

Lecture No. 9 **Ecological Literacy**

In the Philippines, natural calamities are frequent. The government and educational institutions have implemented several strategies and initiatives to improve disaster preparedness and risk management. All people need to be educated on how to care for and protect the environment through ecological literacy practices, and environmental education must be emphasized and expanded upon in schools.

Let's continue from the Conclusions in Lecture 8

Financial literacy for teachers is characterized by their evident competence in managing the five scopes of this form of literacy, namely: Salary, Savings, Spending, Security, and Stability. Appropriate and efficient management of such be taken into account.

Ecademia.com.uk expresses that an ecologically literate person is well-versed in the interdependence of all forms of life in the natural world. Ecological literacy, which has its origins in ecology and whole systems thinking, is a program that educates people about the principles and processes of biological systems, how they make life possible on Earth, and how we can learn to live in greater harmony and integrity with these systems.



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<https://ischoolconnect.com/blog/an-overview-of-the-ecology-study/>

Education emphasizing the importance of ecological systems and environmental consciousness is crucial to promoting eco-literacy. The basic principles of ecological literacy are an excellent place to start understanding the fundamental lessons that may be gained from nature to reform society; hence, the following objectives.

1. Explain ecological literacy in developing a sustainable environment through the concept of a "Green School"; and,
2. Articulate how eco-literacy can be integrated into the curriculum and practiced in the school and the community.



Let's go ahead.

A. Ecological Literacy Toward Sustainability

Responsible design requires an ecological perspective in an age of limited resources and increased vulnerability due to environmental issues. Ecological literacy is essential to comprehend the dynamics of environmental challenges and devise efficient solutions by creating sustainable lifestyles. However, sustainability education is still largely lacking in the curricula of many other schools. Only the most forward-thinking universities are beginning to include ecological literacy in their curricula.



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Design Education for Eco-literacy. Boehnert (2013) explained that even though natural scientists have warned that dangers would increase if we don't take drastic action, progress has been slow. Ecological literacy is complex because it undermines long-held beliefs about what makes for excellent design in the classroom. While ecological learning is the foundation for sustainable design, it is often overlooked as a fundamental necessity in the design education process. Design curricula must incorporate insights from various fields to handle intricate environmental issues effectively.



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<http://www.philchm.ph/terrestrial/>

Thinking in a disruptive manner to combat damaging institutional behaviors and systems is essential for sustainability. The challenge of accepting information concerning the effects of human industrial systems on other species and ecosystems, as well as our future and successors, is

one of the biggest obstacles to widespread ecological learning. By neglecting ecological education, schools sidestep these controversial topics. Promoting new ideals emphasizing environmental and social sustainability in the classroom is still tricky. Institutions that refuse to adapt to new realities in favor of environmentally damaging development paradigms and unsustainable design approaches risk losing credibility as environmental challenges worsen. Thankfully, forward-thinking schools are beginning to include ecological literacy in their design curricula.

Pro-life Sustainable Goals. If we first identify the universal requirements shared by all species with whom we share this planet, we may increase our capacity for empathy, think about the quality of life of other living forms, feel genuine concern for their well-being, and take action in response to that worry. This is only possible if we acknowledge the universal requirements.

Ready to take Action. Students can learn from their teacher's several tactics that might help them anticipate unforeseen effects. Among these is the precautionary principle, which states that preventative actions must be done whenever there is a risk that activity will negatively affect the health of humans or the environment. Another tactic is to go from evaluating a problem by breaking it down into its parts to adopting a system thinking approach, which looks at the connections and interconnections between the different parts of the issue.

Nature is Alive. Ecologically literate people are aware that the natural world has supported life for a very long time. Consequently, they go to the natural world for answers when their professors educate them that all living species are complicated and interrelated and that they must occupy a specific location to survive. These individuals typically have an awareness that systems may be broken down into several tiers and collectively follow a way of life that satisfies the current generation's requirements while sustaining nature's innate capacity to provide a habitat for life in the foreseeable future.

B. The "Green School"

Schools are crucial not just for the intellectual growth of children but also for cultivating environmental ethics and a concern for the natural world. Consequently, the educational setting should combine lessons and curriculum on environmental sustainability and foster students' skills in this area. This will help students form relationships with their community, pay attention to their safety, and develop a positive attitude toward school, society, and the world.



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De Leon (2020) suggests that creating a "Green School" where environmental sustainability is prioritized at every level of operation (from planning and decision-making to implementation in the school's functioning as part of daily routines) is an effective way to address environmental issues and concerns.

A Picture of a Green School. The Center for Green Schools in the United States of America (<https://centerforgreenschools.org/>) defines its vision as “For all schools to be integrated models of sustainability for their students, teachers, and community. When we move toward this vision, communities, and individuals, regardless of race or socioeconomic status, have the opportunity to be healthy and thrive—physically, socially, and economically. We believe modeling sustainability through green schools encourages collective action to regenerate natural resources and protect the well-being of all people.” This vision emphasizes that green education goes beyond textbooks and building renovations. It's a campus where people are actively working to promote climate justice and global sustainability. Student leaders for a healthier, cleaner, and more sustainable future may be developed in a green school.

Learners for Ecological Sustainability. A green school may be considered an educational institution that adheres to the tenets of ecological responsibility. Its goal is to foster an atmosphere favorable to making full use of all of the resources and possibilities available both inside and outside the school, as well as to educate both the faculty and the students on the importance of environmental sustainability through engagement in the local community. It calls for ongoing, constant, and synergistic efforts by all parties involved to improve the school's environment and the surrounding areas.

Socio-emotional Learning. The school's commitment to sustainability is shown in several facets of the surrounding environment. The green school's surroundings are pristine regarding cleanliness, well-being, and safety. In addition, it enhances the learners' and others' psychosocial and physical health while at school. It guarantees a wholesome, clean, and risk-free atmosphere for academic pursuits. Due to this, students have a better opportunity to connect with and care for the natural world.

Food Production in the School. Vegetable gardening embedded in the curriculum does not only teach students the rudiments of planting and gardening. It also trains them to produce food for the family. Many public schools share their harvests with the students, who usually take home some vegetables and fruits. Keeping a green school distinctly contributes to achieving the Global Sustainable Development Goals, precisely Goal 2.



Credits to the Owner of the Image: <https://www.greenfinity.foundation/en/projects/biologic-school-garden-san-roque-elementary-school>

C. Ecological Resiliency

One strategy for achieving sustainability is the resilience approach, which focuses on increasing the capacity to deal with unforeseen change. According to Simonsen et al. (n.d.), this approach advances beyond understanding humans as external drivers of ecosystem dynamics and examines how we are a part of and interact with the biosphere. The biosphere is the dome of air, water, and land surrounding the globe, where all life forms may be found. One of the primary ways people depend on the biosphere and interact with it is by using various ecosystem services. These services include the water we use for cooking and drinking, the crops we grow to nourish ourselves, the regulation of the climate, and our spiritual or cultural connections to ecosystems. Using these services is one of the primary ways people depend on and interact with the biosphere.



Agriculture, constructing roads and towns, and other human activities contribute uniquely to how the biosphere is altered. The concept of resilience thinking seeks to study how these interacting systems of people and the environment, often known as social-ecological systems, may be managed most effectively to assure a supply that is both sustainable and resilient of the essential ecosystem services that humanity depends on.

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<https://www.theguardian.com/environment/2022/dec/06/the-biodiversity-crisis-in-numbers-a-visual-guide-aoe>

Based on the Foundation for the Philippine Environment (<https://fpe.ph/>), ecology, the academic field that describes the Earth as the practical whole that is more than the sum of its parts, must first and foremost be comprehended to have any hope of learning biodiversity and the initiatives that have been developed to preserve it. When viewed through the perspective of ecology, the planet may be better understood as a complex and ever-changing interaction of life and non-living components, including the physical environment itself.

In light of being resilient and caring for natural resources, the following principles are promoted in Philippine schools so that teachers and students can discuss and practice advocating ecological literacy.

The Seven Lenses of Biodiversity

1. Nature knows best. The rules that nature imposes on humans must be understood and followed. In short, if one wants to guarantee a consistent and reliable flow of resources, one shouldn't oppose the natural processes that are already in place.

2. All forms of life are important. All living creatures should be valued relatively because of their crucial roles in preserving ecological harmony.

3. Everything is connected to everything else. The health of an ecosystem depends on the interplay of its many parts, and any disruption to this equilibrium can lead to the breakdown of the entire system.

4. Everything changes. For there to be good changes, people need to reconsider their connection with the environment through applicable technology.

5. Everything must go somewhere. Learning how to identify, categorize, and separate poisonous and possibly dangerous garbage is crucial because it might eventually end up in one's own backyard in another form.

6. Ours is a finite earth. A shift in perspective and initiative toward recycling occurs when one becomes cognizant of the limited nature of Earth's resources.

7. Nature is beautiful, and we are stewards of God's creation. Humans are the most intelligent and rational creatures; thus, they can exploit the world they helped create.

D. Curriculum for Ecological Education

Sly, cited in De Leon (2020), through the Center for Ecology, emphasizes that ecology and care for mother nature have to be upheld in the school curriculum. Be it co-curricular, extra-curricular, or a credit course, ecological literacy has to be given a premium in the total formation of the students.

Hands-on exercises, time for introspection and conversation, exposure to both indoor and outdoor settings, and multidisciplinary projects contribute to student learning. Therefore, the following strategies can undertake these missions.

1. Place-based Learning. An approach that encourages environmental responsibility and civic participation via student experimentation with their immediate surroundings. Mapping the local environment, funding habitat restoration initiatives, and collaborating with local residents to enhance their quality of life are all examples of what may be accomplished via these efforts. Students learn best when they can apply classroom knowledge in real-world settings.

2. Project-based Learning. It's a method in which the instructor plays more of a facilitation role in student projects in which they draw on a range of resources, such as the community, technology, outside experts, printed materials, and the Internet.

Students' critical thinking, interest, and achievement in answering conceptual problems have all been shown to improve when this method is used with them. Self-confidence, analytical skills, and the ability to solve problems are also boosted.

3. Socratic Inquiry. An approach that encourages students to question their experiences and seek meaning in the world around them, named after the Greek philosopher Socrates who held that questions, not answers, drive learning. Teachers encourage students to evaluate their own ideas, attitudes, and biases rather than just imparting knowledge. Instead of lecturing to students, teachers facilitate group work and debate.

The teacher's skillful questioning encourages the students to elaborate on their claims, pinpoint the gaps in their thinking, and back up their claims with supporting facts.

4. Experiential Learning. This technique encourages the participation of students in the actual world and defines the role of the instructor as a facilitator of learning. Learning is a process that ultimately results in changes in behavior. It is predicated on the idea that education is a dynamic and ongoing process that relies heavily on practical experience as its primary resource.

Experiential learning engages students to observe and analyze environmental issues and problems first-hand. In this way, they are guided to formulate their missions in helping solve ecological issues.

5. Interdisciplinary Learning. Rather than focusing on a single subject area at a time, this approach encourages students to make connections across subjects like math, science, history, and language arts. Students seek information and expertise from various fields to gain a deeper and broader grasp of topics when teaching and learning are structured around themes, challenges, or difficulties.

Conclusion:

Understanding the organizational principles ecosystems have evolved to maintain to sustain natural systems toward sustainability constitutes ecological literacy. Schools are responsible for advancing eco-literacy by teaching students about environmental issues and encouraging innovative solutions.

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