Chapter 11
Long Before, Before, Within and Around, After, and Long After the Program: Using Environmental Socialization Strategies to Amplify Programming Effects

J. Joy James and Robert D. Bixler

11.1 Introduction

Environmental socialization which embraces environmental education is the "long game" approach to nurturing interest, caring and concern for wild places and our environment.

An environmental socialization programming strategy makes explicit the often-unrecognized differences in informal experiences between the environmental person and some otherwise near-identical person who embraces other interests. Outdoor environmental educators are sometimes surprised and puzzled by the discomfort, fear and even disgust expressed by some program participants, particularly when the program serves persons who did not self-select to take part in the program such as a portion of-school students who would otherwise never visit a park or nature center on their own. These differences do not stem from lack of education, rather from a lack of frequent, recurring and expanding informal experiences with nature and limited interactions with persons who appreciate and value nature. During more rural periods in human history, some of these informal socialization experiences with nature occurred without intention or even much awareness. Explicit descriptions of these environmental socialization phenomena followed by mimicking them allows outdoor environmental educators to make sure these influences happen intentionally within and between outdoor environmental education programs.

J. J. James
Department of Recreation Management and Physical Education, Appalachian State University, Boone, NC, USA

R. D. Bixler (✉)
Clemson University, Emeritus Faculty, Clemson, SC, USA
e-mail: rbixler@clemson.edu

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11.2 Aversion to Wild Nature

While there are volumes of research on the benefits of experiences with nature (Kaplan & Kaplan, 1989; Franco et al., 2017), only a few studies have investigated negative evaluations to being in wild nature (Bixler et al., 1994, 1995). Part of this imbalance in research is ideological, but there is also little recognition of this issue as persons who are averse to nature simply choose not to visit parks and nature centers, and consequently are rarely observed. Negative perceptions of nature minimally involve fear of becoming lost, fear of dangerous plants and animals, disgust reactions, fear of the dark, and discomfort from heat and cold (Bixler & Floyd, 1997, 1999). Particularly with school groups where mandatory attendance guarantees the presence of at least a few program participants who are averse to nature, there are opportunities within outdoor environmental education programs to reduce negative perceptions of wild nature. Negative perceptions of nature can be addressed within outdoor environmental education programs with instruction and social modeling. Additionally, encouraging an empowering frequent, recurring and expanding outdoor play and wildland recreation outside of and beyond outdoor environmental education programming seems essential (James et al., 2010).

Wayfinding is the ability to find one's way into and back out of an environment in a predictable amount of time (Jonsson, 2002). Many children who are driven or led to everywhere by parents and/or ride a bus to school do not readily develop strong wayfinding skills (Ecuyer-Dab & Robert, 2004). For instance, children who receive bicycles earlier in life tend to be better wayfinders. Poverty is also predictive of a limited home range and poorly developed wayfinding skills (Matthews, 1987; Spilsbury, 2005). Research has long ago tied self-directed childhood wayfinding experiences to higher performance in spatial reasoning (e.g. geometry) in school (Spencer & Easterbrook, 1985; Matthews, 1986). Providing opportunities for children to practice wayfinding skills within outdoor environmental education programs is easily justified. Every child should know how much time it takes to walk a mile/kilometer, how to use routes, nodes and landmarks and to rotate a map into alignment with the paths in the park before making wayfinding decisions. In contrast, 'wayshowing' is the leading of groups through a natural area, a strategy that does little to develop wayfinding skills (Mollerup, 2013).

Fears of animals and plants are common. Some fears are legitimate, but others are based in a lack of direct recurring experiences with wild nature leading to inaccurate expectations of encountering non-existent threats. These negative attitudes are acquired from media and naïve social acquaintances. Both horror movies and educational nature television can create inaccurate expectations within a person with limited experiences in local wild nature. For instance, geographically naïve school children often express fears of large dangerous animals that are only found

in distant countries. A person is well positioned to be comfortable in wild places when their expectation of encountering feared objects is reasonable (termed fear expectancy (Bixler & Floyd, 1997). A person who is highly fearful of encountering crocodiles but knows they are not present in most of the temperate world, will not avoid outdoor activities in wild places in North America. Helping people develop reasonable fear expectancy can be integrated into outdoor environmental education programs through instruction, social modeling, repeated experiences, and informal conversations.

Disgust reactions are similar to fear in that disgust is a basic negative emotion. Development of the degree of sensitivity to disgust is partially linked to the intensity of the negative reactions parents make to the odor of their infant's bowel movements, yet visual and tactile cues can also evoke disgust. Some natural objects like spiders can evoke both fear and disgust reactions. Dirtiness of mud and soil, sliminess of algae and mucus coatings of some amphibians and invertebrates, and creeping/crawling motions of many small invertebrates evoke disgust reactions. Smells reminiscent of sewage often experienced in "swamp stomp" activities and rotting substances may also produce these reactions. Social modeling and habituation can help clients reduce and rationalize their disgust responses to some natural elements. For children who play in wild places frequently, experiences with disgusting objects are often perceived as normal if not a source of curiosity (Bixler & Floyd, 1999).

Comfort outdoors can be a constraint on many types of outdoor activities. Thermal comfort (too hot or cold) in the outdoors requires knowledge of appropriate dress but also frequent experiences in varied types of weather. People who live in colder climates become uncomfortably hot at lower temperatures than those who live in warmer temperatures. Construction workers (and tobacco smokers who take outdoor smoke breaks year-round) are comfortable in a much larger range of temperatures than office workers. Teaching layering and proper dress for outdoor activities is critical, but developing comfort outdoors is a habituation process from frequent participation in play and outdoor recreation activities across seasons (Chen & Ng, 2012; de Dear & Brager, 1998; Wohlwill, 1975; Helson, 1964).

For human eyes to adjust to darkness, requires 15–30 min. Fear of the dark is common as most people are rarely in the dark for more than the few moments it takes after exiting home to reaching their car or cab. Street lights in urban areas guarantee that many urban dwellers well into adulthood have never seen the stars in the night sky. Some natural sounds are mostly heard at night and their sources are more difficult to see. Is that pitter patter sound in the woods at night dew falling off the leaves of trees or a pack of wild dogs quietly stalking their next victim?

11.3 Significant Life Experiences

Among nature center directors, there is an often-repeated account of several of them standing around at a conference describing to each other how their life work emerged around promoting nature and natural history. None described school experiences, rather frequent playing and recreating in woods, beaches, streams and creeks as children. After much recounting of fort building, hours spent turning over rocks in creeks, catching bugs in jars, pet snakes and a dozen other similar events, one of the directors asked the others how many of them allowed these types of activities at their nature center. An uncomfortable silence followed the question. This was a moment of revelation for these directors. Today, many community and regional nature centers provide large (10+ wooded acres) children's nature play areas plus preschools in the style of European forest schools. These are environmental socialization strategies, at least for younger children. But environmental socialization must continue across all of a person's life stages.

In 1980, Thomas Tanner published a seminal research paper that documented the significant life experiences recalled by natural resource professionals. The results were provocative in that playing in wild and semi-wild nature as a child was the single major formative life experience reported by a large majority of research participants. Since then, his study has been replicated numerous times with multiple research methods and in numerous countries (Chawla, 1998; Ewert et al., 2005; Martin et al., 2020; Sugiyama et al., 2021). The findings of all these studies were dramatically consistent documenting that environmental educators in many regions of the world attribute their passion for their work with nature to (self-directed) childhood play experiences in wild places plus several less frequently mentioned influences later in life.

Yet researchers made one significant error in interpreting the data from these studies. Childhood play is the single most common experience reported, not because other later experiences were less important, rather it is the only readily available experience for children. Younger children cannot hold jobs, travel on their own, take advanced biology in high school, be camp counselors, or go to university. As a person leaves childhood and moves through their teen years and into adulthood, there are more varied ways to experience and interact with nature than just play. Consequently, any one type of post-childhood play experiences is not as commonly reported simply because there are more types of them. These varied and less commonly reported experiences seem less important unless one recognizes that they are largely interchangeable as they serve similar functions. Anyone of these experiences continues a person's socialization, but few people reported participating in all of the types of these experiences. Regardless, all these research projects document that adult conservationists recall many and varied frequent, recurring and expanding formal and informal experiences with (wild) nature growing up through young adulthood. A few of these studies used comparison groups of persons disinterested in nature and the environment who, as expected, did not report the same pattern of socialization experiences.

11.4 Environmental Socialization—What Is It and Known Components

Even today, many environmental educators still cannot articulate how their life experiences differ from their disinterested counterparts. This is partly due to self-selection effects through which like-minded people gravitate to parks, nature centers and other environmental organizations while others avoid these locations. The Significant Life Experience (SLE) research provided one broad explanation for the puzzling differences in degrees of interest in the environment between otherwise quite similar persons. Environmental socialization research appeared later with the purpose of identifying and describing specific actionable steps across life stages that should increase the opportunity for a person to develop a lasting interest and relationship to nature and the environment. Few outdoor environmental education programs interact with a single person from early childhood into adulthood. Yet, by embracing environmental socialization strategies and watching for opportunities to act, an environmental educator can easily increase the frequency and variety of experiences that people they interact with have with nature during and after their programs.

Environmental socialization strategies make explicit what has largely been a little recognized socialization process such that these processes can be explicitly mimicked. Several broad categories of strategies accompanied by specific articulable actions have been identified. Some of these actions can be integrated into environmental education programs either in the curriculum or through restructuring the dimensions of environmental education (longer length, adding overnight experiences, more diverse offerings, etc). Other actions involve steering program participants to other activities after a program is over and recognizing unplanned for opportunities when they arise. Some of these actions take a few seconds or minutes.

Comfort outdoors is a chronic and difficult issue to address as modern living shields us from environmental irritants and thermal extremes. Heating and air conditioning mean little exposure to extremes of temperature and limited interactions with (some) insects and other irritants. Likewise, pest insects that persistently seek humans out for food, are a convincing force for staying inside. Habituation is the rather automatic adjustment of the human nervous system to high and low levels of a stimulus. Humans are not constantly and rationally thinking about whether they are hot or cold, the autonomic nervous system simply creates unpleasant arousal when a low or high threshold is reached. This is true to a degree with smells, biting and hovering insect, sweat and dirtiness. Having a wide comfort range is largely a function of repeated experiences in wild nature across seasons and life stages. Frequent childhood play in wild or semi-wild settings is the starting point. This issue cannot be addressed solely within the boundaries of discreet outdoor environmental education programs. Fortunately, children seem to prefer wild settings when they have access to them as they provide a degree of privacy and a greater number of behaviors have

fewer negative consequences (e.g. dropping chocolate cake on the rug in the living room versus on the ground).

Competency in wild places leads to comfort in wild places and increased tendency to repeatedly participate in wildland activities on one's own. Not only must the primary skills associated with an outdoor recreation activity be mastered, but use of wild places requires mastery of ancillary (support) skills. For instance, comfort and interest in canoeing and kayaking increases when the paddler knows how to swim (Bixler & Morris, 2000; Bixler & Powell, 2003). Yet many programs that expose youth to paddle sports fail to take into account developing swimming competencies. Hiking in a park is anxiety producing if one does not have well developed wayfinding skills. Likewise, without much experience walking on unimproved trails, usually gained during childhood play in wild places, hikers will become mentally fatigued simply looking for roots and rocks in the trail surface that they could trip over. Consequently, less mental resources are available for enjoying and observing natural phenomena, making any hike less rewarding and less likely to be repeated. Rapidly and semiconsciously perceiving/recognizing the threat potential of partially hidden natural objects (e.g. are those two ears or two leaves sticking up from behind a boulder?) requires many experiences outdoors and much of the learning is implicit, without awareness. Again, competency and comfort come partially from repeated and expanding experiences outdoors plus instruction and also requires learning ancillary skills. Without these competencies, outdoor activity remains intimidating and frequent experiences are unlikely. From teen years to early adulthood, the mastery of some outdoor recreation activities is ancillary to adult educational and then vocational achievement. Along with comfort outdoors, camping and outdoor recreation skills from camping, boating, to rock climbing can and often and do play a role in employment in field biology and geology, behavioral ecology, and natural resources work.

Supportive social relationships based around nature and the environment are axiomatic to the environmental socialization process. Childhood play in natural places is disproportionately due to parents being at least willing to live near natural areas, and tolerate their children playing there, coming home dirty and bug bitten. Rewarding child-child relationships during these play periods may focus on exploring and discovery of nature (play with nature) or play with each other in nature (James et al., 2010). Later parents, a neighbor, somewhat older children or peers informally introduce children to different wild areas through travel and youth programming like summer camps. Some school teachers will have an avid interest in nature and captivatingly address nature within their classroom. These same teachers will seek out outdoor environmental education programs for their field trips over other options. These same teachers on their own or with encouragement from environmental educators, may be able to help students they have identified as intrigued with nature to find experiences outside of school.

At community and organizational levels, social support comes in the form of sharing opportunities within and among organizations in the region. Volunteers,

interns, and entry-level employees should be viewed as both producers and products of outdoor environmental education. In most cases, interns leaving an organization should have help with career planning, additional professional development and their next placement lined up even if it may not be a permanent job. Volunteer and staff training and development should be viewed as fostering growth in these persons, not just enhancing their skills to provide better services for others. Within a region, consortiums should be formed to further develop skills of all environmental professionals across organizations. These same consortiums should play a role in making sure that environmental educators know all the varied possibilities in the area for further engaging the emerging environmental persons who they instruct.

Identity formation around nature and the environment is part of the environmental socialization process and evidence of a maturing outcome for emerging adults. Like attitudes, identities are shortcuts for rapid, efficient, narrowing, and often shallow decision making and social signaling. Golfers, an identity, go golfing on weekends without considering many if any other options. Since environmental socialization requires frequent, recurring and expanding experiences with nature often with a support social group, environmentally oriented identity formation is a potent tool in motivating these outcomes. The formation of any number of relevant identities is evident in self-labeling and social labeling by others. Evidence of identity formation also includes specialized clothing, relevant equipment ownership, and the use of domain-specific vocabularies. These observable characteristics in one person make for efficient identification by other people with shared identities. Identities around nature and the environment that are evident increase the chance of the development of unplanned spontaneous encounters, new friendships and other activities such as memberships in environmental organizations. Outdoor environmental educators should label themselves and others with identity labels, provide insight and opportunities for clients to acquire clothing and equipment, teach specialized vocabulary and help clients find and join groups relevant to their emerging identities.

11.5 Specific Environmental Socialization Strategies

Environmental Socialization investigates how people become comfortable in outdoor settings, develop knowledge and skills in informal and formal settings, and robust identities related to nature and the environment. Environmental socialization strategies are implemented by outdoor environmental educators within and between programs. Frequent, recurring and expanding experiences with nature requires that learners have access to nearby nature, along with occasional opportunities for more distance experiences through field trips, summer camps, parks and refugees, nature centers, biological field stations, forest schools, folk schools, vacations, and more.

When a person is attracted to being in one of these settings and acts, both expected and unexpected opportunities arise for educators to match environmental socialization interventions to the learner.

Bixler et al. (2011) identified five domains of Environmental Socialization incidents or affordances that could be interventions in formal and non-formal settings. Some of these interventions can be planned for and reliably implemented across many programs while others will be coincidental:

1. Access to Natural Environments – "Access to natural environments encompasses mechanisms that create opportunities for children, youth, and emerging adults to have access to and interact with interstitial, semi-wild, and wild environments." (p.41)

   (a) Environmental Access—Proximity to natural areas including interstitial nature in urban areas that are not readily recognized as affording experiences.
   (b) Environmental Strategy—a plan for obtaining new or additional formal or informal experiences with nature. Spontaneous or facilitated by environmental educator. Should become a habit.
   (c) Content of Environmental Play—childhood play in nature is more valuable when it involves observing, catching, collecting, and experimenting with natural phenomena.
   (d) Environmental Norms—positive beliefs about getting dirty or handling natural objects (or litter in nature) that are less than pristine.

2. Social Support – Children who live near woods often play there partly because their parents perceive such activity as appropriate. After childhood, peers, camp counselors, teachers, park rangers, and professors play an increasingly important role in recognizing people's abilities, supporting, interpreting, and guiding their further discoveries, opportunities, and choices. Frequent and long-term participation in nature activities reinforces, renews and expands interests." (p.44)

   (a) Environmental Encounters—unplanned encounters with like-minded environmentally-oriented persons.
   (b) Mutually Enthusiastic Relationships—ongoing nonjudgmental enthusiastic relationships between persons of any age around an interest in nature.
   (c) Environmental Sponsorship—purposefully involving/inviting someone else to a program that provides direct or indirect environmental experiences.
   (d) Environmental Organization—Membership or involvement with an environmental-based organization. Sometimes this begins tying a love of nature to action to conserve nature.
   (e) Reverential Role Model—A highly talented and visible person who attracts the attention of an environmentally developing person. Out of awe, this person becomes a reference for the developing person for skills, avocations, vocations and ways of thinking to develop.

3. Development of Environmental Competencies – "The ability to enjoy natural environments requires developing a range of largely unrecognized ancillary skills and activities." (p.47)

   (a) Environmental Introduction—First sets of experiences with nature through play, recreation or activity.
   (b) Environmental Learning—the process of acquiring socio-physical skills or knowledge of natural environments.
   (c) Environmental Searching/Observant—Intrinsic interest in actively looking, smelling, feeling, tasting, or listening for natural objects in the environment.
   (d) Learning Wildland Recreation Activities—Learning safety and skills needed to carry out a range of wildland recreation activities that support nature appreciation activities.
   (e) Environmental Cataloging—Systematic collecting and/or naming of plants and animals as a basis for direct experience with biodiversity.
   (f) Tolerance for Bad Weather—Knowing coping mechanisms for spending time outdoors in inclement weather so as to increase the number of experiences over time.

4. Accumulation of Environmental Experiences – "Frequent experiences in wild places heightens understanding of these places both perceptually and intellectually, and results in habituation to environmental irritants." (p.53)

   (a) Environmental Extension—Further developing an existing nature skills to a greater depth.
   (b) Environmental Expansion—Addition of new activities that complement existing nature interests.
   (c) Environmental Continuity/Substitute—Continued interest in involvement with nature despite a disruption in geographic location or life course.
   (d) Environmental Invitations—Peer parent, colleague, or organization extending an invitation to someone else to participate in an environmental opportunity.

5. Environmental Identity Formation – "Persons begin to view themselves as environmentally oriented as they develop a robust set of environmental competencies, preferences and values. (p.57)

   (a) Environmental Crystallization/Identity—The point in time that a person realizes that one of their social identities is or will be something environmental. A product of many experiences and at least one self-evaluative "AHA" moment
   (b) Environmental Occupation—volunteer or paid positions with environmental foci.
   (c) Environmental Decision Points—a time in a person's life where they must move toward or away from an environmental role.
   (d) Unusual Interests—Management of social identity due to unusual interests that bring like-minded people together but also result in out-group derogation.

The five domains were identified by the authors through the examination of life histories of avid natural history enthusiasts, whose lives occurred before the rise of the internet and social media and smart phones and accompanying apps. A sixth domain termed Environmental Digital Media might be appropriate, although much of these activities can be subsumed in the original five domains.

The five domains and specific incidences are further discussed in Bixler et al. (2011). To some extent, an outdoor environmental educator can reduce the list to frequent, recurring and expanding experiences within a supportive social network across the life stages. Any action that extends or evolves the current experiences for any reason falls under the environmental socialization umbrella.

11.6 Vignette: A Week in the Life of a Nature Center Educator Working with an Environmental Socializer Strategic Philosophy[1]

On Monday, Susie "Ladybug" Heustis, unlocks her office door adorned with nature-oriented stickers, emblems and patches (5d). She first checks the Nature Center's social media and then upload photos from the weekend programs illustrating a variety of people doing nature-dependent activities (2a,b).

Over the weekend, the nature center received several new memberships. The recently revised membership forms requests members to report what nature topics interest them. Taking a look at the week's scheduled events, she searches her membership database for persons who have expressed interest in these programs and sends them a personalized email invitation to the program. One of the programs is advanced mushroom identification. She pulls up the registration information from the last 5 years of beginning mushroom identification and sends the enrollees an invitation to the advanced class.

Glancing around her office at all the nature art, crafts and field biology equipment she has purposefully "stored" out in the open as conversation starters, she notes to herself that yet again she has failed to get a basketball with the banana slug logo from University of California Santa Cruz on it. Even jocks can be interested in nature if given a reason (2a).

The rest of the day is spent roving around the grounds of the nature center interacting with guests. Ladybug comes across a person looking frustrated while trying to read a map to get to the trails. She smiles and helps him align the map with the park's trails so that they can figure out which direction to turn (3b). The look of revelation on his face as to the usefulness of orienting the map tells all. She is reminded that the school field trip leaders need to do less 'wayshowing' and more wayfinding skill development with school field trips. Maybe putting a

[1] Codes within the text reference the domains above.

student in each group in charge of leading the group back to the buses at the end of their pond study lab might help with the wayfinding skills deficit she keeps observing (3d).

Ladybug has a big planning day on Tuesday. Before getting to her office she is stopped by yet another guest wanting to know about yellow flowers blooming in perfusion along the roadsides. Ladybug shares bits of information about the flowers. She then pulls out her ever-present notepad and pencil and writes down the flower's name for the guest, suggesting that he can find more information on the internet (and to stick the paper in his wallet) (3a; 4a,b).

The Nature Center's Star Hopping Astronomy program has been wildly successful because it makes the night sky so simple. Her calendar reminds her that it is time to mail out one of the bimonthly star-hop post cards. At the end of the program each participant gets a "Look up in the sky tonight" bumper sticker as they leave the program with a suggestion to put it on their trash/recycling bin which is often taken out to the street in the evenings. Six season-appropriate constellation-diagram star hop postcards are sent out every 2 months to encourage previous Star Hoping program participants to continue looking up in the night sky (3c,e; 4a,c).

Knowing that the Center's Spring-season intern will be leaving in a month, Susie meets over lunch with him to find out about his career trajectory. After hearing from the intern that he wants to develop his public programming skills while having mostly provided school field trips during her internship, Ladybug has a suggestion: Why not join a work study program at a Folk School where the intern could take skill-based courses that integrate nature topics/themes with the arts/crafts and the humanities? Those topics and skills could later become adult workshops at just about any nature center. (1b, 2b,c,d; 4b,c,d; 5b).

In the afternoon, Ladybug has a team meeting with her boss, the marketing and gift shop manager about this year's theme "Bugs are Cool."(1d; 3a,b,c,e; 4a,b) In this discussion, she shares an interesting pricing idea for one of the programs –pay $6 if you just want to attend the program or $26 to participate in the program and take home a quality insect net. (4c) For a moment she dreamily imagines a world where a butterfly net sits in the corner next to baseball bat in the bedrooms of children all over the world. Then she strategizes with the gift shop manager about what items would complement her planned programs for the "Bugs are Cool" theme. (4c, 5d).

Wednesday begins with Ladybug reviewing maps to find nearby wooded areas/parks by the urban school for her program. The kids travel almost 45 min from their school to the nature center. Why not do field trips in the nearby parks that are practically in walking distance from the school? (1a) She schemes that some of the kids might just use those parks more after the field trip and be more observant in a "naturalist-sort-of-way" if field trips were held in these pocket parks.(1b,c; 3a,b,c).

This reminds her that she needs to get emails off to her most nature-enthusiast school teachers asking them to nominate kids in their classes from limited income for scholarships for the nature center's summer camp. (2c; 3d,f; 4c,d).

While heading out to lunch she sees Susan who loves reptiles and notices Chris also a reptile lover approaching from different directions. What a coincidence! She introduces Susan to Chris suggesting they might enjoy going to the reptile show at the fairgrounds this weekend. (2a) Ladybug walks off smiling to herself that she may be getting a wedding invitation in a year or so, as the two soon-to-be lovebirds enthusiastically start to get to know each other. (2b).

No one is free from Ladybug's initiatives. Many of the visitors to the nature center use it to get regular exercise but mostly just because it is close to home. Some of these folks visit three times a week for around 150 visits a year. Ladybug has talked dozens of these walkers to look for box turtles and take photos with their smart phones of the heads of the turtles when they encounter one on the trail. Since each turtle has a unique scale arrangement, the photos can be used to identify individual turtles. The walkers seemed willing to tolerate and help out this strange turtle-obsessed nature-nerd-of-a-women with photos (2e; 5d). Yet, some of this exercise crowd has gotten interested in these turtles and created a social networking group to share, discuss, and even name the turtles as they find and photograph and re-photograph them. (2b; 3a,c,e; 5a).

Ladybug is lucky to have Beaver Tail Bob as one of her field instructors but he is also a wiz at web pages. He sticks his head into her office and announces that a pileated woodpecker has practically blown apart a rotten log along the side of the main trail looking for grubs. Splintered wood is strewn all over the ground. He suggests a QR code sign that will take any smart phone-owning hiker to a web page he has made up about these crow-sized woodpeckers and the signs they leave. Ladybug loves his idea to replace those static interpretive signs that hikers maybe read once and then ignore forever with these ever changing series of QR codes on a stick that allow the interpretation of ephemeral nature. She is confident she can turn every one of those exercise-oriented hikers into field naturalists. (3a,b,c,e).

Friday morning is the quarterly gathering of program and public relations staff for the upstate region. Ladybug will be sure to let everyone know what is happening at her nature center and find out what others are doing. She often finds novel training opportunities for her staff and volunteers offered by other area organizations (2b; 4b,d). The consortium is setting up a web page for residents of the area as a one stop listing of all nature and environmental locations, activities, programs, workshops, gatherings being offered in the region at any one time (2c,d; 4b,d). Hooray!

11.7 Challenges

Environmental socialization strategies whose application can be viewed as educational affordances, are easily understood and applied by outdoor environmental educators. Educators must be diligent in recognizing opportunities. While the strategies are presented here in a mechanistic format, the actual quality of the

experiences can be quite idiosyncratic and not as predictable as learning outcomes typically associated with education. Participants make their own meanings depending on their previous experiences and who is present at that moment. The desired outcomes of these spaced over time activities (Bahrick et al., 1993; Vlach & Sandhofer, 2012) are emotionally rewarding (e.g. fun, intrigue, fascination, accomplishment) generating intrigue and affection for nature accompanied by socially rewarding relationships. Outdoor environmental educators must facilitate at least some of these experiences with faith that other educators will do similar work several months of years later with the same participants.

11.8 Conclusion

The difference between two seemingly identical persons who have both had similar formal environmental education experiences, one who values nature and the environment, the other ambivalent is simple. The first person has had a long-term, social-emotional relationship with nature. Given the opportunity through outdoor environmental education to further observe, learn and experience, they are eager, animated participants. Love of nature creates strong motivation to learn about nature. People care for and protect the things they love. Environmental socialization creates the love, environmental education teaches ways to understand and protect what is loved.

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