

## ABSTRACT

Title of Thesis: A FRAMEWORK SYSTEM TO CONNECT  
CHILDREN WITH NEARBY NATURE ©

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Arguably the most savvy of any generation, today's children reside in a state of "Nature Deficit Disorder" (Louv (2005). Though programs approach the problem, children's current condition presents challenges beyond those of landscape architecture and allied professional practices. Currently, there is no comprehensive system to address the full range of children's developmental needs, nor to integrate needs with specific local resources. This thesis develops such a system, a framework to connect children and nature. Input from five sites in the greater Baltimore area guides framework development and testing. Results identify abundant, diverse, and age-appropriate linkages to re-connect children with nearby nature and help prepare next-generation environmental stewards.

A FRAMEWORK SYSTEM TO CONNECT  
CHILDREN WITH NEARBY NATURE ©

By

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## CHAPTER 1: INTRODUCTION

One state group and two leading individuals, Richard Louv and Robin Moore, provide an overview of current efforts to remedy children's alienation from nature. The three, in their order of presentation, are author Richard Louv, the Maryland Partnership for Children in Nature (2009), and Robin Moore (1997, 2009). These key representatives illustrate state-of-the-art technology of linking children and nature. All three contribute concepts and practical thinking to this thesis effort.

By naming the trend towards children's increasing alienation from nature, "Nature Deficit Disorder," a worrisome behavior evoking the concerns of educators and environmentalists for over a decade, Richard Louv (2005) galvanized interest and action. His work helped start the flow of increased funding for programs such as that in Maryland to reconnect children and nature. Providing an extensive summary of research, Louv identified many themes and variations. For example, direct contact with nature is seen as vital for children, as opposed to learning exclusively via textbook or computer. He and others (e.g. Kaplan et al., 1998) also highlight the importance of local places, close to home and school, to which children can walk, preferably on their own. "Wild nature" is

recommended over hardscape and manufactured play equipment, as natural materials provide more inspiration for imaginative play, according to Louv.

Parental involvement, such as family walks and visits to parks and other special places, also helps to remedy Nature Deficit Disorder. Louv's review builds a repertoire of examples and general recommendations, a helpful direction for this thesis. He leaves the door open to gathering all of his citations into a coherent, systematic approach. By providing a strong, colorful label for the problem, and garnering public and private support for numerous local and national initiatives, Louv paves the way for further progress towards remediating the problem.

The second major effort to connect children and nature is the collaborative and ambitious initiative of the Maryland State Department of Education and Department of Natural Resources: the "Maryland Partnership for Children in Nature (2009)." The focus is on three areas:

1. Strengthening students' connection with nature during the school day;
  2. Creating a trail system to connect communities and families with nature;
  3. Developing increased public awareness via communication campaigns
- (pp. 1-4).

Key program recommendations for school programs include "an annual, meaningful outdoor environmental experience" for every student in kindergarten through grade 12; a test of environmental literacy, administered to high-school seniors; and an effort to plant habitat gardens on the grounds of public schools. Related to community efforts and the planned trail system is a recommendation

to include “natural-play spaces” (p. 1). Much of this extensive effort is in the planning stage, though goals and objectives have been thoroughly documented. State administrators have begun to involve allied professionals in initial conceptualization. Representatives of Morgan State University and the University of Maryland, faculty and students of landscape architecture, are providing input. In addition, other professional experts, such as Robin Moore, are involved in early plans. It will take time for this far reaching program to achieve its full promise, but it is indeed out of the starting gate and offers substantial food for thought for this thesis effort.

A prolific designer of outdoor play spaces, Robin Moore provides guidance for virtually all phases of methodology and all elements of design (e.g. Moore et al, 1997; Moore and Wong, 2000; Natural Learning Initiative, 2008). His works help conceptualize and design site entrances; circulation, including primary and secondary paths for children; the linkage of play equipment with native plantings; location of curbs to protect vegetation; potential play props; and sun and wind considerations. Moore also generally discusses the diverging needs of children. He specifically considers special requirements of children in the context of ADA regulations. There is some mention of learning scenarios: for example, conceptual inference vs. learning from specific objects; confidence and balance learning; and the need for quiet places as well as boisterous activities. Moore’s range of design advice, his numerous principles and his discussion of site uses generously inform this thesis.

## **Framework System to Connect Children and Nature**

Given the complexity of attempting to connect children with nature, the pressing need to train next generation environmental stewards, and the numerous, ambitious projects being proposed, a systematic methodology would appear at least relevant, if not essential. The proposed framework system of this thesis is a two-dimensional matrix array. The first dimension focuses on local natural resources to engage children with nearby nature; the second dimension considers the varied, age-related needs of children. The conceptual matrix (Table 1) as yet has no categories or typology information to inform the green column of resources numbered “1” through “6” and the blue row of children’s needs “a” through “e.” Nonetheless, the conceptual framework displays the

**Table 1: Conceptual Framework’s Two Dimensions**

CONCEPTUAL FRAMEWORK'S TWO DIMENSIONS					
RESOURCES	----- CHILDREN'S NEEDS-----				
	a.	b.	c.	d.	e.
1.	1a	1b	1c	1d	1e
2.	2a	2b	2c	2d	2e
3.	3a	3b	3c	3d	3e
4.	4a	4b	4c	4d	4e
5.	5a	5b	5c	5d	5e
6.	6a	6b	6c	6d	6e

intended interrelationships among the two dimensions, as indicated by the number and letter combination within each individual cell. These interrelationships indicate the juxtaposition of the two dimensions, the rows and column cells that will soon populate this framework. Each of these two dimensions will be developed and defined in subsequent chapters. Once developed and tested, the framework system aims to provide landscape architects, other allied professionals and community organizations with an appropriate methodology to conceptualize, plan and design linkages to connect children and nature. The systematic method aspires to assure more diverse approaches and outcomes, providing greater social equity than current methods and approaches.

Perhaps, though, such a matrix system would result in further complexity rather than an improved methodology for conceptual thinking and design. It might be the case that consideration of categories of resources and children's needs is neither practical nor necessary as a structuring element or component of design planning. Perhaps these considerations of resources and children's needs should be left to the client, especially the educators. On the other hand, the particular considerations of resources toward re-connecting with nature are also new territory for most educators. Additionally, the current Dewey-based active-learning approach favored by educators in the United States (Moore and Wong, 2000) has failed to avert the current condition of children's alienation from nature. Though educational systems can change over time, this sort of institutional sea change is difficult to achieve and may best originate in more nimble, hybrid quarters as well as educational systems. Thus it appears at least appropriate, and perhaps helpful, to add to the methods repertoire and rise to the challenge.

The "Nature Deficit Disorder" generation is both brilliantly savvy and amazingly ignorant. On the one hand, they are extremely sophisticated vis-a-vis computers, other electronic devices and of course the internet. Many in this generation, however, lack even the most rudimentary knowledge of nature, the food chain, the origination of water prior to the faucet, or the relationships among flowers and seeds (Louv, 2005). Lacking routine, firsthand contact with nature, today's children may be incapable of assuming environmental stewardship. The

chasm between the urgent need to sustain the Earth with its burgeoning population and the next generation's alienation from nature present a clarion call for action. The need to bridge this chasm drives this thesis research.

This thesis maintains that bringing children back to nature requires many complementary local resources, both small and large and easily accessible to elementary school children, preferably only a short walk from home or school. The framework system, with its disciplined juxtaposition of local area resources and children's needs, provides a structured approach to linking children with nature. It offers a way to assure that local resources address the full range of children's needs and helps assure complementary layers of interventions to engage children with the natural realm. The task of connecting children with nature is both daunting and utterly essential. Applying the framework system could help assure progress towards the goal of preparing environmental stewards of the next generation.

### **Terms and Definitions**

Given the specific focus of this thesis, several frequently used terms deserve definition at the outset. The definitions below are provided by the author of this research, as are all of the photographs accompanying the terms and scattered throughout this work.

- **Connecting children with nature:** Also described as linking and engaging children with nature; providing a local opportunity for

children to directly touch, smell, examine, study, one or more objects, aspects and or processes of “nature” as defined below.

- **Environment:** The context of nature, both at the micro and macro level; e.g. the environment of an individual plant is its local soil, the micro-organisms in the soil, the adjacent plants, plus the full range of natural processes, e.g. sun, wind, water, topography, etc.



**Figure 1: Forest Patch Examples in greater Baltimore**

- **Forest Patch:** An area of native vegetation, originally part of an area (system) of vegetation or environment; “Patch” implies that this area is a remnant. Four examples from the greater Baltimore area are shown on this page (Figure 1). Patches vary in size from extensive to quite small; typically, small isolated patches are less viable than larger patches. Green edges in urban and suburban areas can be considered patches. Forest patches provide a baseline, reference-point example of “nature” for children, beyond those of designed gardens. They can vary in condition, context and maturity, as shown.

- **Framework System.** The system of the two-dimensional framework juxtaposes an array of children’s age-related needs with a second array of natural (and other) resources that provide linkages with nature. Interrelationships among needs and resources guide toward age-appropriate interventions that yield systematically diverse child-nature linkages. (Table 1 illustrates the conceptual matrix.)
- **Habitat:** The native, nearby environment of a specific species of plant or animal; for example pollinator habitats are those that attract specific varieties of insects , e.g. Monarch Butterflies, that pollinate specific varieties of plant flowers, e.g. Milkweed.
- **Nature:** Any element or force that is part of the Earth’s biosphere, or “extended” habitat, including individual elements, such as plants, animals, insects, microbes, and humans, as well as the systems these elements comprise, and the natural forces that impact the elements, e.g. wind, rain, the water cycle, the sun-energy cycle, volcanoes, etc. What is not part of nature are the constructions of humans, although highways reside within the context of nature and are affected by its forces. The forest-patch photographs (Figure 1) are examples of “nearby” nature for one of the Baltimore City sites.

- **Nearby or local nature:** Any place of nature or nature study that is sufficiently close to children’s homes or schools to permit accessibility by walking. The usual distances for such forays in contemporary U.S. is one-quarter to one-half mile.
- **Needs of Children:** The developmental and / or ad hoc, socio-emotional, or learning needs of children in grades kindergarten through five. Derived from the work of Abraham Maslow, these needs influence children’s attention and energy. Typically the needs of younger children are more basic, simpler than those of older children. The needs identified for this thesis are shown on the Framework matrix above.
- **Resource:** A place, venue, intervention or other entity (e.g. professional organization, business, or individual expert) that provides a potential source of environmental learning for children.
- **Site:** A clearly identifiable geographic place. In this thesis, the term “site” or “study site” is used to describe defined geographic areas in the greater Baltimore area that offer resources with which to connect children and nature.
- **Subject- Matter Expert (SME):** An individual or set of individuals providing instruction, example or other resources relevant to children’s connecting with nature.

**TO RECEIVE FURTHER INFORMATION...**

Please contact the author, Roberta M. McConochie, Ph.D. if you have specific questions or are interested the full document.

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