to take action and serves the responsibility given by super force to take care nature by go through PCZ. Existing EE teaching and learning activities should be injected with ecopsychology elements to strengthen or nurturing the inner toward nature. Recent research finding showed that ecopsychology also concerned with fostering an awareness of an intimate and profoundly symbiotic relationship with the environment and how this affects us psychologically, individually and globally.

These findings tried to reflect to Environmental Education teaching and learning model by injected inner self toward environments and PCZ zone. In order to strengthen commitment to take action, this finding suggesting that concentration should be given to three aspect which are put psyche back into nature and vice versa, interconnectedness relationship with natures and assumed nature as self, family and siblings; awareness that separation both will make both suffering without denying existed model. These three aspects are important to go through the Psyche Cleaning Zone. Spiritual values are needed to strengthen our feeling that we are answerable to Super Force that we must try to secure divine pleasure that our actions must be in accordance with Super Force's laws. This will make us always careful with what we did and aware with our responsibility to work or do something to fulfilled responsibility given by Super Force.

Besides that, this finding will help Teachers Training Division (BPG) to review existed syllabus by putting ecopsychological aspect in the topics. This finding also can help BPG to review and enhanced Environmental Education teaching and learning activities either in the

classroom or outdoor. Automatically, this finding enhanced lecturer's guidelines in Environmental Education teaching and learning activities. This finding also enhanced research and knowledge in Environmental Education. Besides that, these research helping teacher trainees to strengthen and enhance their inner self toward environment. Hopefully they will be more committed to act in a more environmental friendly their daily life or integrated Environmental Education and co-curriculum activities in school.

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