

Shape NC: Healthy Starts for Young Children



Eat Smart Move More Leadership Team Meeting December 7, 2012

Shape NC: Healthy Starts for Young Children



Best Practices and Challenges in Natural Outdoor Learning Environments in Child Care Settings

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Outdoor Learning Environment (OLE)

NC State Shape NC Team

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Shape NC *Intervention Component – OLE*

2007 (Effort by NC Outdoor Learning Environment Alliance)

“Playground” redefined as “Outdoor Learning Environment” in DCDEE *Child Care Rules*

10A NCAC 09 .0605 CONDITION OF OUTDOOR LEARNING ENVIRONMENT

- (a) All equipment shall be in good repair and shall be maintained in useable condition. All commercially manufactured equipment shall be assembled and installed according to procedures specified by the manufacturer.
- (b) Equipment shall be sturdy, stable, and free of hazards that are accessible to children during normal supervised play including sharp edges, lead based paint, loose nails, splinters, protrusions (excluding nuts and bolts on sides of fences), and pinch and crush points.
- (c) All broken equipment shall be removed from the premises immediately or made inaccessible to the children.
- (d) Children shall not be allowed to play on outdoor equipment that is too hot to touch.
- (e) Any openings in equipment, steps, decks, and handrails shall be smaller than 3 ½ inches or greater than 9 inches to prevent entrapment.
- (f) All upright angles shall be greater than 55 degrees to prevent entrapment and entanglement.
- (g) The outdoor play area shall be protected by a fence or other protection. The height shall be a minimum of four feet and the top of the fence shall be free of protrusions. The requirement disallowing protrusions on the tops of fences shall not apply to fences six feet high or above. The fencing shall exclude fixed bodies of water such as ditches, quarries, canals, excavations, and fish ponds. Gates to the fenced outdoor play area shall remain securely closed while children occupy the area.
- (h) All stationary outdoor equipment more than 18 inches high shall be installed over protective surfacing. Footings which anchor equipment shall not be exposed. Loose surfacing material

What is an OLE – NC

Regulated childcare center outdoor space, where:

- Children engage in supervised spontaneous play;
- Programmatic activities are organized by educators;
- Community events may be held;
- Parents or other family members spend time sharing special moments and meeting other parents.

Outdoor Play is Required – CCR.1718(10), 0102


Written schedule must include a minimum of one hour of outdoor play, if weather conditions permit.


- Child Care Weather Watch Chart
- Air Quality Index Chart
- No active precipitation

Child Care Weather Watch

Wind-Chill Factor Chart (in Fahrenheit)

		Wind Speed in mph								
		CALM	5	10	15	20	25	30	35	40
Air Temperature	50	50	48	40	36	32	30	28	27	26
	40	40	37	28	22	18	16	13	11	10
	30	30	27	16	9	4	0	-2	-4	-6
	20	20	16	4	-5	-10	-15	-18	-20	-21
	10	10	6	-9	-18	-25	-29	-33	-35	-37
	0	0	-5	-21	-36	-39	-44	-48	-49	-53
	-10	-10	-15	-33	-45	-53	-59	-63	-67	-69
	-20	-20	-26	-46	-58	-67	-74	-79	-82	-85
	-30	-30	-36	-58	-72	-82	-87	-94	-98	-102

 Comfortable for out door play

 Caution

 Danger

Heat Index Chart (in Fahrenheit)

		Relative Humidity (Percent)															
		15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
Temperature (°F)	110	108	112	117	123	130	137	143	150								
	105	102	105	109	113	118	123	129	135	142	149						
	100	97	99	101	104	107	110	115	120	126	132	138	144				
	95	91	93	94	96	98	101	104	107	110	114	119	124	130	136		
	90	86	87	88	90	91	93	95	96	98	100	102	106	109	113	117	122
	85	81	82	83	84	85	86	87	88	89	90	91	93	95	97	99	102
	80	76	77	77	78	79	79	80	81	81	82	83	85	86	86	87	88
	75	71	72	72	73	73	74	74	75	75	76	76	77	77	78	78	79

Air Quality Color Guide

Air Quality Index	Guidelines to protect your health	Care for the air
<p>Good 0-50 Code Green</p>	<p>No health effects expected.</p>	<ul style="list-style-type: none"> ■ Conserve energy: drive less and use less electricity. ■ Carpool, use public transportation, bike or walk whenever possible. ■ Keep your car, boat, lawnmower and other engines tuned and maintained. ■ Keep tires properly inflated and wheels aligned. ■ Never burn your trash. This is illegal and releases toxic chemicals. <p>Avoid burning leaves and brush, which is sometimes legal but always pollutes the air.</p>
<p>Moderate 51-100 Code Yellow</p>	<p>Unusually sensitive people: consider limiting prolonged or heavy exertion.</p>	
<p>Unhealthy for Sensitive Groups 101-150 Code Orange</p>	<p>Children, active people, older adults, and those with heart or lung disease (like asthma): limit prolonged or heavy exertion.</p>	
<p>Unhealthy 151-200 Code Red</p>	<p>Children, active people, older adults, and those with heart or lung disease (like asthma): avoid prolonged or heavy exertion. Everyone else: limit prolonged or heavy exertion.</p>	
<p>Very Unhealthy 201-300 Code Purple</p>	<p>Everyone: avoid all exertion.</p>	

Shape NC *Intervention Component* – OLE

OLE-Related NLI Projects

Statewide Survey of OLEs

Natural Learning Initiative, 2002

Creating a Supportive Network

Training and Resources for Licensing Consultants and Environmental Assessors
NC DCDEE (Division of Child Development and Early Education), 2011

Preventing Obesity By Design

(POD)BCBSNC Foundation
NC Partnership for Children, 2007-2011

Outdoor Learning Environments Demonstration Project

Department of Public Instruction (DPI),
Office of Early Learning, 2010-2011



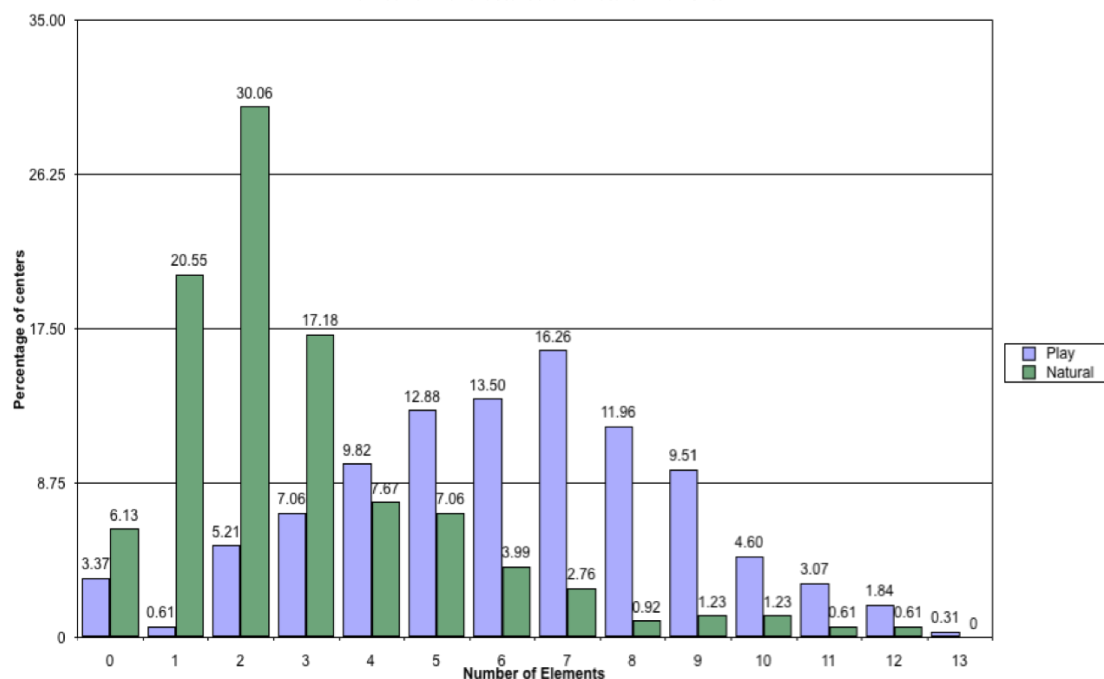
Shape NC *Intervention Component – OLE*

Low quality OLEs

Statewide Survey of OLEs, 2002

Natural Learning Initiative, 10% convenience sample

Number of Manufactured and Natural Elements



Shape NC *Intervention Component* – OLE

Low quality OLEs

DCDEE Survey of Perceptions of Quality of OLEs, 2011

Division of Child Development and Early Education survey of Licensing Consultants and Environmental Rating Assesseors

N=161, 72.4% response rate

- Poor: 36%
- Average: 54%
- Good: 7.5%
- Very Good: 1.2%
- Excellent: 0

Consequences of low quality OLE

- Lack of shade reduces comfort for children and teachers—reducing time outdoors;
- Children exposed to harmful levels of ultraviolet radiation;
- Inadequate support for spontaneous play and physical activity;
- Overlooked opportunities for vegetable gardens and “edible landscapes;”
- Users disengaged from sense of identity and ownership (weak affective domain). No “there” there

Shape NC *Intervention Component* – OLE

OLE Evidence

Diverse, natural environments associated with gross motor development, attention functioning, diverse play activities.

- Kuo, 2010. Meta analysis.
- Boldemann, et al, 2006. 197 children, 11 preschools Stockholm. Pedometry, UV radiation. High/low vegetation–Mean step count/min 21.5/17.7; % UV 14.6/24.3. Wide range both measures.
- Fjørtoft,
- Faber Taylor, et al, 2001.
- Grahn, et al, 1997.

Open space, grassy areas, lower play space density.

- Nicaise, et al, 2011. OSRAC-P including environment, two sites, 51 preschoolers, Xsect.

Shape NC *Intervention Component* – OLE

OLE Evidence base

Outdoors vs indoors—higher levels of physical activity

- Raustorp et al, 2011. Accelerometer study in Malmö, Sweden and RTP, NC, USA.
- Brown, et al, 2009.
- Hinkley, et al, 2008. Review of PA correlates 1980-2007.
- Benham-Deal, 2005. 39 children. Heart-rate monitors, parent logs, weekday 71%, weekend 46% recommended amounts MVPA. Afternoons more important.

Pathways > higher PA

- Nicaise, et al, 2011. OSRAC-P including environment, two sites, 51 preschoolers, Xsect.

Balls, portable equipment, manipulative objects (“loose parts”)>higher PA.

- Nicaise, et al, 2011. OSRAC-P including environment, two sites, 51 preschoolers, Xsect.
- Raustorp et al, 2011. Accelerometer study in Malmö, Sweden and RTP, NC, USA.
- Hinkley, et al, 2008. Review of PA correlates 1980-2007.

Shape NC *Intervention Component* – OLE

OLE Evidence base

Higher MVPA associated with teacher prompts and teacher-arranged activities, i.e., programming.

- Nicaise, et al, 2011. OSRAC-P including environment, two sites, 51 preschoolers, Xsect.

Increased time outdoors supported by child development policy, pedagogical programming.

Malmö preschoolers spent 46% time outdoors compared to 18% RTP.

- Raustorp et al, 2011. Accelerometer study in Malmö, Sweden and RTP, NC, USA.

Shape NC *Intervention Component* – OLE

Preventing Obesity by Design POD Success

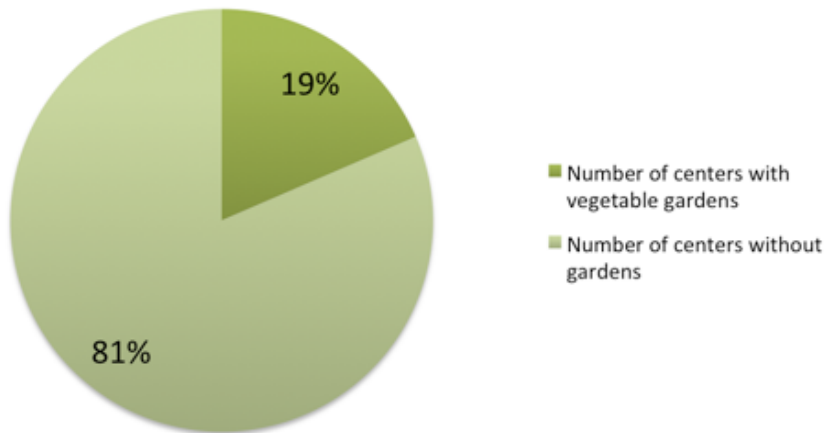




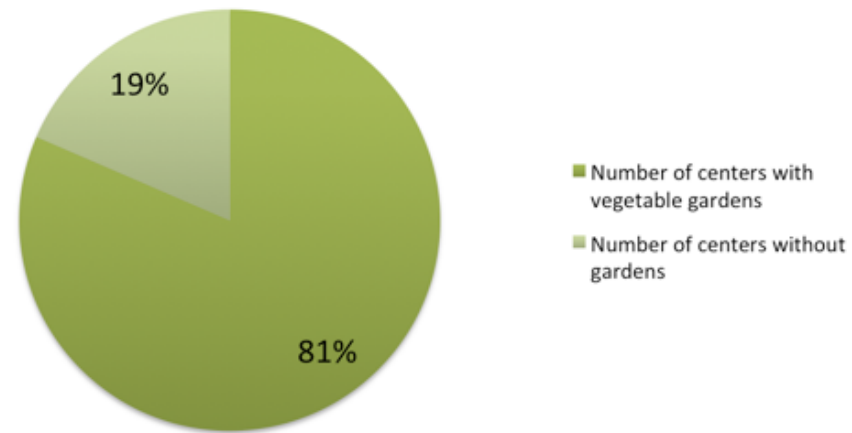
PROGRESS INDICATORS 2010-11

Increasing designated vegetable gardens +62%

Before POD



After POD

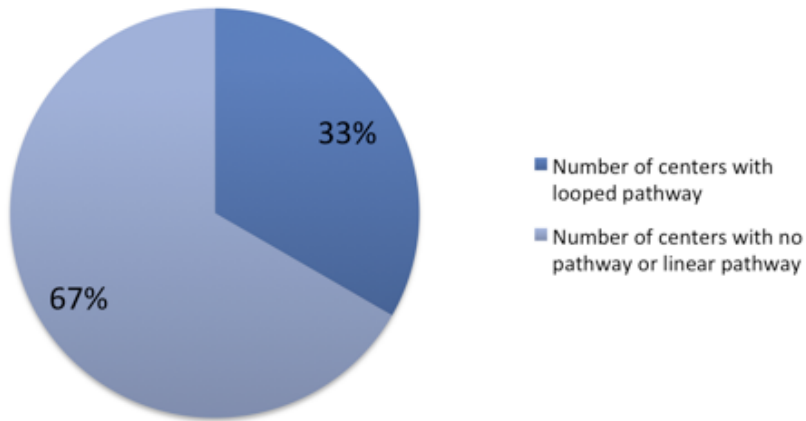


PROGRESS INDICATORS 2010-11

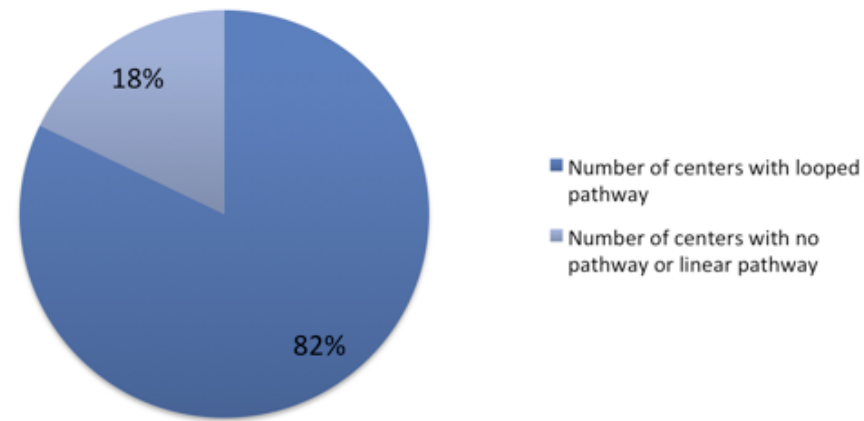
Increasing primary pathways

+49%

Before POD



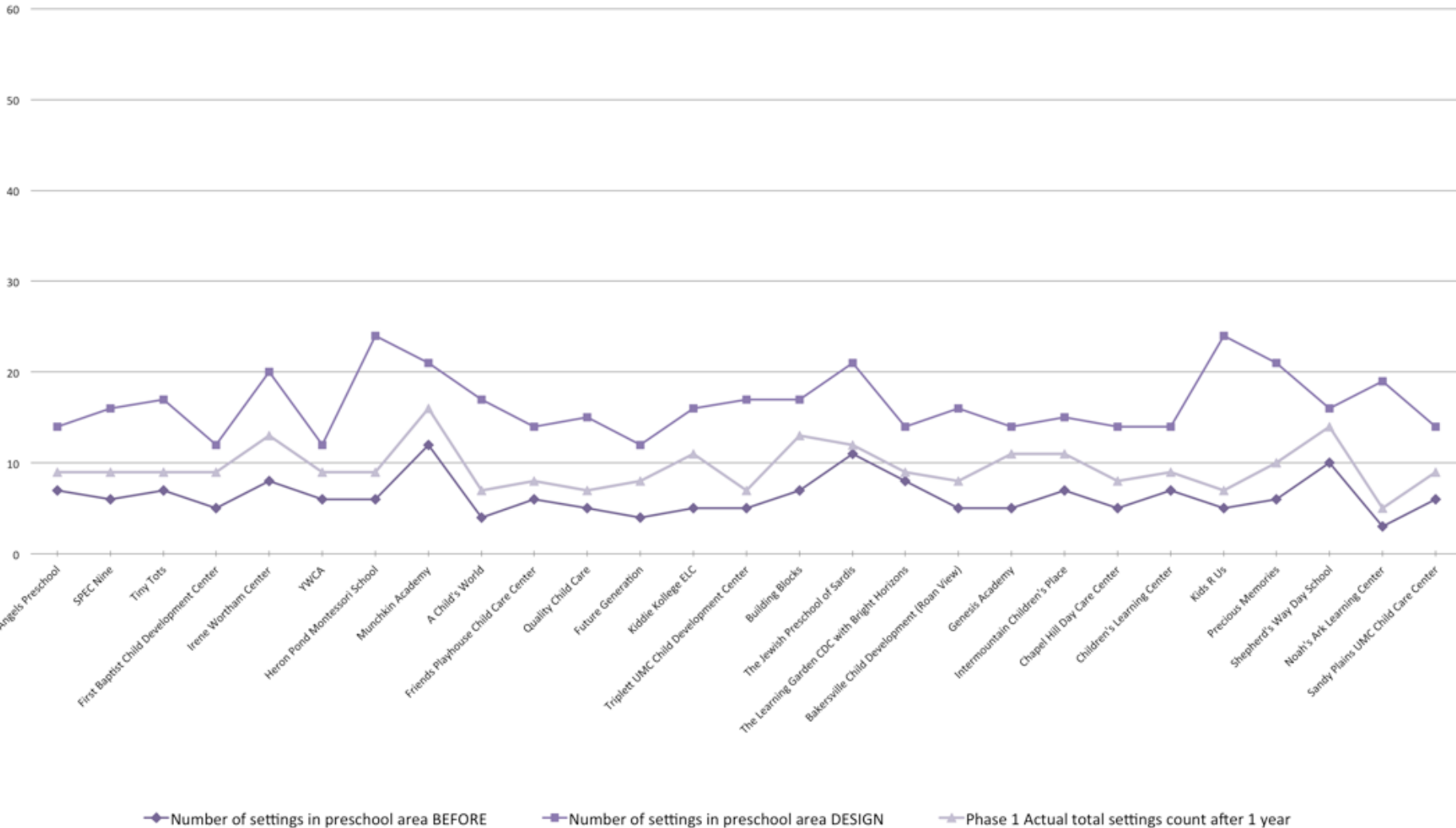
After POD



PROGRESS INDICATORS 2010-11

Increasing environment-behavior settings (average 3)

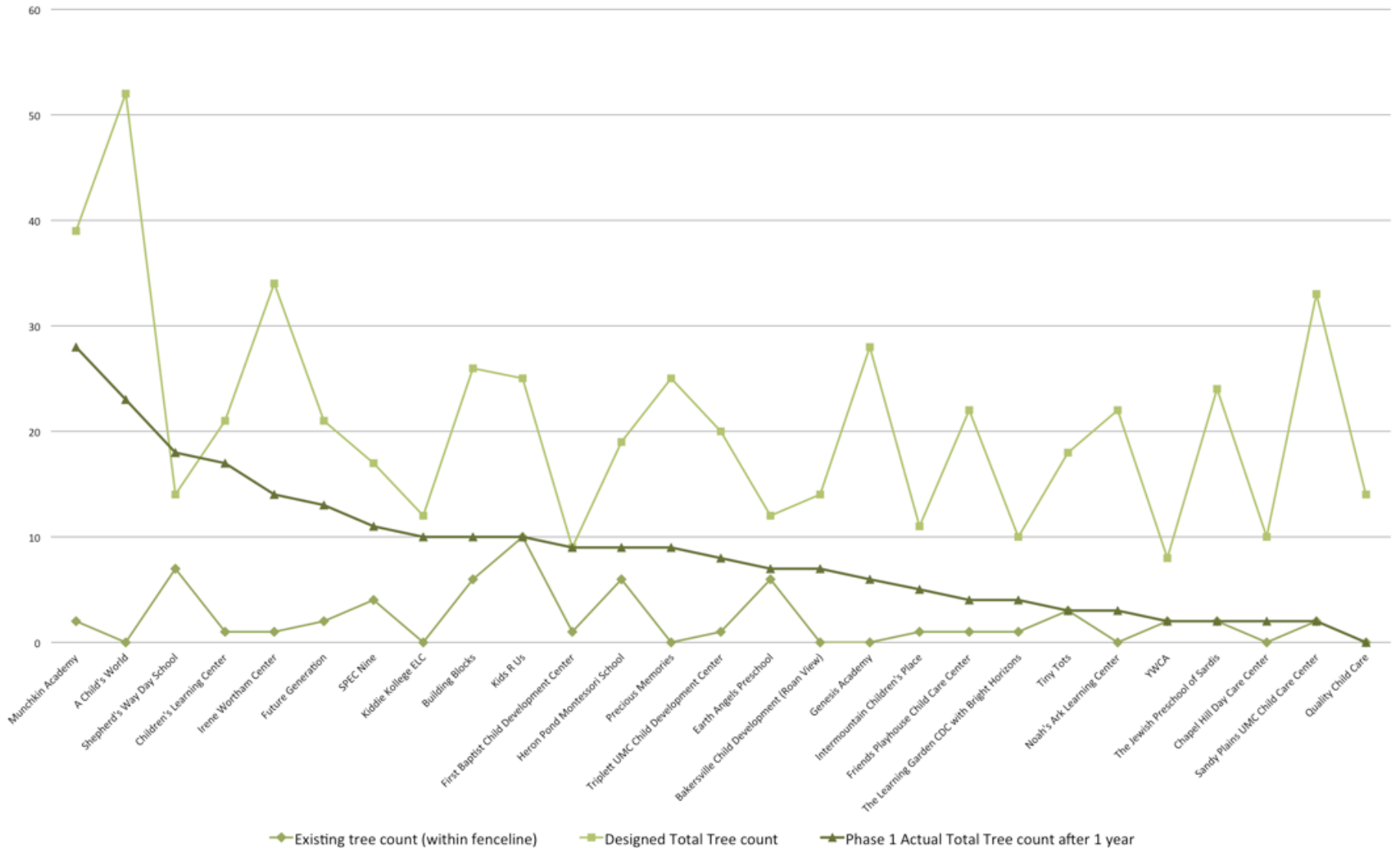
Number of settings: existing, proposed, added



PROGRESS INDICATORS 2010-11

Increasing trees (average 6)

Number of trees: existing, proposed, installed



CALIBRATING SHADE

Four Crepe Myrtles, four years



Oct 2007



June 2008

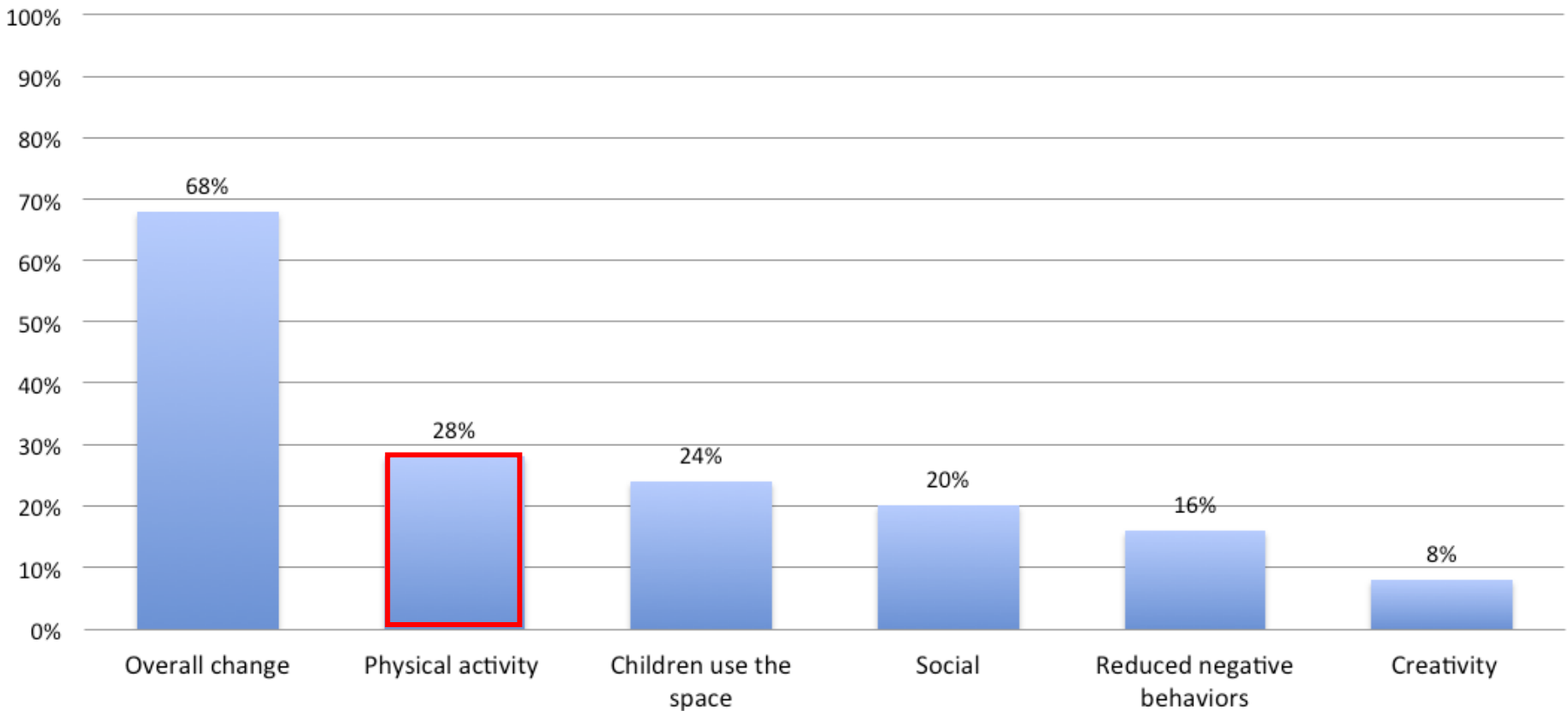


August 2012

PROGRESS INDICATORS 2010-11

Behavioral changes perceived by staff

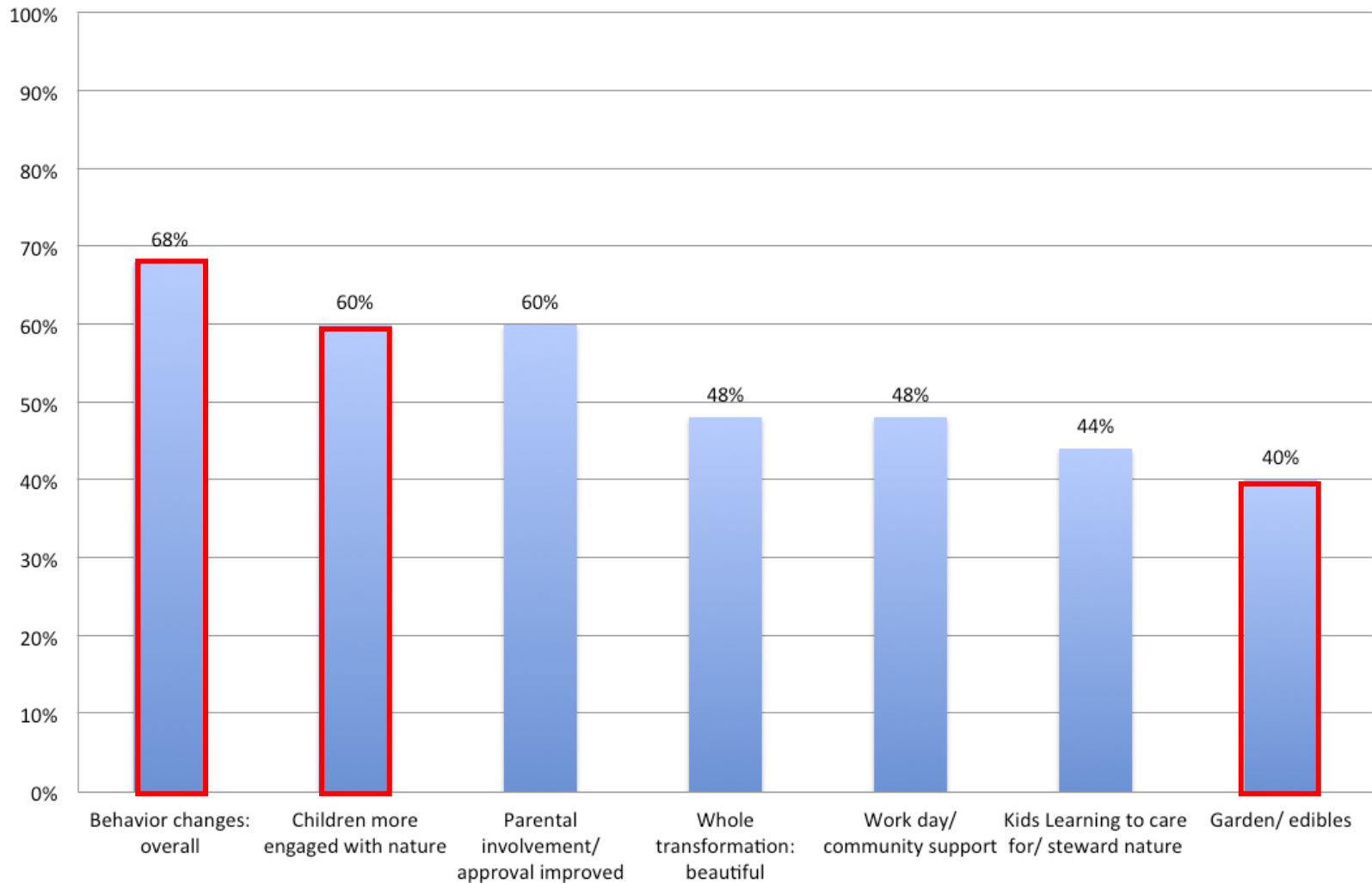
POD intervention supports behavior changes



PROGRESS INDICATORS 2010-11

Greatest success/proudest achievements by educators

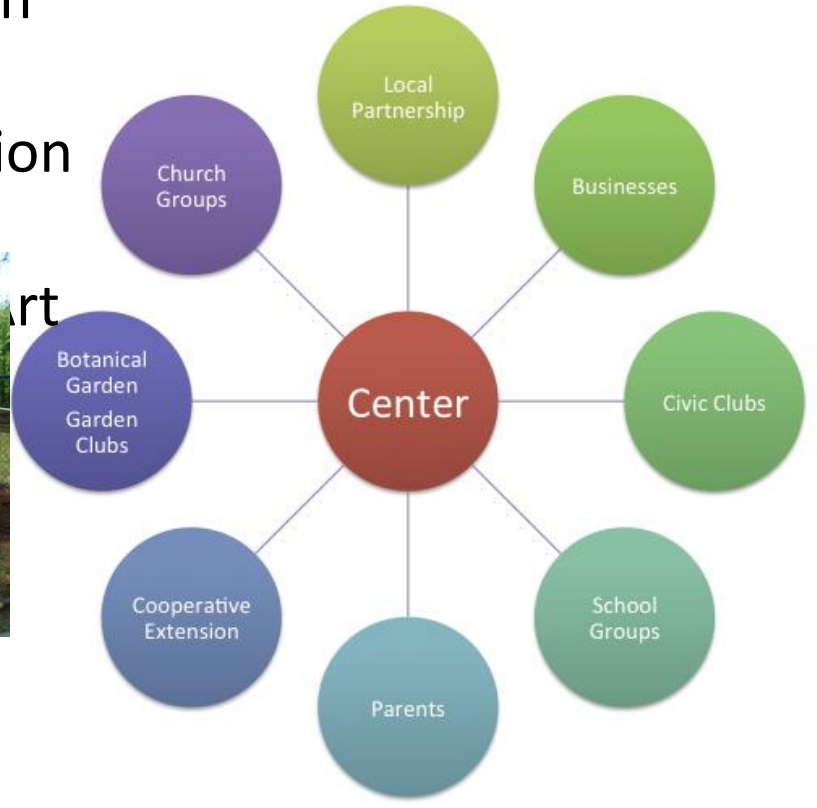
Successes and Achievements Summary



Shape NC *Intervention Component – OLE*

Engaging the Center Community in OLE

- Botanical garden, garden clubs
- Girl and Boy Scout Troops
- Rotary, Kiwanis, Junior League
- Local Partnership Board
- Local Hospital
- Grocery stores
- County Health Department
- Nurseries and garden centers
- Landscaping
- Child Care Health Consultant
- Parks & Recreation Dept.



- Community Colleges



Shape NC *Intervention Component* – OLE

Engaging the Center Community in OLE

- OLE design is vehicle for participation
- Articulating needs—the design program.
- Understanding spatial structure and effect on physical activity.
- Making OLE edible.
- Sense of success, pride, and ownership.
- Engages the forces of



implementation – volunteers, business support, civic organizations.



Shape NC *Intervention Component – OLE*

Creating MELC OLEs

Friendly Avenue Christian Academy



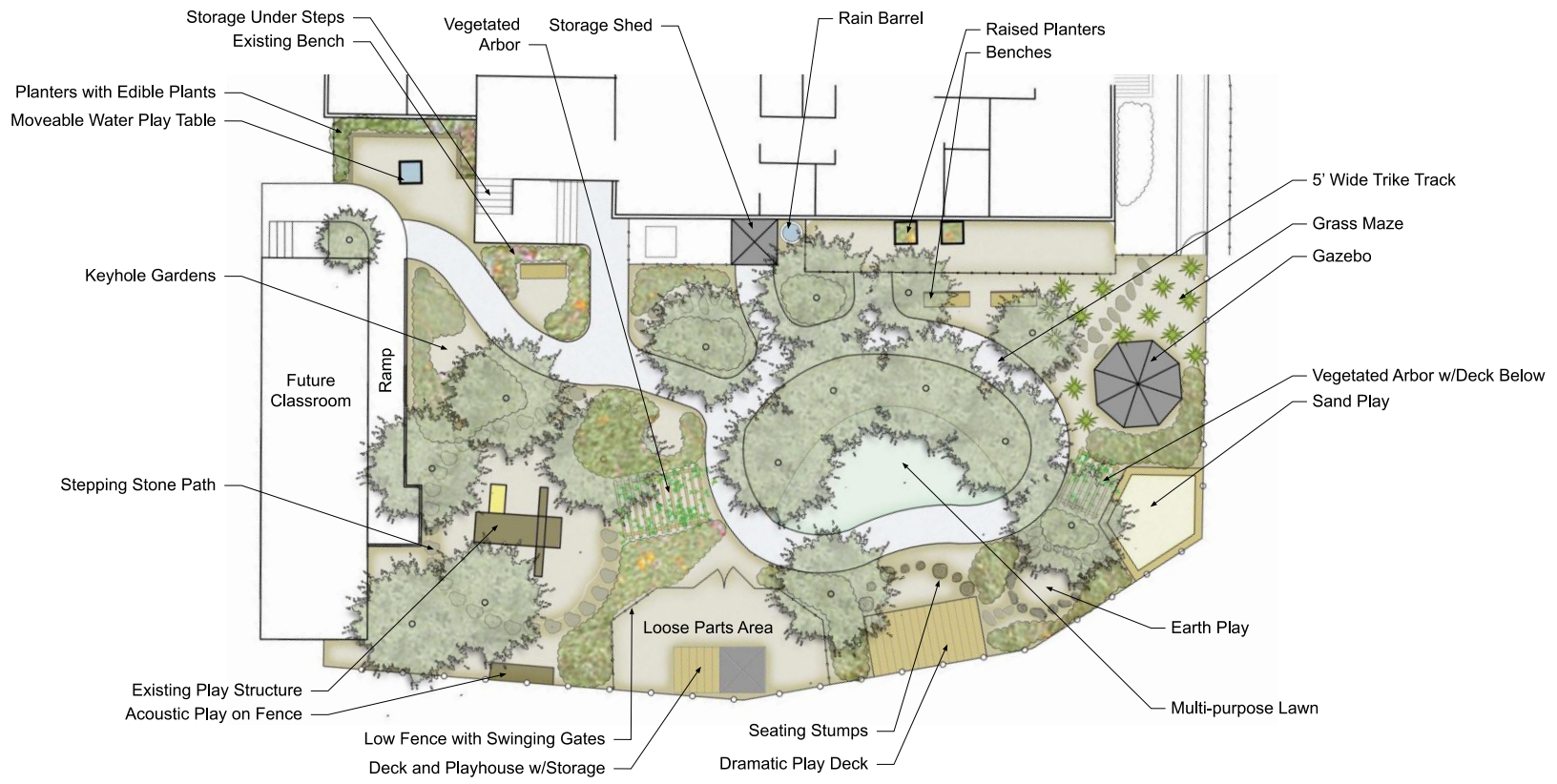
Shape NC *Intervention Component – OLE*

Creating MELC OLEs Friendly Avenue Christian



Shape NC *Intervention Component – OLE*

Creating MELC OLEs Spanish For Fun





Shape NC Intervention Component – OLE

Best Practice Indicators: Natural Diversity

- 1. Diversity of trees, shrubs
- 2. Shade
- 3. Ten settings or more
- 4. Five-six feet wide looped or double looped path
- 5. Grassy area, big enough for a group of children
- 6. Vegetables, fruit trees, fruiting vines, and nuts



7. Designated vegetable



Shape NC Intervention Component – OLE

Best Practice Indicators: Shade

1. Diversity of trees, shrubs
2. Shade
3. Ten settings or more
4. Five-six feet wide looped or double looped path
5. Grassy area, big enough for a group of children
6. Vegetables, fruit trees, fruiting vines, and nuts



Shape NC Intervention Component – OLE

Best Practice Indicators: Settings

- 1. Diversity of trees, shrubs
- 2. Shade
- 3. Ten settings or more
- 4. Five-six feet wide looped or double looped pathway
- 5. Grassy area, big enough for a group of children
- 6. Vegetables, fruit trees, fruiting vines, and nuts





Each added adjacency, 2% MVPA – prelim.

results, 30 centers, behavior mapping data



Shape NC *Intervention Component – OLE*

Best Practice: Shade, Play and Learning Settings

<p>A. At your center, how many shade structures, in addition to trees, are provided to accommodate children’s activities in outdoor learning environments (pergolas, porches, awnings, canopies, other shade structures)?</p>	<p>_____ shade structures</p>			
<p>B. In your center’s outdoor learning environment, how many play and learning settings are regularly available (e.g., arts/crafts area, balance beams, play house, music play area, seating, play equipment, tables, sand play, water play, woodwork benches, porch swing, swings, mounds/slopes (usable by children), area for pets (chickens, rabbits), etc.)?</p>	<p>A. 0–5 settings</p>	<p>B. 6–7 settings</p>	<p>C. 8–9 settings</p>	<p>D. 10 settings or more</p>
				

Shape NC Intervention Component – OLE

Best Practice Indicators: Pathway

1. Diversity of trees, shrubs
2. Shade
3. Ten settings or more
4. Five-six feet wide looped or double looped pathway
5. Grassy area, big enough for a group of children
6. Vegetables, fruit trees, fruiting vines, and nuts



Foundation

7. Designated vegetable



The North Carolina Partnership for Children, Inc.

Shape NC Intervention Component – OLE

Best Practice Indicators: Grassy area

1. Diversity of trees, shrubs
2. Shade
3. Ten settings or more
4. Five-six feet wide looped or double looped pathway
5. Grassy area, big enough for a group of children
6. Vegetables, fruit trees, fruiting vines, and nuts within play areas



7. Designated vegetable



Shape NC Intervention Component – OLE

Best Practice Indicators: Fruity Landscape

1. Diversity of trees, shrubs
2. Shade
3. Ten settings or more
4. Five-six feet wide looped or double looped pathway
5. Grassy area, big enough for a group of children
6. Vegetables, fruit trees, fruiting vines, and nuts within play areas



North Carolina
Institute of Medicine

Prevention



The North Carolina
Partnership for Children, Inc.

Shape NC Intervention Component – OLE

Best Practice Indicators: Designated veg.

1. Diversity of trees, shrubs
2. Shade
3. Ten settings or more
4. Five-six feet wide looped or double looped pathway
5. Grassy area, big enough for a group of children
6. Vegetables, fruit trees, fruiting vines, and nuts within play areas





Environments Early Learning Center (F







00s of pounds of
produce/year



BlueCross BlueShield
of North Carolina

Foundation



Shape NC *Intervention Component – OLE*

Indoor–Outdoor Curricular Connections



Children and teachers actively engaged in studying, harvesting, and preparing food from the center “orchard” scattered throughout the

OLE
Gardening strategies effective generators of fresh produce interest.
Benjamin, 2011.



Shape NC Intervention Component – OLE

Best Practice Indicators: Natural Materials

1. Diversity of trees, shrubs
2. Shade
3. Ten settings or more
4. Five-six feet wide looped or double looped pathway
5. Grassy area, big enough for a group of children
6. Vegetables, fruit trees, fruiting vines, and nuts within play area



Shape NC Intervention Component – OLE

Best Practice Indicators: Outdoor toys

1. Diversity of trees, shrubs
2. Shade
3. Ten settings or more
4. Five-six feet wide looped or double looped pathway
5. Grassy area, big enough for a group of children

6. Vegetables, fruit trees, fruiting vines, and nuts within play area



Shape NC Intervention Component – OLE

Best Practice Indicators: Gross Motor

- 1. Diversity of trees, shrubs
- 2. Shade
- 3. Ten settings or more
- 4. Five-six feet wide looped or double looped pathway
- 5. Grassy area, big enough for a group of children
- 6. Vegetables, fruit trees, fruiting vines, and nuts within play area



Shape NC *Intervention Component – OLE*

Best Practice CHAMPION!

The Growing Place, First Baptist Church, Asheboro, NC



Shape NC *Intervention Component* – OLE

Best Practice CHAMPION!

The Growing Place, First Baptist Church, Asheboro, NC



Before



After

Shape NC *Intervention Component* – OLE

Keys to success

- Design creates shared vision and development guide.
- Laying out the site.
- Management of incremental development
- Long term center commitment
- Strong community involvement to ensure sustainability
- Education program linked to OLE > increased time outdoors
- On-going training and technical support for providers (webinars, design institutes, on-call, website)

Preventing Obesity by Design POD³

- **Transferring knowledge**
- **Building capacity**
- **Extending reach**

Supported by the Blue Cross Blue Shield of North Carolina Foundation

POD³ objectives

- Create four POD³ “Regional Outdoor Labs” and related regional action networks of:
 - Trained childcare providers
 - Technical assistance professionals
 - Regulators and assessors
 - Landscape designers/contractors
 - Parents
- Organize regional OLE training institutes and interactive OLE design workshops.
- Work with local Technical Assistant providers and community college / higher education instructors.

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NC-IOM Early Childhood Obesity Prevention Taskforce – Shape NC

Priority Strategy

Provider pre-service education for child care providers about breastfeeding, nutrition, physical activity

Educators need to be encouraged to implement evidence-based curricula about breastfeeding, nutrition, physical activity in their coursework in universities, community colleges, and high schools.

Topics

Nutrition

Nutrition basics

Obesity trends

Healthy food preparation and best nutrition practices

Infant feeding/breastfeeding

Physical activity

Movement and physical activity basics

Screen time

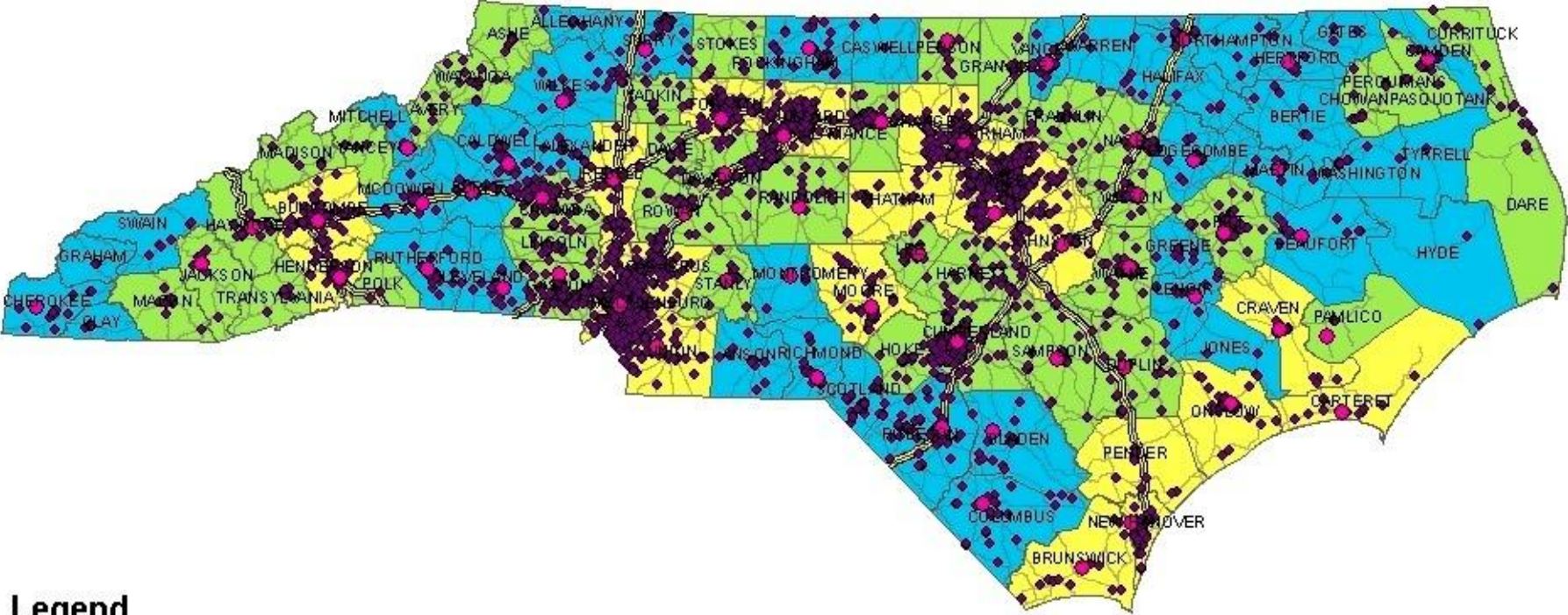
Outdoor Learning Environment/ edible landscapes

POD³ objectives

- Develop education modules for adoption by community colleges and higher education institutions to infuse new awareness and understanding about the role of the outdoors in health promotion.
- Disseminate technical assistance and information resources through expansion of the Natural Learning Initiative (NLI) Green Desk.

POD³ Geography

NC Licensed child care centers and community colleges locations

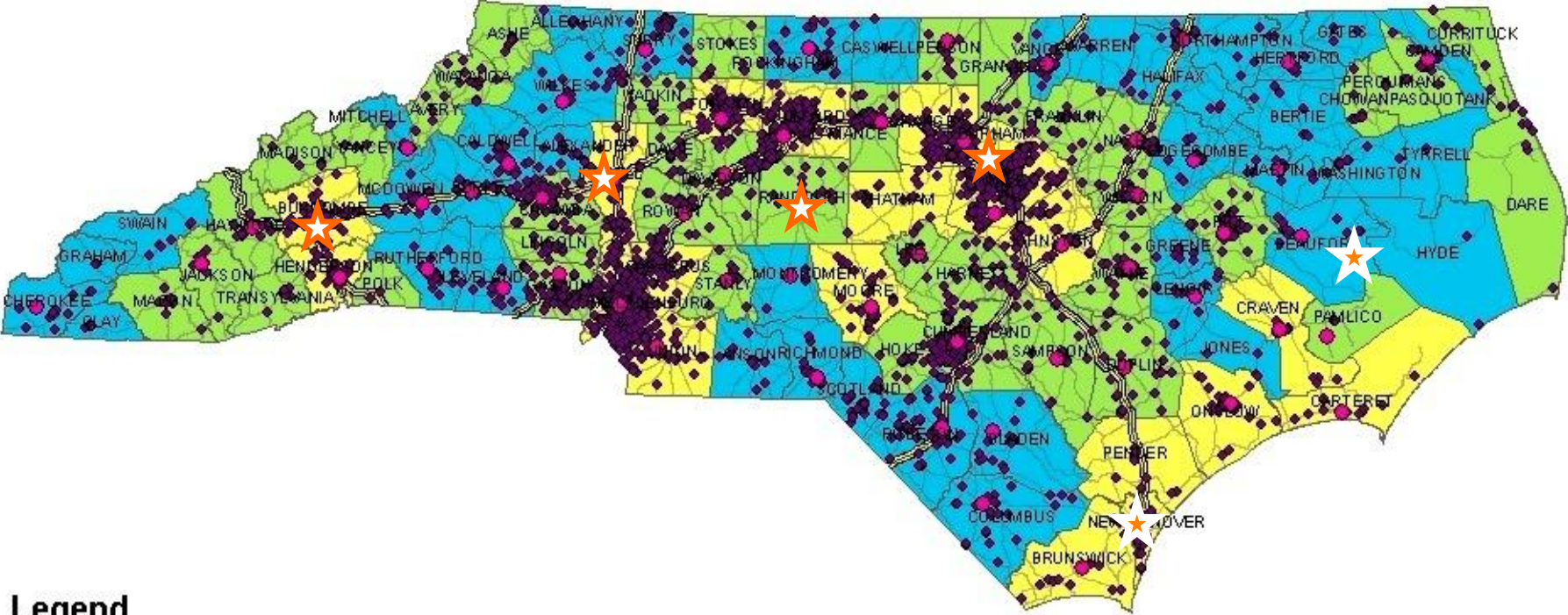


Legend

- Community Colleges
 - ◆ Licensed Center
 - === interstate_highway
- County**
- NC Commerce Tier**
- Tier 1
 - Tier 2
 - Tier 3

POD³ Geography

NC Licensed child care centers and community colleges locations



Legend

- Community Colleges
 - ◆ Licensed Center
 - ══ interstate_highway
- | County | NC Commerce Tier |
|--------|------------------|
| ● | Tier 1 |
| ● | Tier 2 |
| ● | Tier 3 |

Do you need help?



Visit the Green Desk!

The Green Desk is a resource for all things related to naturalized childrens environments.

[LEARN MORE >>](#)

www.naturalearning.org

