

Awareness, Openness and Eco-friendly (AOE) Model Teaches Pre-service Teachers on How to be Eco-friendly

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Abstract

This paper studied the empirical pattern to observe the overall attitude of pre service teachers' of different training colleges towards environmental education and practice. Environmental education is a continuous lifelong process, starts at the preschool level and continues up to adulthood via all levels of education. In this context, to know the impact of environmental education on existing pre-service teachers, the researcher has been undertaken three pre-service teacher training institutes of India for experiment, observation and generalization of conclusion. The subjects (n=100) were voluntarily participated for AOE model instruction from three teacher training colleges. After that the participants were responded Eco-friendly thought and Practice Scale (Jena, 2011), which was a two point (yes/no) scale. This scale has four areas; these were Awareness (A), Openness (O), Eco-friendly practices (Ef) Environmental practices (Ep). The main finding showed, AOE model was effective for pre-service teachers, and it enhanced awareness to think for the environment. The participants' shared openly their idea, and information, for the implementation of environmental education. The study concluded that AOE model has significant effect directly and indirectly on pre-service teachers' various eco-friendly practices and healthy living habits.

Keywords: Awareness; eco-friendly practices; openness; education; pre-service teachers

Introduction

Environmental education is now a challenging task in front of world of teacher educators, instructors, and teachers at different level. So many seminars, conferences are going on, but no such effective result found to modify teachers' behavior. Teachers, policy makers, and curriculum framers, only frame the strategy in the written or in ornamental speech, but in practical situation, nothing happens. Who will implement it, where it to be implemented, are the recent questions? How the students and pre-service teachers would realize the practical importance of ecology and environment? Moreover, who will prepare the future

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green citizen of our green earth? Therefore, it is in the debate now, and in this context, it should not be limited to classroom transaction only, but to apply it in the daily life to realize its importance. The educators first frame the strategies, and they break first (Jena, 2011). Most of the people have recognized the urgent needs of environmental education, but only some have clear concepts and understanding about the meaning, purpose, needs and the course of content that need to teach to the students of education. This matter is particularly important to prepare teachers who teach in rural and urban schools. They may reshape and re-construct rural identity to support its sustainability for the future. Teachers' value and acquisition of knowledge about education for sustainability will be motivated by the beliefs and beliefs about the instrumentality of one's actions, and their evaluation of the future environmental health of local and distant places on the planet (Boon, 2011). Teachers' have attitude to learn but it has seen appropriate course and educators instructions is too essential to change the pre service primary school teachers' environment attitudes. In this sense, the study conducted by (Ozsoy *et al.* 2011) found the total pre service teachers attending to primary school education showed, the pre service primary school teachers have a high level of environmental attitudes to learn environmental education. Similarly, in a study on ozone layer depletion was the main cause of global warming, found, the pre service teacher education did not seem to have an important effect on student teachers' awareness of global warming (Cimer *et al.* 2011). Education is not for only the acquisition of knowledge of environment, but it helps to search problems related to the environment (Tsevreni, 2011). Therefore, thousands of studies have conducted to find out the solution of different environmental problems through suitable approach and techniques. Most of the findings are helpful for conservation, healthy habit formation, and sustainable development of nature and natural resources. The world of people realized that environmental concerns and awareness could spread only through a mass environment education program at different levels (Amirshokoohi, 2010). Moreover, it is still in question, how environmental issue can be taught through different approaches relate to different attitudes and day-to-day practices in the pedagogical programme among the pre service training schools (Arlemalm-Hagser *et al.* 2011). The researches like; Chroinin & Tormey (2012) found, teacher educators favoured a standards-based approach to support consensus within the profession and clear expectations for beginning teachers. They suggested that provision of quality assurance through increased accountability and regulation could enhance the status of the profession based on a democratic ideology of teacher professionalism. However, Zint *et al.* 2011, determined, what extent a self-directed learning resource enhances environmental educators' evaluation competencies, found from few (eight) environmental educators have limited evaluation experience on environmental skill.

A few studies have discussed about the implementation of environmental education at colleges, and the result found environmental education is a complex, unpredictable and time-consuming process, which, despite the introduction of cross-curricular attainment targets (Ahuja, 2009). Especially, the implementing environmental education in teacher training colleges using seven criteria: participant engagement, instructor credibility, intention, functionality, self-efficacy, school climate and evaluation, was found that the implementation processes in the two teacher training institutions stagnated owing to personal and organizational obstructions (Eames *et al.* 2011; Van petegem *et al.* 2005). It has found a high level of awareness/knowledge among the pre-service teachers' on local environmental problems but low level on global environmental issues. Although, a positive disposition toward environmental issues have demonstrated, which could hinder environmental stewardship, was also noticed (Van Ongevalle *et al.* 2011).

Review of related literature

Environmental education

The concept of environment education emerged from the Stockholm Conference organized by the United Nation in 1968; stressed on both formal as well as non-formal modes. To achieve that, most of the teacher training colleges provide environmental education by using multimedia, observation, field visit, demonstration approaches; and it is an interdisciplinary and diverse nature both in content and in pedagogy (Holdgate, *et al.* 1982). Still, it is in question, how environmental educators provide support for the development of environmental education in general terms and how environmental education will be progressed on coming decades, where, pollution and the emerging scarcity of resources would face of global poverty, climate change and economic issues that are relevant today (Hopkins, 2009). However, embedding environmental education within secondary science curriculum is an epistemological and practical difficulty for teachers (Cottrell and Alan, 1997; Steele, 2011). Therefore, skillful teacher education with special reference to environmental education should need to the pre-service teachers and educators to introduce the content and practices in secondary science classes in the ordered manner (Chapman, 2007; Greunewald, 2005). Similarly, Hungerford *et al* 1988; Orr, 1992; Sauv , 1996 agreed on the complexity of environmental education at interdisciplinary level, on the non-traditional pedagogies classes. Now a day, separate environmental education methodology course also available in online learning for pre-service teachers as well as people of the community for building, sustaining, conserving environment, and in a study, it was found the participants are moderately understood environmental issues and they have lack of significant effect on its application on environment (Hart, 2003). Adding environmental education in pre-service teacher education and university education is just a guiding principle for future teachers, who will teach their students in future (Manzanal *et al.*, 2007; Salomon, & Perkins, 1989). However, there are numerous ways and broad range of venues, for the formal classroom, to outdoor education centers to naturalist clubs. Environmental education embraces related fields like outdoor education, experiential education, place-based education, and environmental science in different situations. These all have a core goal to experience, and learn about and caring for natural environments, including the plants and animals (Ogunyemi & Ifegbesan, 2011). Over the coming decades, every academic discipline will have to respond to the paradigm of more sustainable life practices, because students will be living in a world challenged by competition for resources and climate change (Blake & Stephen, 2011). In the coming decades, as humanity faces unprecedented challenges, what can the discipline or area of research contribute toward a better understanding of these issues? The discipline need not be future-oriented: an archaeologist, for instance, could incorporate into a course some aspects of sustainable archaeological practices in areas threatened by rapid climate change, as well as examples of sustainable or unsustainable ways of living practiced by members of the long-gone society under investigation (Bartels *et al.*, 2011).

Pre-service teacher education programme

UNESCO/UNEP, 1977 stressed on quality and quantity of pre-service professional development in environmental education (EE), has a great impact on learners' potentiality and actual learning. The first systematic study of EE in pre-service teacher education has started in the United States and found that most teacher education programs have few EE related requirements and do not officially institutionalize EE into their programs (McKeown-Ice *et al* 1995). Similarly, a survey of elementary pre-service teacher education programs in the state of Pennsylvania found that EE was not widely institutionalized in the state's pre-

service teacher education programs at the elementary licensure level (Mastrilli *et al.*, 2001). The most new classroom teachers have not been well prepared through their pre-service professional development to incorporate quality EE into their teaching. Therefore, it is needed to include environmental education at pre service teacher education programme, starting from KG to secondary teacher training programme (McDonald & Dominguez, 2010). Learners' attitudes toward the environment, found to be a significant determinant of environmental responsibility, and environmental concern held significant association with attitudes toward the environment as well as outdoor activities (Teksoz *et al.* , 2012). In a study, on global warming and the effect of biology teacher education program on their awareness of this environmental issue showed that both groups had some confusions and concerns about global warming. All of the student teachers were under the impression that ozone layer depletion was the main cause of global warming and they assumed that greenhouse effect was completely an anthropogenic phenomenon rather than a naturally occurring process (Bosdogan, 2009). Wesselink and Wals (2011), studied the meanings and possible merits of introducing competence profiles for enhancing professional development in the environmental education at different sectors of Netherland. The study informed the world, how to develop relevant programmes for future environmental educators and pre-service teachers.

Environmental awareness

Pre-service teachers' environmental education directly influences the students' change of behavior because it needs critical thinking, problem solving skill and action-oriented program would provide fruitful conclusions (Kilinc,2010). The study conducted by Shobeiri *et al* 2007; Stern *et al* 1993 found there existed significant difference among Indian and Iranian students in their level at environmental awareness. Female had significance higher levels of environmental awareness as compared to their male counterparts. Palmberg and Kuru (2000) found that outdoor activities are effective among pre-service teachers, reported attitude, value, belief, and behavior contributed significantly to responsible environmental behavior. Environmental problems in China are intensifying and it is vital to evaluate the environmental knowledge, attitude, and behaviors of the generation poised to inherit their management. This study examines a survey of environmental awareness among Chinese students (He *et al.*, 2011). The primary school teachers' in-service training should include interactive teaching pedagogies to enhancing active teaching and learning of EE. It recommends that Ministry of Education should develop and implement an EE policy that empowers schools (teachers and pupils) and surrounding communities to collaborate in taking action to conserve their immediate environments (Zimmerman, 2000). Experience (in this study) deals specifically with encounters with nature and an understanding of children's environmental orientations is of critical importance as opportunities for authentic contact with nature diminish (Haugeback *et al.*, 1992). Therefore, educators and researchers should examine the ways that children perceive the natural world. It may also help to identify cognitive and affective aspects of existing environmental education programs that need improvement (Larson *et al.*, 2011). The participants were teachers and principals of the students who participated in the projects and facilitators of two environmental organizations, found diverse views with respect to environmental education, local environmental issues, and possible solutions (Alkahr & Tal, 2011). In a study, evaluation of environmental awareness on their local area and their knowledge about the causes, effects, and solutions pertaining to these environmental issues, found, pupils had ideas about solutions to some of the environmental issues. Environmental education in primary schools might capitalize on pupil knowledge, and hence progress towards environmental action

taking; and how this might occur through primary school pupils being nurtured into the role of informed decision-makers and action-takers (Mutisya & Barker, 2011).

Openness towards eco-friendly practices

Concerns have risen about the preparation of teachers in the area of environmental education. Few tertiary institutions have been undertake teacher education have specific units or modules dedicated to environmental education (Malone, 1999). In an experiment, the findings indicate that most participants felt more confident about teaching environmental education (Liane, 2005). Moreover, environmental education needs improved pedagogical content knowledge and skills, which integrate environmental with everyday learning of their students (Van Petegem *et al.*, 2005). Through instruction, developing efficacy, motivation and confidence among student-teachers (e.g. pre service teachers) towards environmental is a positive sign of learning environmental (Kennelly *et al* 2008). Similarly, one well oriented teacher may aware the students about organic foods, and he/she would predict their behaviors with regard to organic food consumption and other healthy lifestyle (Dahm *et al.*, 2009). From the literatures, it assumed, environmental education creates awareness, enhances openness to share among peers and effect on eco-friendly practices directly and indirectly among the pre-service teachers' healthy living habit.

In this empirical research, the researcher based on directly observed the value and experienced, ideas, practice, and habits among pre service teachers, through quantifying technique, and he has answered the empirical questions of the study. This design helped the researcher to study the existing status of environmental education and practices among pre-service teachers and suggested all teacher educators and pre-service teachers of the world, to improve the existing status. It is important to understand that the outcome of empirical research using a set of working hypotheses or assumptions, which make this research program possible, plausible and successful. This is an inductive analysis works, which could be apply for specific observation for broader generalization.

Awareness, openness and Eco-friendly (AOE) model

The present study was concerned with the Bachelor of Education (B.Ed.) pre-service teachers of India. The whole B.Ed. pre-service teachers of India are the population, and Jena has taken three secondary teacher-training colleges and their students, who were voluntarily participated for the AOE model instruction, were the sample. In the study, 100 pre-service B.Ed. teachers participated in the AOE model of teaching for environmental education for developing eco-friendly practices.

Once again, the question pertinent to this document is how to prepare teachers with respect to awareness, openness and to be eco-friendly. In a general curriculum, teacher education institutions could not be able to develop environmental awareness among pre-service teachers. However, it is a responsible to develop skills associated with issue investigation, evaluation of environmental education among the pre-service teachers. Once these skills develop among the pre-service teachers, it will provide opportunities to apply those skills in their real-life a setting, as is possible (Ramsey, 1987). During AOE model, teachers would certainly benefit from the careful guidance and support of their professors. Moreover, while attending to the development of pre-service teachers' skills, the teacher education programme must ensure the teachers to produce capability to help their students and develop these skills. That gives way to discuss the nature of and methods for encouraging the development of environmental education among pre service teachers.

From the beginning of January, first week of 2011, Jena was purposively selected 100 pre-service B.Ed. pre-service teachers from the population and continued three months instruction by AOE model to find out the result for generalization. This model has two steps and three phases:

Step-I Instruction through AOE model

Phase-I Awareness Phase

For the creation of awareness, the researcher has provided the pre-service teachers with five lectures, two friendly-discussions, one field-visit, and two direct observations at both inside and outside the classroom. He has been encouraged the pre-service teachers to read, to attend different programmes related to environment to develop and behave eco-friendly practices. After that, learners observed a film show related Silchar Medical College & hospital's pollutant and its affect on local water sources and community members. A friendly discussion among the pupil-teachers, related to rising of population, and topic related to family planning, communicable diseases and its affects has arranged. One local brick industry they have visited and realized the Carbon dioxide accumulation in the environment, those they had been observing every day, but not realized its importance.

Phase-II Openness Phase

This phase is based on the five stage assessment procedure, which predicts the learners' aesthetics, feelings actions, ideas, and values (Goldberg, 1993; McCrae, 1987; Costa & McCrae, 1992; Gosling, 2008). After awareness phase, the researcher has tried to know their openness. For this, a schedule was prepared to know their aspects of openness after environmental education. Aesthetics is measured the tendency to appreciate art, music, and poetry; and feelings, being receptive the inner emotional states and valuing emotional experience towards environment, and accordingly the yes/no option types items were prepared. Similarly, actions (e.g. how much or frequent the learners tried new activities, visit new places, and try new foods); ideas are the (e.g. tendency to be intellectually curious and open to new ideas at different situations); and values assessed the leaner's (participants) (e.g. readiness to re-examine the traditional, social, religious, and political values).

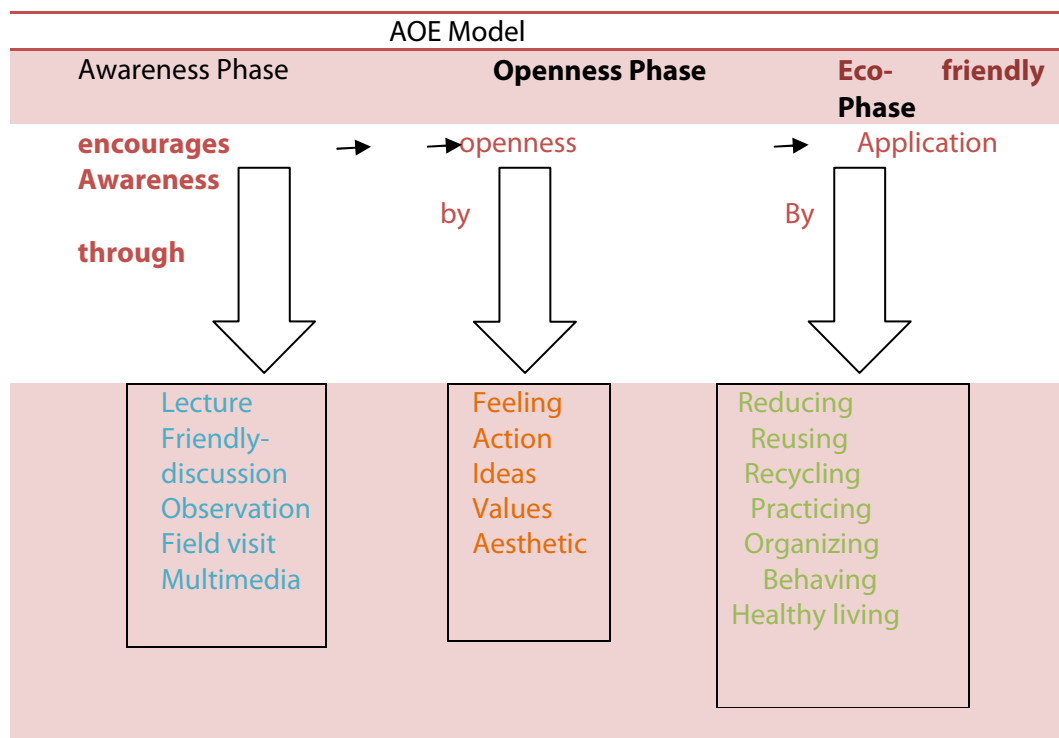


Figure 1. AOE Model

Phase-III Eco-friendly Phase

After phase-II, Jena thought, whether, they are interested to know for reducing, reusing, recycling the unused materials or not? For this purpose, he continued follow up activity, and observed and realized, some of them eco-friendly habit but not all, in the hostel and community centre. During these phases-III, Jena's AOE Model (2011), was treated among the BE.D pre service teachers' to increase their eco-friendly practices. They critically enjoyed the lecture and their collaborate discussion in a friendly environment regarding environmental issues and draw different assumptions. Jena suggested for, buying less and using less. Use common sense ideas like turning off the lights, rain barrels, and taking shorter showers, but also plays a part in composting, low-flow toilets, and programmable thermostats. For the green earth, we should re-think, and obey environmental footprint. Elements of the discarded item are used again. Reuse material, houseware, travel mugs, and cotton bag should use. Different from of energy should use to change the physical properties of the material. Bio-composting, with a high content can recycle refuses at village also. After that, directly, the pre service teachers observed different critical environmental issues. However, the learners individually analyzed the work of peers.

Step-2 Administration of Eco-friendly thought and Practice Scale

After three months instruction, eco-friendly thought and practice scale administered among the samples to observe the effect of AOE model on awareness, openness and eco-friendly habit on environment education, and it was an effort to recognize, how much they behaving greenness towards the green earth as a human being. After, Eco-friendly thought and Practice Scale administration, the researcher has scored, analyzed, and interpreted for result to find out the assumption.

In the present study the researcher has been used single tool developed by (Jena, 2011) which was a two points (yes/no) scale. This scale has three areas; these are Awareness (A), Openness (O), Eco-friendly practices. Each area has (a, b, c, d, e) five statement types of items having two point response (e.g. yes or no). These areas are used to know the effect of environmental education on awareness, openness, and eco-friendly practices (EP) among B.Ed. Pre-service Teachers at secondary level. Each 'Yes' response have been weighed 1 and 'No' were 0. It has .75 split half and .80 test- retest reliability coefficient and it has been taken 10-12 minutes for giving response for each sample. The responses were obtained from a two point rating scale, Yes and No type options. Each yes- type response should be counted as 1 and all no type responses should be counted as 0(zero)(e.g. Powell *et al.*, 2011).

From the analysis, it is found, in general, pre-teachers have awareness towards environmental education and they agreed that environmental education enhances openness to share idea, information, for the implementation of environmental education. Similarly, teacher educators and pre-service teachers generally have openness to learn environmental education and eco-friendly. The AOE model, directly and indirectly influences the pre-service teachers healthy living habit (Jena & Das,2011).Their pre-post test score, ANOVA for awareness scores of pre service teachers of three teacher training Colleges was significant($F_{(2,100)}= 294.1, p<0.01$) and the ANOVA for openness was ($F_{(2,100)}= 43.15, p<0.01$) was significant. Similarly, ANOVA for eco-friendly practices on environmental education practices among pre service teachers of teacher training colleges ($F_{(2,100)}= 65.33, p<0.01$) was also significant. Therefore, pre-service teachers, that all three training colleges have seen significant eco-friendly habit developed through learning environmental education.

Discussion

From EE literature, it is seen, willingness to engage in certain types of environmental responsible behavior, increases potentiality to acquire knowledge, creates awareness and openness to practice (Alkahr & Tal, 2011; Kennelly *et al.*, 2008). Jena experienced from the study that environmental education needs efforts for effective teaching to the pre-service teachers and that should be a model training for of the world. During the study, it has found, most of the participants are not interested to discuss more about environmental issues. At the same time, the proper implementation of AOE model and instruction felt them quite comfortable to discuss environmental problems (Jena & Das, 2011). This is a challenging task in front of world of educationist to prepare course materials in the formal, non-formal and informal manner. However, pre-service teachers are interdisciplinary in nature, so it is a challenging task to create awareness, openness and developing eco-friendly habits in front of the researcher. In generally, embedded environmental education offers pre-service teachers the opportunities to broaden their interest and attitude towards the teaching strategies (e.g. AOE model), which provides new hope and new possibility to make significant incremental changes in epistemology and in practice. The response of the project participants, when attend the teaching methods most often associated with environmental education (e.g. lecture, friendly discussion, observation, field visit, multimedia, locally relevant, student-based), was an awareness that those were the components of what they considered to be mastery on desirable environmental pedagogies. However, it is discussed, there is no difficulty, for implementing the AOE model, in pedagogy and practices and it should be included in the curriculum, and classroom transaction at pre-service teacher education or at any levels. Some of those difficulties have been discussed in introduction section of this paper (*i.e. who will implement it, where it should be implemented, are the recent questions? How the student and pre-service*

teacher realize the practical importance of ecology and environment, and who will prepare future citizen of our green earth?). For these questions solution, in the recent study, it was found, pre-service teachers' that all three training colleges have seen aware to learn environmental education and new model (e.g.AOE model) should be included to learning in their future classrooms. This result was supported by (e.g. Chroinin & Tormey, 2012; Eames & Barker,2011; Van Petegem *et al.*, 2005) and they suggested, teacher educators should have favoured a standards approach to support consensus within the profession and clear expectations for beginning teachers. Hence, the pre-service teachers' of the world should be realized and aware to learn environmental education for their healthy practices. Despite the awareness; realization and implementation of EE in their daily practice might feel difficulties; nevertheless, the participants took on that task with enthusiasm and perseverance. The results are encouraging and point to the need of the world for continued collaboration that inspires changes, both in epistemology and in practice. Support to the study Palmberg & Kuru (2000) found that environmental education affects teachers' attitude and awareness significantly. The evidences also found that pre-service teachers have positive attitude, value, belief and behavior, towards new method of teaching (Manzal *et al.*, 2007). Therefore, the pre-service teachers' of the world should realize and aware to learn environmental education for their healthy practices. It was also observed in the study, the pre-service teachers' that all three training colleges have seen open-minded to learn environmental education (e.g. Malone, 1999). Strong awareness among the learners enhances their openness towards environmental education. Pre-service teachers have developed their aesthetics tendency to appreciate art, music, and poetry; and feelings as the inner emotional states and experience through AOE model. The learners have been tried new activities, visit new places, and try new foods; and they have developed new ideas at different situations by re-examining the traditional, social, religious, and political values. The findings indicated that most participants felt more confident about teaching environmental education. Literature also supported to improve pedagogical content knowledge and an appreciation of how to integrate environmental education into the everyday learning of their students (Wesselink & Wals, 2011). Developing efficacy, motivation, and confidence of student teachers towards environmental education is a positive sign of learning environmental education (Kennelly *et al.*, 2008). Hence, the pre-service teachers' of the world have seen open-minded to learn environmental education through Jena' AOE model. The pre-service teachers, that all three training colleges have developed eco-friendly habit and practices after environmental education. This was strongly supported by (Dahm *et al.*, 2009) and they found one well oriented teacher may aware the students about organic foods, and he/she would predict their behaviors with regard to organic food consumption and other healthy lifestyle practices. They may develop the attitude of eco-friendly practices for socially conscious behaviors. This study examined the effect of diaries on self-regulation strategies of the pre-service science teacher's eco-friendly behavior in a challenging and dynamic mode (Jena, 2011).

Conclusion

I concluded, environmental education is not a challenging task for the world of teacher educators, instructors, and teachers at different levels. If seminars, conferences are conducting by the organizers, they should apply the findings and suggestions first at grassroots level or they should utilize first in their day today life. The teacher training institutes, teachers, policy makers, and curriculum framers, should try not only to frame the strategy in the written, but they utilize the idea in practical situation, they have to practice. The teacher educators, teachers, and pre and in-service teachers, professors should implement with hands on experience. It should not be limited to classroom transaction, but

to apply it in the daily life. In this context, embedding environmental education in pre-service teacher education programme both at epistemology and at practice is so crucial (Cottrell & Alan, 1997; Steele, 2011). It should be introduced in the content and practice in primary and secondary classes (Chapman, 2007; Greunewald, 2005), because after training pre-service teachers will utilize this knowledge at both primary and secondary school classes. Similarly, Hart, 2003; Hungerford *et al* 1992; Sauvé, 1996 agreed on the complexity of environmental education at interdisciplinary level. It does not mean environmental education creates no awareness, but a study (e.g. He *et al* 2011) has been given strong support that local pupils' knowledge about the causes, effects, and solutions pertaining to these environmental issues are more than town pupils. In general, in the recent study, it found pre-service teachers' are open-minded to learn environmental education for their healthy practices outside classroom (Kennelly *et al* 2008). They found developing efficacy, motivation and confidence and openness among student-teachers towards environmental education is a positive sign of learning environmental education, which enhances eco-friendly practices and scientific habit to motivate others. That is why; environmental education should embed in teaching learning process and curriculum of pre-service teachers.

The researcher should put the AOE model for the pedagogical practice as an instructional strategy in front of the world of education, for its huge educational implications even it has huge limits tends to evaluate the model. AOE model might be taught through smart classroom, direct observation, field visit and hands on experience, for better understanding among the learners. Effective environmental education plays impact on practice at elementary level. The educationist, administrators, teachers and student, community should participate in local environmental practice programmes. Open, distance learning, corresponding course should be open and free for all age group of learners. Creative drama, role playing, mono action, road side drama should arrange for rural people for the improvement of eco-friendly environmental practices. In my opinion, AOE model should be applied for the generalization for long term benefits.

Recommendations

In preliminary, I faced trouble during the implementation of such environmental education model, among pre-service teachers of different teachers' training colleges and I learned a lot from the experiment with this new AOE model. For further study, I have established my AOE model in front of world of education for its proper course development and its improvement. As a result, I recommended my world of colleagues to attempt repeatedly practice and experiment during instruction among the pre-service teachers at the teaching of environmental education.

I consider the following recommendations.

1. Take an environmental issue in the learners' locality

It is better to accumulate the problems and difficulties related environmental issues from the locality through field visit and accordingly content should design regarding awareness (e.g. lecture, discussion, and observation), openness (e.g. feeling, action, ideas and values) and suggests eco-friendly practices (e.g. reducing, reusing, and recycling the materials). After that encourage the instructors to follow that AOE model.

2. Ask what is environment and why for education?

The concept environment includes, both biotic and abiotic components and it is an important task for the instructor to classify. It is in question, whether, learners have clear idea about environmental concepts or not, if found yes, then the teacher educator can

apply AOE model for instruction and if not, they can give a plain lecture or certain demonstration in front of the learners to pick up the learners towards environment.

3. Give opportunities to construct ideas

Teacher can group the learners to work together or implement collaborative activities to share ideas to find out solution for the particular problems. During instruction, the researcher observed most of the learners felt uneasy to express their openness. However, free and open discussions not only foster learners transfer knowledge, but can also emphasize the collaboration or constructive ideas and understanding regarding environmental issues. Learn deeply about a few environmental issues. That is why educators should try to apply this model in the constructivist ways. Besides these, the Jena encouraged their colleagues to experiment the evaluation of environmental educational instruction; courses of different levels. The status of environmental education among the children with special needs section; attitudes of teacher educators towards environmental education teaching and practices; environmental awareness among humanities and a science student needs a comparative analysis; environmental education and sustainable development for eradication of poverty, and comparative study on healthy family life and environmental education.



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Appendix-I

Eco-friendly thought and Practice Scale

Sl.No.	Items	Responses	
		Yes	No
1	Lecture and discussion are easy methods to create awareness among learners	Yes	No
2	I can directly and indirectly work for the protection of environment.	Yes	No
3	Field visit aware and encourages how to be eco-friendly.	Yes	No
4	Observation from the field and from different issues of environment motivates to be eco-friendly.		
5	Hands on activity, creates awareness to be eco-friendly.	Yes	No
6	I engage in the constructive work of the environment.	Yes	No
7	Open seminar should necessary at any community places for better discussion,	Yes	No
8	Collaboration among persons of the community, NGOs' and international bodies may create awareness and encourages being a friend to save the environment.	Yes	No
9	Self learning from environment is the best approach for its application.	Yes	No
10	I am anxious to attain huge conferences to share my thinking and emotion for the development of environment		
11	Openness among people encourages to discuss more about environmental issues and practice	Yes	No
12	People sometimes ask why you are so aware in action and practice for the healthy habit.	Yes	No
13	I have created idea to apply these during the natural calamities.	Yes	No
14	I have obligation to play active participation in environmental organization.	Yes	No
15	I see, people polluted without thinking its value.	Yes	No
16	I and my emotion for the conservation and protection of environment are very different from other people.	Yes	No
17	Generally, people do not use creativity, but I apply these in my life.	Yes	No
18	I collect unused plastic appliances for reused as a way of telling people, I am different.	Yes	No
19	I feel frequent change of climate around us.	Yes	No
20	I practice all kind of national and international rules and regulation to save the green earth.	Yes	No
21	I advise the people for sustainability.	Yes	No
22	I use and reusing unsustainable products.	Yes	No
23	It is not possible to recycle the refuses.	Yes	No
24	I like to reuse the plastic products	Yes	No
25	Environmental conservation effort by one man is useless	Yes	No
26	I use daily sustainable material every day.	Yes	No
27	People don't think how to reduce plastic in daily uses	Yes	No
28	I think the new foods sells in market not for good health.	Yes	No
29	I always think how we can reduce the carbon dioxide accumulation.	Yes	No
30	For the development of eco-friendly habit I visit new places, where I can see the way of reuse, recycle process.	Yes	No